Cerro Chepen and the Late Moche Collapse in the Jequetepeque Valley, North Coast of Peru

Marco Rosas

Follow this and additional works at: http://digitalrepository.unm.edu/anth_etds

Part of the Anthropology Commons

Recommended Citation
http://digitalrepository.unm.edu/anth_etds/57

This Dissertation is brought to you for free and open access by the Electronic Theses and Dissertations at UNM Digital Repository. It has been accepted for inclusion in Anthropology ETDs by an authorized administrator of UNM Digital Repository. For more information, please contact disc@unm.edu.
Marco Rosas Rintel
Candidate

Anthropology

Department

This dissertation is approved, and it is acceptable in quality and form for publication:

Approved by the Dissertation Committee:

[Signatures]

[Signatures]

[Signatures]

[Signatures]
CERRO CHEPEN AND THE LATE MOCHE COLLAPSE
IN THE JEQUETEPEQUE VALLEY,
NORTH COAST OF PERU

BY

MARCO ROSAS RINTEL

B.A., Humanities, Pontificia Universidad Católica del Perú, 1995
M.A., Anthropology, University of New Mexico, 1998

DISSERTATION
Submitted in Partial Fulfillment of the
Requirements for the Degree of

Doctor of Philosophy
Anthropology

The University of New Mexico
Albuquerque, New Mexico

April, 2010
DEDICATION

To Katiusha
ACKNOWLEDGEMENTS

Now that I have some time to write this section of my dissertation, it seems incredible that I was finally able to complete this seemingly unending work. The research and writing process was remarkably long and difficult, and it is perfectly clear to me that I would have never been able to complete this document without the support of a host of generous people. I want to thank, first and foremost, the members of my committee, James Boone, Patricia Crown, Robyn Cutright and Garth Bawden, for their enduring patience, intellectual guidance and constant encouragement. James Boone introduced me to the study of complex societies, and graciously took over the direction of my dissertation committee after Garth Bawden retired from UNM. Patricia Crown is responsible for the avid interest I developed in the study of archaeological ceramics. Robyn Cutright, who graduated in Jequetepeque Valley archaeology as I did, has provided me with an example of dedication and professionalism in dissertation advisement that I would certainly like to replicate in the future. Finally, Garth Bawden, who is responsible for my arrival at UNM, has been my mentor and friend for many years. I am deeply indebted to Garth for having helped me mature a humanistic view of Andean culture and for having shown me the rigors of a scientific practice carried out with responsibility, objectivity and honesty. I feel very lucky for having been given the opportunity to conduct my graduate studies at UNM, and for having been able to have Garth Bawden as my leading advisor for many years.

Research at Cerro Chepén was carried out in several stages, during which I benefited from the support of several individuals and institutions. The mapping season
took place in the year 2000, while I was still a full-time student at UNM’s graduate school. This season was funded through research grants provided by UNM’s Latin American and Iberian Institute, and by the Ethel-Jane Westfeldt Bunting Foundation. I want to express my sincerest gratitude to these two institutions for their economic support. I also thank Luis Jaime Castillo, director of the San Jose de Moro Archaeological Project, who helped me with the project’s logistics while I was in Peru.

The architectural survey of the site was made possible through the assistance of Luis Caceres Velasquez, archaeologist, topographer and friend. I have a great appreciation for his dedication to work, and I have fond memories of the Sunday trips we made to archaeological sites in the neighboring Saña Valley. During this season, we also benefited from the invaluable work of our field assistants, Juan "gringo" Chavarri and Juan Castro.

Mr. and Mrs. Baltuano offered us accommodation and a sense of home during the days we stayed in Chepén.

The first two excavation seasons at Cerro Chepén took place while I was working as a part-time professor in the Archaeology Department at the Pontificia Universidad Católica del Perú. These seasons were funded through two research grants offered by the Dirección Académica de Investigación of that university. I want express my deepest gratitude to Dr. Margarita Suarez Espinoza and Carlos Chávez Rodríguez, who acted as director and project manager of that institutional office, for the advice and support provided.

But more important than the financial support, was the impetus that many people associated with the Universidad Católica provided to keep the project going. David Oshige, Bábara Carbajal, Marylin Hernández, Elvis Mondragón, Belén Gómez de la
Torre, César Sara and Miguel Angel Sordoméz were students of the Archaeology Program who participated in the project. I am grateful to them for their commitment, professionalism, and for having remained in high spirits despite the obvious wear that the daily climbs to Cerro Chepén took on each one of us. Many of the interpretations presented in this work have benefited from their valuable insights, and several of their field drawings have been included as figures in the text.

I want to thank Dr. Krzysztof Makowski, who was head of the Humanities Department of the Universidad Católica, for having made the arrangements that allowed me access to a small work place in the area reserved for the archaeology laboratories. In this small laboratory (unofficially named the “gabinetito”) I spent long hours classifying and drawing the ceramic sherds collected at Cerro Chepén. The archaeology laboratories were not only workplaces, but also areas of intense archaeological debate. There, I had the opportunity to share information and participate in fruitful discussions with advanced archaeology students, graduate students, and external researchers associated with the Universidad Católica. I remember as particularly valuable, the discussions I had with Dr. Idilio Santillana, Luis Felipe Villacorta, Martin del Carpio, Paloma Manrique, Martin Mac Kay, Jacqueline Bernuy, Lucia Balbuena, Jahl Dulanto, Carlos Rengifo, Gabriel Prieto, Hugo Ikehara (who was then working for Koishiro Shibata) and Koishiro Shibata himself. These discussions helped me enrich my knowledge of North Coast archeology in particular and of Peruvian archaeology in general.

After my departure from la Catolica at the beginning of 2006, followed a brief but successful third excavation season at Cerro Chepén. During this season, I worked side-by-side with two talented San Marcos archaeologists, Katyusha Bernuy and Jose Luis
Fuentes Sadowski. The end of the field campaigns lead to the beginning of a new and more demanding research stage centered on the analysis of excavated materials. During this crucial phase, a new group of people helped me push the project forward. I am deeply grateful to Dr. Silvia Rosas for granting me access to the petrographic microscope of the Engineering Department at the Universidad Católica, and for having taught me the basics of thin section analysis. Geologist Pedro Gagliuffi, Professor at the University of San Marcos, kindly assisted in the identification of lithic materials recovered at Cerro Chepén. Lizbeth Escudero, Tita Kolb and Martha Palma conducted the analysis of human skeletal remains. Victor Vasquez Sanchez and Teresa Rosales Tham, from the University of Trujillo, wrote excellent interpretative reports on the organic materials recovered at Cerro Chepén, and ingeniously solved a puzzle related to vessel function through a starch grain identification analysis. Luis Valdivieso, chair of the Mathematics Department of the Universidad Católica, helped me with the statistical calculations presented in this dissertation, and Eduardo Diestra, Industrial Design professor of the same university, taught me how to make three dimensional architectural drawings with the AutoCAD software. My friends, Chiongwend Lhi and Mercedes Miranda, poured all their artistic talent into producing the most amazing ink drawings of ceramic pieces that I have ever seen. Cesar Luis Córdova Espinola, ceramic restorer of the Proyecto Huacas del Sol y de la Luna, achieved the incredible feat of reconstructing two large ceramic vessels that we found fragmented on the floor of one of the interior patios of Building IV. Doctors Darden Hood, Bruce Huckell and Claude Chapdelaine provided valuable advice on how to interpret radiocarbon dates. Finally, Dr. Christopher Donnan was kind enough to sharing the laboratory results of his Dos Cabezas dates with me, and Dr. Carol Mackey
kindly transported my samples for C-14 dating to the United States. I wish to express my deepest gratitude to this varied and generous group of intellectuals for the help provided.

I cannot forget to include in this section some notorious North Coast archeologists and ethnohistorians who, under different circumstances, provided valuable comments that helped me understand the site of Cerro Chepén and the archeology of the Jequetepeque Valley better. Special thanks go to Michael Moseley, Christopher Donnan, Carol Mackey, Alana Cordy-Collins, Guillermo Cock, Santiago Uceda, Luis Jaime Castillo and Bill Sapp. I would like to include in this group, the archaeologists who work in the Trujillo branch of the Instituto Nacional de Cultura, César Gálvez, José Carcelén, Jesus Briceño, Luis Yepez, from whom I always learned a lot. While the ideas contributed by these researchers helped increase the quality of my dissertation, the interpretive errors that it still contains are mine exclusively.

Finally, I would like to thank Erika Gerety, Graduate Advisor at the Anthropology Department of UNM, for helping me complete and submit all the official forms required by the Office of Graduate Studies, and Ellen Bell, for the long hours invested in proofreading this document. My deepest gratitude goes to Katiusha Bernuy, who has been my companion for more than six years. In addition to her intellectual advice, Katiusha provided me the emotional support I needed to complete this seemingly unending work. Katiusha also helped me continue my research during the difficult COARPE years. I can not think of a better person to whom I shall dedicate this work.
CERRO CHEPEN AND THE LATE MOCHE COLLAPSE IN THE JEQUETEPEQUE VALLEY, NORTH COAST OF PERU

BY

MARCO ROSAS RINTEL

ABSTRACT OF DISSERTATION

Submitted in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy
Anthropology

The University of New Mexico
Albuquerque, New Mexico

April, 2010
CERRO CHEPEN AND THE LATE MOCHE COLLAPSE IN THE
JEQUETEPEQUE VALLEY, NORTH COAST OF PERU

by

Marco Rosas Rintel

B.A., Humanities, Pontificia Universidad Católica del Perú, 1995
M.A., Anthropology, University of New Mexico, 1998
Ph.D., Anthropology, University of New Mexico, 2010

ABSTRACT

In this dissertation, I investigate the socio-political processes that led to the collapse of the Late Moche political communities located in the Lower Jequetepaque Valley, North Coast of Peru. During the Late Moche phase (AD 600 to 850), the human populations of this valley evidenced an interesting case of political fragmentation and internal conflict. The Moche collapse in the Jequetepaque Valley is approached from the perspective of one of the largest power centers of the region: the fortified site of Cerro Chepén. This site occupies the upper and eastern slopes of a hill, located in a relatively central position within this valley. The site is significant for presenting a sophisticated system of fortifications, and two clearly-defined occupation sectors (which I call Cerro Chepén Alto and Cerro Chepén Bajo). Of these two sectors, Cerro Chepén Alto
distinguishes itself by occupying a dominant position on top of the hill, and by being surrounded by the most remarkable defenses. This sector houses up to nine monumental buildings. The four that occupy an advantageous, central position integrate architectural spaces of highland design.

Three of these four central buildings were excavated to evaluate the hypothesis that they housed highland intruders. The assessment of the cultural identity of the buildings’ occupants was based on two aspects of the process of materialization of ideology that is common to most complex societies – namely, the design of monumental architecture and the style of prestige objects. The results of the architectural and fine ceramic analyses led me to conclude that the occupants of these structures came from sites located in the nearby highlands, possibly outliers related to the area of interaction of the ceremonial center of Marcahuamachuco. Paleoenvironmental data suggest that their arrival in the lower section of the valley coincided with a period of decreased rainfall in the highlands. The careful planning of the fortified redoubt suggests that the newcomers not only participated in the internal conflict that affected local communities, but possibly exacerbated existing tensions. The collapse would have arisen due to the tensions that are inherent to situations of internecine warfare.
# TABLE OF CONTENTS

LIST OF FIGURES ................................................................................................................... xviii
LIST OF TABLES .................................................................................................................... xxxiii

CHAPTER I: INTRODUCTION ................................................................................................. 1
The collapse of complex societies ...................................................................................... 6
Political collapse in the Andean Area ............................................................................... 9
“Cultural” and “ethnic” identity ...................................................................................... 12
Significance of research .................................................................................................. 15
Structure of the dissertation ............................................................................................ 18

CHAPTER II: THE COLLAPSE OF COMPLEX SOCIETIES ............................................. 24
Defining collapse ............................................................................................................... 25
Complex societies ............................................................................................................ 33
Archaeological perspectives on collapse ...................................................................... 40
Tainter and the declining marginal returns of increasing complexity ...................... 48
An alternative approach ................................................................................................. 50
Economic relations between social segments .............................................................. 53
Predisposing factors of collapse .................................................................................... 61
  1. Population pressure .................................................................................................. 64
  2. Internecine warfare .................................................................................................. 66
  3. Environmental disturbances .................................................................................. 71
  4. Elite proliferation ..................................................................................................... 75
  5. Conspicuous consumption .................................................................................... 78
Economic factors of recovery ......................................................................................... 80
  1. Territorial expansion ............................................................................................... 82
  2. Expansion of the agricultural frontier ................................................................... 84
  3. Exports of valuables ............................................................................................... 86
Detonating factors of collapse ......................................................................................... 88
  1. Insufficient redistribution ....................................................................................... 89
  2. Ideological crisis ...................................................................................................... 91
  3. Physical coercion ..................................................................................................... 93
The character of the popular disaffiliation .................................................................... 95
  Peaceful disaffiliation .................................................................................................. 96
  Violent disaffiliation .................................................................................................... 98
Conclusions ..................................................................................................................... 100

CHAPTER III: MOCHE CULTURE HISTORY .................................................................... 106
Moche culture as a complex society ............................................................................. 107
Chronology and evolutionary sequence ....................................................................... 119
  The traditional view .................................................................................................. 127
  The new perspective .................................................................................................. 132
Natural environment and subsistence .......................................................................... 143
  Agriculture .................................................................................................................. 146
  Llama herding ............................................................................................................. 151
  Fishing ......................................................................................................................... 153
<table>
<thead>
<tr>
<th>Chapter IV: The Moche Collapse</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-political organization</td>
<td>159</td>
</tr>
<tr>
<td>The Moche neighbors</td>
<td>165</td>
</tr>
<tr>
<td>Cajamarca Culture</td>
<td>166</td>
</tr>
<tr>
<td>Marcahuamachuco</td>
<td>171</td>
</tr>
<tr>
<td>The Otuzco Tradition</td>
<td>175</td>
</tr>
<tr>
<td>Recuay Culture</td>
<td>177</td>
</tr>
<tr>
<td>Conclusions</td>
<td>181</td>
</tr>
<tr>
<td>CHAPTER V: The Moche in the Jequetepeque Valley</td>
<td>Page</td>
</tr>
<tr>
<td>The Jequetepeque Valley: natural environment</td>
<td>244</td>
</tr>
<tr>
<td>Hydrography</td>
<td>245</td>
</tr>
<tr>
<td>Topography</td>
<td>246</td>
</tr>
<tr>
<td>a) Alluvial valley</td>
<td>250</td>
</tr>
<tr>
<td>b) The hills</td>
<td>251</td>
</tr>
<tr>
<td>c) Pampas</td>
<td>253</td>
</tr>
<tr>
<td>Ecological zones and natural resources</td>
<td>255</td>
</tr>
<tr>
<td>a) Coastal wetlands</td>
<td>258</td>
</tr>
<tr>
<td>b) Riparian forest</td>
<td>260</td>
</tr>
<tr>
<td>c) Coastal dry forest</td>
<td>261</td>
</tr>
<tr>
<td>d) Freshwater lagoons</td>
<td>263</td>
</tr>
<tr>
<td>e) Barren hills</td>
<td>264</td>
</tr>
<tr>
<td>f) The desert pampas</td>
<td>265</td>
</tr>
<tr>
<td>g) Chaupiyunga</td>
<td>265</td>
</tr>
<tr>
<td>The Moche occupation of the Jequetepeque Valley</td>
<td>268</td>
</tr>
<tr>
<td>History of investigations</td>
<td>269</td>
</tr>
<tr>
<td>a) Excavation of archaeological sites</td>
<td>271</td>
</tr>
<tr>
<td>b) Valley-wide archaeological surveys</td>
<td>295</td>
</tr>
<tr>
<td>The Moche sequence in the Jequetepeque Valley</td>
<td>302</td>
</tr>
<tr>
<td>Moche settlement patterns in the Jequetepeque Valley</td>
<td>315</td>
</tr>
<tr>
<td>a) Early Moche</td>
<td>316</td>
</tr>
<tr>
<td>Early Moche socio-political organization</td>
<td>325</td>
</tr>
<tr>
<td>b) Late Moche</td>
<td>327</td>
</tr>
<tr>
<td>The Chafan Bajo community</td>
<td>328</td>
</tr>
<tr>
<td>The Cañoncillo community</td>
<td>330</td>
</tr>
<tr>
<td>The Cerro Chepén community</td>
<td>331</td>
</tr>
<tr>
<td>Farfan Norte-Farfan Sur community</td>
<td>334</td>
</tr>
<tr>
<td>San Ildefonso community</td>
<td>336</td>
</tr>
<tr>
<td>Fishing communities</td>
<td>337</td>
</tr>
<tr>
<td>Late Moche socio-political organization</td>
<td>340</td>
</tr>
</tbody>
</table>
Conclusions........................................................................................................342
CHAPTER VI: CERRO CHEPÉN ........................................................................348
Cerro Chepén: general description .................................................................348
The research program ....................................................................................355
Field research ..................................................................................................360
The defensive wall of Cerro Chepén Alto .......................................................369
Torreones ........................................................................................................376
Plataformas .....................................................................................................386
Superficial concentrations of sling stones .......................................................389
Wall entrances .................................................................................................396
Cerro Chepén Alto Sector ...............................................................................404
Building I ......................................................................................................405
Building II .....................................................................................................407
Building III ..................................................................................................408
Building IV ...................................................................................................410
Building V ....................................................................................................411
Building VI ..................................................................................................413
Building VII ................................................................................................414
Buildings VIII and IX .....................................................................................417
Assessing the relative importance of the buildings .......................................417
Cerro Chepén Bajo Sector ............................................................................425
Buildings A and B .........................................................................................431
Building C ....................................................................................................433
Building D ....................................................................................................434
Building E ....................................................................................................436
Building F ....................................................................................................437
Building G ....................................................................................................437
Building H ....................................................................................................438
Building Y ....................................................................................................440
Building J ....................................................................................................441
Building K ....................................................................................................441
Building L ....................................................................................................444
The defensive wall of Cerro Chepén Bajo ......................................................446
The huacas ....................................................................................................450
Greater Cerro Chepén ...................................................................................451
Summary and conclusions .............................................................................456
CHAPTER VII: ARCHITECTURAL ANALYSIS ..............................................461
Monumental architecture as materialization of ideology..............................463
Stylistic analysis of Buildings IV, VIII, and IX ..............................................474
Functional analysis of Buildings IV, VIII, and IX .........................................477
General characteristics of Buildings IV, VIII, and IX ..................................479
Building IV ..................................................................................................488
Frontal Terrace .............................................................................................490
Cuadrángulo .................................................................................................491
Sala con Nichos .............................................................................................492
Interconnected Rooms ..................................................................................503
Two-floor Gallery Group .................................................................510
Intermediate Terrace ...................................................................516
Patio-group ..................................................................................519
Area of Irregular Architecture ......................................................526
   a) Metallurgy ...........................................................................529
   b) Shell ornament manufacture ..............................................530
   c) Pottery manufacture ..........................................................533
Preliminary conclusions about the design and function of
Building IV ..................................................................................535
Building VIII ................................................................................536
Sala con Nichos ............................................................................538
Interconnected Rooms ................................................................542
Patio with Podium ......................................................................544
Two-floor Gallery Group ............................................................545
Walled Patio ................................................................................554
Preliminary conclusions about the design and function of
Building VIII ................................................................................555
Building IX ...................................................................................558
South Wing ...................................................................................558
Vestibule .......................................................................................561
Frontal Terrace ..........................................................................562
Patio-group ..................................................................................563
Preliminary conclusions about the design and function of
Building IX ...................................................................................571
   a) Metallurgy ...........................................................................572
   b) Manufacture of shell ornaments ........................................573
Conclusions ..................................................................................577
CHAPTER VIII: CERAMIC ANALYSIS ...........................................585
Symbolic objects as a product of ideological materialization ..........587
Sumptuary vessels as a means for cultural identification .........593
   1. Relative proportion of exotic vessels within the local repertoire
      of fine ceramics ......................................................................597
   2. Morphological richness of the sub-assembly of exotic vessels ....598
   3. Possible stylistic antecedents of the exotic vessels in the
      affected region .......................................................................599
   4. Technological style of the exotic vessels ............................600
   5. Context of occurrence of the exotic vessels ........................603
Sample organization ....................................................................606
Stylistic classification ...................................................................607
Quantification process ..................................................................613
Verification of the contextual provenance of the samples ..........616
Pottery function ...........................................................................617
Domestic wares ..........................................................................620
Fine Elite wares ..........................................................................625
Late Moche Fine Line ware .........................................................627
Cajamarca Cursive ware ..............................................................634
Cajamarca Red-on-Buff ware .......................................................................................................................... 644
Fine Orange ware ............................................................................................................................................. 650
   Escudillas ....................................................................................................................................................... 651
   Bottles ............................................................................................................................................................. 659
   Ring base bowls ............................................................................................................................................. 663
   Other forms .................................................................................................................................................... 665
   Final comments about the Fine Orange ware .............................................................................................. 668
Fine Black ware ............................................................................................................................................... 669
   Escudillas ....................................................................................................................................................... 671
   Ring base bowls ............................................................................................................................................. 675
   Bottles ............................................................................................................................................................. 677
      a) Bottles with simple tubular spouts ........................................................................................................ 677
      b) Bottles with effigy spouts .................................................................................................................... 680
      c) Double-spout bottles ............................................................................................................................ 680
   Cuencos .......................................................................................................................................................... 687
   Cups .................................................................................................................................................................. 689
   Jars with effigy-neck ...................................................................................................................................... 692
   Jars with "Transitional Neck" ....................................................................................................................... 694
   Tumblers ......................................................................................................................................................... 694
   Other forms .................................................................................................................................................... 697
   Final comments about the Fine Black ware .............................................................................................. 699
Evaluation ............................................................................................................................................................ 702
   1. Relative proportion of exotic vessels within the local repertoire of fine ceramics .................................. 703
   2. Morphological richness of the sub-assembly of exotic vessels ................................................................ 705
   3. Possible stylistic antecedents of the exotic vessels in the affected region ............................................. 709
   4. Technological style of the exotic vessels .................................................................................................. 713
   5. Context of occurrence of the exotic vessels ............................................................................................ 717
Conclusions........................................................................................................................................................... 726

CHAPTER IX: OTHER DIAGNOSTIC INDICATORS OF CULTURAL TRADITION ..................................................... 732

Food remains ...................................................................................................................................................... 733
   Mollusk taxa .................................................................................................................................................... 741
   Crustacean taxa .............................................................................................................................................. 749
   Fish taxa ........................................................................................................................................................... 753
   Mammals .......................................................................................................................................................... 758
   Other terrestrial vertebrates .......................................................................................................................... 764
   Domesticated plants ...................................................................................................................................... 765
   Conclusions .................................................................................................................................................... 773

Human burials ..................................................................................................................................................... 779
   AU-03, Building IX: Burials 1 and 2 ................................................................................................................ 780
   AU-35, Building VIII: Burial 1 ....................................................................................................................... 783
   AU-02, Building IX: Burial 1 ........................................................................................................................... 786
   Comments ....................................................................................................................................................... 788

Small Spondylus offerings .................................................................................................................................. 791
CHAPTER X: CONCLUSIONS
Characteristics of the donor polity: Marcahuamanchuco outliers
Cerro Coyor
Guzmango Viejo
Tantarica
Drought, conflict, and human migrations
The origin of Cerro Chepén Alto
The abandonment of Cerro Chepén and the regional collapse
Dating the collapse
Predisposing factors of collapse
The popular disaffection and the detonating factors of collapse
The role of San José de Moro in the Moche collapse
Avenues for future research

APPENDICES
APPENDIX A – DESCRIPTION OF ARCHAEOLOGICAL DEPOSITS AND FEATURES
APPENDIX B – DESCRIPTION OF DOMESTIC POTTERY TYPES
Late Moche domestic wares
1. Collared bowls
2. Constricted vessels with neck
   2.1. Vessels with effigy neck
   2.2. Vessels with platform neck
   2.3. Vessels with undulating neck
   2.4. Vessels with bulge neck
   2.5. Vessels with out-slanting necks and thinned lips
   2.6. Vessels with simple necks
3. Bottles
4. Paicas
5. Figurines
Cajamarca Coarse Red ware

APPENDIX C – OVERSIZED FIGURES
LIST OF REFERENCES
LIST OF FIGURES

Figure 2.1. The declining marginal returns of increasing complexity ........................................49

Figure 2.2. Representation of the irregular agricultural output of a peasant household during a normal 30-year agricultural period ..........................................................55

Figure 2.3. Representation of the mandatory crop yield that a peasant household is expected to raise on the lord’s land during a normal 30-year agricultural period. It is assumed that the lord’s demands will drop during bad seasons .................................................................................................................58

Figure 2.4. The balance of a peasant household’s agricultural production plus its mandatory collaboration to the lord’s political economy during a bad agricultural period ........................................................................................................62

Figure 2.5. The contraction of agricultural plots due to foreign military invasions ........................................................................................................................................69

Figure 3.1. Modified ‘Dynamic Model’ for the complex societies of the north coast of Peru ..................................................................................................................................121

Figure 3.2. The thematic integrity of the Moche cult. Representations of the “Decapitator God” at different north coast sites: (a) Loma Negra, Piura Valley (metal ornament), (b) Sipán, Lambayeque Valley (metal ornament), (c) El Brujo, Chicama Valley (wall painting), and (d) Huaca de la Luna, Moche Valley (wall painting) ..........................................................................................123

Figure 3.3. Gallinazo stylistic antecedents of Moche IV funerary vessels ........................................124

Figure 3.4. Different versions of the “Interlocking Design” in the mural decoration of Moche and Gallinazo huacas: (a) Huaca Cotón (Jequetepeque Valley), (b) Huaca Licapa (Chicama Valley), (c) Huaca Cortada (Chicama Valley), (d) Huaca Cao Viejo (Chicama Valley), and (e) Huaca de la Luna (Moche Valley) ........................................................................................................126

Figure 3.5. The traditional cultural sequence of the north coast, with special reference to the Moche Valley ..........................................................................................................130

Figure 3.6. The Moche territories: Map of the most important river systems of the north coast of Perú, showing the extension of their lower valleys ........................................................................................................134
Figure 3.7. Middle Moche fine line scene that depicts a food exchange between farmers (right) and fishermen (left) ................................................................. 157

Figure 3.8. The dual-hierarchical organization of north coast rule ......................... 162

Figure 3.9. The Moche neighbors: spatial distribution of the most important highland groups that interacted with coastal Moche communities ................................................................. 168

Figure 5.1. Mean annual discharges (in millions of cubic meters) of major north coast rivers ........................................................................................................... 248

Figure 5.2. Map of the Lower Jequetepeque Valley showing most important topographic features and ecological niches. The map shows the extension of modern niches, which may not be the same as of Moche times ................................................................. Appendix C

Figure 5.3. Photograph of a “Life” fish captured in the Jequetepeque River in 2003 ................................................................. 261

Figure 5.4. Photograph of a “loma snail” captured in Cerro Chepén in 2006 ........................................................................................................ 266

Figure 5.5. Site plan of the “City of the Temples” of Pacatnamú .............................. 273

Figure 5.6. Lateral view of Burial E-I of Pacatnamú ............................................. 275

Figure 5.7. Examples of “Gallinazo” face-neck jars excavated by Ubbelohde-Doering at Pacatanamu in 1939 ................................................................. 277

Figure 5.8. Examples of “stirrup-spout bottles with flat bodies” (SSB w/FB) excavated by Ubbelohde-Doering at Pacatnamu in 1939 ................................. 279

Figure 5.9. Comparison between a Cupisnique bottle excavated at Puemape, Jequetepeque Valley (left), and a Moche bottle with archaic decoration excavated at Pacatnamu (right) .................................................. 280

Figure 5.10. Examples of Early Moche owl effigy bottles: a) Pacatnamu, b) La Mina, and c) Piura Valley ................................................................. 281

Figure 5.11. Site plan of the archaeological site and modern settlement of San José de Moro .............................................................................................................. 284

Figure 5.12. Some rim sherds of Platform-neck jars from Pacatnamú ................. 288
Figure 5.13. Sample of uncalibrated C-14 dates from important Moche sites of the Jequetepeque Valley.................................................................308

Figure 5.14. Map of the Lower Jequetepeque Valley showing the location of the most important archaeological sites and irrigation canals of the Early Moche phase................................................................. Appendix C

Figure 5.15. A few Early Moche sherds found on the surface of the Calera de Talambo site, Jequetepeque Valley.................................................................319

Figure 5.16. Modern planting surfaces in the river bed of the San Gregorio River, outskirts of the modern town of Pueblo Nuevo, Jequetepeque Valley .................................................................................................325

Figure 5.17. Map of the Lower Jequetepeque Valley showing the location of the most important archaeological sites and irrigation canals of the Late Moche phase ................................................................. Appendix C

Figure 6.1. Schematic representation of the Cerros de Chepén hill chain ...............349

Figure 6.2. Cerro Chepén: general site plan ..............................................................351

Figure 6.3. Recuay pot with a three-dimensional representation of a building with two-floor galleries .................................................................................354

Figure 6.4. Ground plan of Buildings VIII and IX showing the location of excavation areas .................................................................................................365

Figure 6.5. Ground plan of Building IV showing the location of excavation areas .................................................................................................366

Figure 6.6. Architectural plan of Cerro Chepén Alto showing the location of accesses in the defensive wall .................................................................370

Figure 6.7. Cross-section of the “hill-slope” wall of Cerro Chepén Alto ...............372

Figure 6.8. Architectural plan of Cerro Chepén Alto showing the location of defensive features on the peripheral wall .................................................................375

Figure 6.9. A segment of Cerro Chepén Alto’s “hill-top” wall, showing the abrupt topography of the hill’s summit.................................................................376

Figure 6.10. Ground plan of Torreón 1 ................................................................379

Figure 6.11. Torreón 1 after excavation .................................................................380
Figure 6.12. The juncture between the defensive wall and the external wall of Torreón 1.................................................................380

Figure 6.13. Ground plan of Torreón 3.................................................................382

Figure 6.14. An isolated “Plataforma” located amidst the course of Cerro Chepén Alto’s “hill-slope” wall................................................386

Figure 6.15. Ground plan of the two sling stone deposits located on top of Plataforma 1.................................................................388

Figure 6.16. A sample of sling stones of three different concentrations of the defensive wall of Cerro Chepén Alto..............................................390

Figure 6.17. Frequency distributions of maximum length parameters of five sling-stone samples.........................................................393

Figure 6.18. Frequency distributions of weight parameters of five sling-stone samples.................................................................394

Figure 6.19. The defensive organization of the Western Access of Cerro Chepén Alto’s defensive wall......................................................398

Figure 6.20. The defensive organization of the Eastern Access of Cerro Chepén Alto’s defensive wall......................................................400

Figure 6.21. The intricate access pattern and defensive organization of the Southern Access of Cerro Chepén Alto’s defensive wall......................402

Figure 6.22. Cerro Chepén Alto: Architectural plans of Building I (top) and Building II (bottom).............................................................409

Figure 6.23. Cerro Chepén Alto: Architectural plans of Building III (top) and Building V (bottom).............................................................412

Figure 6.24. Cerro Chepén Alto: Architectural plans of Building VI (top) and Building VII (bottom).............................................................415

Figure 6.25. Ceramic mold fragments from “Feature 9”, Building VII ............417

Figure 6.26. Graph that compares the absolute altitude (in meters above sea level) of the highest and lowest exposed occupation floors of the nine monumental buildings of Cerro Chepén Alto..............................................420
Figure 6.27. Graph that compares the shortest distance to the nearest access in the defensive wall for each of the nine monumental buildings of Cerro Chepén Alto .................................................................421

Figure 6.28. Graph that compares the areas of the nine monumental buildings of Cerro Chepén Alto ..................................................................................................................422

Figure 6.29. Graph that compares the “significance scores” of the nine monumental buildings of Cerro Chepén Alto ..........................................................................................424

Figure 6.30. A group of well preserved ordinary habitation terraces at Cerro Chepén Bajo .......................................................................................................................426

Figure 6.31. Rim fragments of “platform neck jars” found in the vicinity of “hierarchical terraces” of Cerro Chepén Bajo .................................................................................428

Figure 6.32. Fragments of Late Moche stirrup-spout bottles decorated with fine line motifs found in the vicinity of hierarchical terraces of Cerro Chepén Bajo: a) Building L, b) Building Y, c) Building K, d) and e) Building H ..................................................................................................................429

Figure 6.33. Cerro Chepén Bajo: Architectural plans of Buildings A and B and associated defensive wall ..................................................................................................................432

Figure 6.34. Cerro Chepén Bajo: Architectural plans of Building C (left) and Building D (right) .........................................................................................................................435

Figure 6.35. Cerro Chepén Bajo: Architectural plans of Building F (left) and Building G (right) .........................................................................................................................439

Figure 6.36. Cerro Chepén Bajo: Architectural plans of Building H (left) and Building J (right) .........................................................................................................................442

Figure 6.37. Comparison of the architectural plans of Cerro Chepén Bajo’s Building Y (left), and Structure S of Pampa Grande (right) .........................................................................................443

Figure 6.38. Cerro Chepén Bajo: Architectural plans of Building K (left) and Building L (right) ..........................................................................................................................445

Figure 6.39. Remnants of adobe-brick panels attached to the external face of Cerro Chepén Bajo’s “hill wall” .................................................................................................449

Figure 6.40. “Greater Cerro Chepén”: Late Moche constructions and activity areas in the periphery of the fortified site .........................................................................................452

Figure 6.41. The geoplyph on the lower northern slopes of Chequén Hill ..........454
Figure 7.1. Ground plans of “Huaca I” of Pacatnamú (left) and “Pirámide con Rampa Nº 2” of Pachacamac (right) ...............................................................472

Figure 7.2. Ground plans of the architectural complexes located behind Huaca I of Pacatnamú (left) and Pirámide con Rampa Nº 2 of Pachacamac (right) ........................................................................473

Figure 7.3. Reconstruction of a roof structure of Cerro Chepén Alto ..................484

Figure 7.4. Southwest profile of Unit-16, Building IV (the two-floor gallery), showing a short sequence of occupation floors at the bottom of the unit and the dense accumulation of packed earth ........................................486

Figure 7.5. Ground plan of Building IV showing the location of Functional Units and internal circulation routes .................................................................489

Figure 7.6. Different views of two Late Moche baked clay architectural models from San José de Moro that depict “hierarchical chambers” ....................494

Figure 7.7. Examples of life-sized “hierarchical chambers” found at the Gallinazo site SVP-LSUCH-153, Santa Valley (left), and at the Late Moche site of Galindo, Moche Valley (right) ........................................496

Figure 7.8. View of the south corner of the Sala con Nichos, Building IV, after excavation ........................................................................................................497

Figure 7.9. Three-dimensional reconstruction of the Sala con Nichos, Building IV ..........................................................499

Figure 7.10. Perspective of the “mausoleum” of Cerro Amaru, Huamachuco ............................................................................502

Figure 7.11. Ground plan of the Interconnected Rooms, Building IV ...............504

Figure 7.12. View of the southern wall of the central room of the Interconnected Rooms, showing a row of sockets right above two large niches .................................................................506

Figure 7.13. Floor plan of Unit-14 (the rear gallery of the Interconnected Rooms), Building IV ........................................................................507

Figure 7.14. Classification of pre-Hispanic housing units of the upper Chicama region, northern highlands of Perú .................................................509
Figure 7.15. Floor plan of Unit-15 (patio in front of the two-floor gallery), Building IV .................................................................511

Figure 7.16. Floor plan of Unit-16 (two-floor gallery), Building IV .................................................................513

Figure 7.17. Three-dimensional reconstruction of the two floor gallery and its adjoining courtyard .................................................................517

Figure 7.18. Three dimensional reconstruction of the Patio-group, Building IV .................................................................520

Figure 7.19. Floor plans of Unit-25 (elongated room) of the Patio-group, Building IV: initial floor (upper register), and late floor (lower register) ............522

Figure 7.20. Ground plans of four patio-groups of the Moraduchayoq Sector of Huari (left), and of two Inca kanchas of Ollantaytambo (right) ..................525

Figure 7.21. Ground plan of the Area of Irregular Architecture, Building IV .................................................................528

Figure 7.22. Small metal objects found in the Area of Irregular Architecture of Building IV: a) and b) unworked copper prills, c) hammered prill, and d) trimmed metal sheet .................................................................531

Figure 7.23. Worked shells discarded in the Area of Irregular Architecture of Building IV: a) and b) “palabritas” shells, c) and d) small “oliva” shells, e) cut Spondylus piece, and f) and g) pearl oyster fragments .................................................................531

Figure 7.24. Two pearl oyster shell pieces found in the interior spaces of Building IV: unfinished ornament (Area of Irregular Architecture), and pendant (two-floor gallery) ......................................................................532

Figure 7.25. Lithic objects found in the Area of Irregular Architecture of Building IV: a), b) and c) angular debris, d) biface thinning flake, and e) polished perforator ......................................................................................532

Figure 7.26. Ceramic fragment with a worn-out edge found in the Area of Irregular Architecture, Building IV ........................................................................534

Figure 7.27. Bone awl with broken ends found in the Area of Irregular Architecture, Building IV ........................................................................534

Figure 7.28. Ground plan of Building VIII showing the location of Functional Units and internal circulation routes ..................................................................539
Figure 7.29. Three-dimensional reconstruction of the Sala con Nichos and the adjoining Interconnected Rooms, Building VIII .................................................................541

Figure 7.30. Ground plan of the Interconnected Rooms, Building VIII .......................543

Figure 7.31. Floor plan of Unit-30 (two-floor gallery), Building VIII ..........................548

Figure 7.32. Floor plans of Unit-31 and Unit-32 (patio and stairway in front of the two-floor gallery), Building VIII .................................................................549

Figure 7.33. Three-dimensional reconstruction of the Two-floor Gallery Group, Building VIII .................................................................................................551

Figure 7.34. Ground plan of Building IX showing the location of Functional Units and internal circulation routes .................................................................559

Figure 7.35. Three-dimensional reconstruction of the first construction stage of the Patio-group, Building IX ........................................................................565

Figure 7.36. Three-dimensional reconstruction of the second construction stage of the Patio-group, Building IX .................................................................566

Figure 7.37. Floor plan of Unit-02 (west gallery) of the Patio-group, Building IX .................................................................569

Figure 7.38. Fragment of a goldsmith’s stone anvil discarded in the garbage dump of the Vestibule, Building IX ........................................................................575

Figure 7.39. Fragment of a ceramic mold used for casting metal objects discarded in the garbage dump of the Vestibule, Building IX ........................................575

Figure 7.40. Worked shells discarded in the garbage dump of the Vestibule, Building IX: a), b), and c) small “oliva” shells, d) pearl oyster fragment, e) and f) cut “mullu” shells, and g) cut “choro” valve ........................................576

Figure 7.41. Three ceramic mold fragments discarded in the garbage dump of the Vestibule, Building IX ........................................................................576

Figure 8.1. Detail of a Moche IV fine line scene (“The Banquet Scene”) that shows a Moche leader displaying, among other power insignia, two fancy pottery vessels ..................................................................................592

Figure 8.2. Schematic representation of the ceramic classification ................................609

Figure 8.3. Relative distribution of fine and domestic pottery vessels of the buildings with galleries based on the size of their largest inclusions.
Paicas have been omitted from the analysis due to their skewing properties.................................610

Figure 8.4. Simplified stratigraphic profile that shows the most important cultural deposits found within the buildings with galleries of Cerro Chepén Alto ........................................................................................................618

Figure 8.5. Cerro Chepén Alto: compared relative distribution of Late Moche domestic types by building cluster.................................................................624

Figure 8.6. The most distinctive vessel types of the Jequetepeque variant of the Late Moche fancy style: a) stirrup-spout bottles, b) sculptural vessels, c) simple jars, and d) flaring bowls .................................................................628

Figure 8.7. Cerro Chepén Alto: vessels of the Late Moche Fine Line ware........632

Figure 8.8. Cerro Chepén Alto: body fragments of Late Moche bottles decorated with fine line motifs ..................................................................633

Figure 8.9. Cerro Chepén Alto: bowls of the Cajamarca Cursive ware ........636

Figure 8.10. Cerro Chepén Alto: bowls and spoons of the Cajamarca Cursive ware ..........................................................................................637

Figure 8.11. Map that shows the location of Andean Middle-Horizon sites that have yielded examples of imported Cajamarca Floral Cursive vessels ..........641

Figure 8.12. Two rim-sherds of Cajamarca Cursive bowls with repair holes ........................................................................................................644

Figure 8.13. Fragment of a Cajamarca Cursive bowl that shows the representation of a stylized viscacha head.........................................................644

Figure 8.14. Cerro Chepén Alto: bowls of the first technological variant of the Cajamarca Red-on-Buff ware .........................................................646

Figure 8.15. Cerro Chepén Alto: bowls of the second technological variant of the Cajamarca Red-on-Buff ware .........................................................647

Figure 8.16. Cerro Chepén Alto: plain escudillas of the Fine Orange ware........654

Figure 8.17. Cerro Chepén Alto: escudillas of the Fine Orange ware decorated with organic paint. Left column: escudillas found in Building IV; right column: escudillas found in Buildings VIII and IX .......................................................655
Figure 8.18. Cerro Chepén Alto: *escudillas* of the Fine Orange ware decorated with mineral pigments ..........................................................656

Figure 8.19. Cerro Chepén Alto: “Head-star” *escudilla* of the Fine Orange ware .........................................................................................657

Figure 8.20. Cerro Chepén Alto: Bottles with simple tubular spouts of the Fine Orange ware ........................................................................661

Figure 8.21. Cerro Chepén Alto: Bottles with effigy-spout of the Fine Orange ware .........................................................................................662

Figure 8.22. Cerro Chepén Alto: Ring base bowls of the Fine Orange ware .............664

Figure 8.23. Cerro Chepén Alto: other vessel shapes of the Fine Orange ware .................................................................................................667

Figure 8.24. Cerro Chepén Alto: plain *escudillas* of the Fine Black ware .............672

Figure 8.25. Cerro Chepén Alto: Fine Black ware *escudilla* with modeled head appendages and interior incised designs .........................................673

Figure 8.26. Cerro Chepén Alto: ring base bowls of the Fine Black ware .............676

Figure 8.27. Cerro Chepén Alto: Bottles with simple tubular spouts (a-d) and fragments of bottles decorated with mold-pressed designs on their bodies (e-f), Fine Black ware ........................................................................679

Figure 8.28. Cerro Chepén Alto: Bottles with effigy-spout of the Fine Black ware .................................................................................................681

Figure 8.29. Cerro Chepén Alto: Spout and bridge fragments of double-spout bottles, Fine Black ware ........................................................................684

Figure 8.30. Cerro Chepén Alto: body forms of Fine Black ware double-spout bottles .................................................................................................685

Figure 8.31. Cerro Chepén Alto: *cuencos* of the Fine Black ware .........................688

Figure 8.32. Cerro Chepén Alto: cups of the Fine Black ware ..................................690

Figure 8.33. Cerro Chepén Alto: jars with effigy-neck of the Fine Black ware .................................................................................................693

Figure 8.34. Cerro Chepén Alto: jars with “Transitional Neck” (a-d) and tumblers (e-h) of the Fine Black ware .................................................................696
Figure 8.35. Cerro Chepén Alto: other vessel shapes of the Fine Black ware...........................................................................................................................................698

Figure 8.36. Cerro Chepén Alto: composition of the fine pottery group in terms of wares .............................................................................................................................................704

Figure 8.37. Cerro Chepén Alto: the most distinctive vessel forms of the five fine pottery wares (only forms with two or more occurrences are illustrated)........................................................................................................................................706

Figure 8.38. Cerro Chepén Alto: composition of the fine pottery group in terms of vessel forms ........................................................................................................................................711

Figure 8.39. Mochica-Huari polychrome vessel looted from San José de Moro. The vessel bears a typical Late Moche motif ........................................................................................................................................718

Figure 8.40. Fragments of a Mochica-Huari polychrome vessel found in a midden located next to Building VII (“Hallazgo 9”), Cerro Chepén Alto ........................................................................................................718

Figure 8.41. Cerro Chepén Alto: percentages of fine vessels associated with significant deposits of the buildings with galleries by ware category ........................................................................................................722

Figure 8.42. Cerro Chepén Alto: percentages of fine vessels associated with significant deposits of the buildings with galleries by vessel form category........................................................................................................................................723

Figure 8.43. Cerro Chepén Alto: compared relative frequencies of fine pottery wares by building cluster ........................................................................................................................................725

Figure 9.1. Altitudinal growth ranges (in meters above sea level) of the most important Andean cultivars .................................................................................................................................................735

Figure 9.2. 1200-year-old cotyledons and endocarp fragment of a *Lucuma obovata* fruit found in Building IX .................................................................................................................................................736

Figure 9.3. Maize cob fragments from significant occupation contexts of the buildings with galleries .................................................................................................................................................736

Figure 9.4. Relative frequencies of mollusk taxa found in the significant deposits of the buildings with galleries .................................................................................................................................................745

Figure 9.5. Compared densities of mollusk remains (MNI per 1000 liters of excavated sediment) from the significant deposits of the southern and northern building clusters ........................................................................................................................................746
Figure 9.6. Relative frequencies of crustacean taxa found in the significant deposits of the buildings with galleries.................................................................751

Figure 9.7. Compared densities of crustacean remains (NISP per 1000 liters of excavated sediment) from the significant deposits of the southern and northern building clusters ..................................................................................752

Figure 9.8. Relative frequencies of fish taxa found in the significant deposits of the buildings with galleries..............................................................................755

Figure 9.9. Compared densities of fish remains (NISP per 1000 liters of excavated sediment) from the significant deposits of the southern and northern building clusters ........................................................................756

Figure 9.10. Relative frequencies of terrestrial vertebrate taxa found in the significant deposits of the buildings with galleries..................................................760

Figure 9.11. Compared densities of terrestrial vertebrate remains (NISP per 1000 liters of excavated sediment) from the significant deposits of the southern and northern building clusters ..............................................................761

Figure 9.12. Relative frequencies of botanical taxa found in the significant deposits of the buildings with galleries......................................................................768

Figure 9.13. Compared densities of botanical remains (NBE per 1000 liters of excavated sediment) from the significant deposits of the southern and northern building clusters ..........................................................................769

Figure 9.14. Architectural plan of Buildings VIII and IX showing the location of human burials.................................................................781

Figure 9.15. Burials 1 and 2 of Architectural Unit 03, Building IX ....................782

Figure 9.16. Burial 1 of Architectural Unit 35, Building VIII .............................785

Figure 9.17. Burial 1 of Architectural Unit 02, Building IX ................................787

Figure 9.18. Small polished trapezoidal Spondylus plaques found in Buildings VIII and IX: (a) Burial 1, AU-03, (b) Burial 2, AU-03, (c) Burial 1, AU-35, and (d) southeast corner of AU-14, Building IX ..........................793

Figure 9.19. Wooden artifacts from Cerro Chepén Alto: (a) potter’s paddle, (b) spindle stick, and (c) spoon ........................................................................798
Figure 9.20. Spindle whorls from Cerro Chepén Alto: black ware whorls (upper row), red ware whorls (middle row), and stone whorls (bottom row) ................................................................. 800

Figure 9.21. Metal ornaments from the buildings with galleries ................................................. 804

Figure 9.22. Metal tools from the buildings with galleries: (a) pointed instrument with spoon-like termination, (b) same as above but badly corroded, (c) copper rod with cotton thread, (d) spear-thrower engaging spur, (e) fishing hook, (f) copper needle, and (g) bent copper needle ........................................... 804

Figure 9.23. Silver tupu head found in a superficial midden of Cerro Chepén Alto ......................................................... 806

Figure 9.24. Post-firing marks scratched on the surface of ceramic vessels from Building IV ................................................................. 808

Figure 9.25. Post-firing marks scratched on the surface of ceramic vessels from Buildings VIII and IX ................................................................. 809

Figure 9.26. Examples of Middle Horizon pottery vessels bearing post-firing marks scratched on their surfaces: (a) black ware escudilla, Cerro Amaru, Huamachuco, (b) Huamanga-style escudilla, Aqo Wayqo, Ayacucho, and (c) Teatino-style bottle, Ancón ................................................................. 812

Figure 10.1. Cerro Coyor: general site view. The monumental structures of the site concentrate on top of the conical hill shown in the center of the photograph. These structures are covered by dense bush growth ........................................... 827

Figure 10.2. Cerro Coyor. Photograph of the retaining wall of a long terrace perched high above the hill. The wall bears an ornamental cornice ................. 827

Figure 10.3. Guzmango Viejo: general site view. The site’s structures spread on top of the two rolling hills shown in the picture, and are covered by dense bush growth ................................................................. 831

Figure 10.4. Guzmango Viejo. Photograph of the retaining wall of a terrace that used to support a gallery. As is the case at Cerro Coyor, these walls originally stood to a great height, creating an impassable barrier ................. 831

Figure 10.5. Peak of Cerro Tantarica. Its southern flank (shown in this picture) has a dense concentration of habitation terraces ........................................... 835

Figure 10.6. Cerro Tantarica. Photograph of one of the numerous terrace clusters from the site ......................... 835
Figure 10.7. Map of the Lower Jequetepueque Valley and of the adjacent highlands. The map shows the location of important Middle Horizon sites mentioned in the text. The dotted line indicates the hypothesized connection route between Cerro Chepén and the highland sites of Tantarica and Guzmango Viejo .......................................................... 838

Figure 10.8. Ground plan of Buildings VIII and IX showing the locations where samples for C-14 dating were collected .......................................................... 849

Figure 10.9. Ground plan of Building IV showing the locations where samples for C-14 dating were collected .......................................................... 850

Figure 10.10. Graph that compares the (2 sigma) calibrated AMS dates of Cerro Chepén Alto with the proposed time frame of the second major drought of the Quelccaya sequence (Thompson et al 1985, Table 1) .......................................................... 851

Figure 10.11. Uncalibrated C-14 dates of Cerro Chepén Alto and of three large Late Moche sites of the Jequetepeque Valley .......................................................... 859

Figure A.1. Some common three-dimensional decorative variants of Late Moche domestic pots .......................................................... 890

Figure A.2. Late Moche domestic pottery: collared bowls .......................................................... 892

Figure A.3. Late Moche domestic pottery: mold-made jar necks decorated with the “New King” design .......................................................... 896

Figure A.4. Late Moche domestic pottery: mold-made jar necks representing human heads .......................................................... 897

Figure A.5. Late Moche domestic pottery: mold-made jar necks representing feline heads .......................................................... 898

Figure A.6. Late Moche domestic pottery: mold-made jar necks representing llama heads .......................................................... 899

Figure A.7. Late Moche domestic pottery: jar necks decorated with seal-pressed designs .......................................................... 901

Figure A.8. Late Moche domestic pottery: jar necks with modeled decoration (a-c) and “Gallinazoid” necks (d-f) .......................................................... 904

Figure A.9. Late Moche domestic pottery: vessels with platform neck. Left column: low platforms; right column: tall platform necks .......................................................... 905
Figure A.10. Late Moche domestic pottery: vessels with undulating neck (necks with inward tilting walls).................................................................907

Figure A.11. Late Moche domestic pottery: vessels with undulating neck (necks with vertical or slightly out-slanting walls).................................................................908

Figure A.12. Late Moche domestic pottery: vessels with bulge neck. Left column: vessels with out-slanting necks; right column: vessels with vertical necks .................................................................911

Figure A.13. Late Moche domestic pottery: oversized jars with bulge neck ..........912

Figure A.14. Late Moche domestic pottery: vessels with out-slanting neck and thinned lips .................................................................................................................................914

Figure A.15. Late Moche domestic pottery: vessels with simple neck ...............915

Figure A.16. Late Moche domestic pottery: bottles .............................................917

Figure A.17. Late Moche domestic pottery: paicas .............................................919

Figure A.18. Late Moche domestic pottery: figurines .........................................921

Figure A.19. Cajamarca Coarse Red ware: jars with tall neck (a-c), jars with concave neck (d, e), and two small vessel shapes (f, g) .................................................................924

Figure A.20. Cajamarca Coarse Red ware: decorated fragments of jars with tall neck (a-d), and Late Moche domestic vessels that imitate Cajamarca Coarse Red forms (e, f) .................................................................................................................................925
LIST OF TABLES

Table 6.1. Length and weight parameters of five samples of 500 sling stones of different concentrations located at the defensive wall of Cerro Chepén Alto .................................................................392

Table 6.2. Parameters used in the calculation of the “significance scores” of the nine monumental buildings of Cerro Chepén Alto .................................................................423

Table 8.1. Absolute and relative frequencies of the most common ceramic forms of the five fine pottery wares of Cerro Chepén Alto. Only vessel forms with more than two occurrences have been considered ................................................710

Table 9.1. Location, description, and approximate volume of archaeological deposits associated with the occupation floors from which organic samples were retrieved .................................................................740

Table 9.2. Absolute and relative frequencies of mollusk taxa found in the significant deposits of the buildings with galleries .................................................................743

Table 9.3. Absolute and relative frequencies of crustacean taxa found in the significant deposits of the buildings with galleries .................................................................750

Table 9.4. Absolute and relative frequencies of fish taxa found in the significant deposits of the buildings with galleries .................................................................754

Table 9.5. Absolute and relative frequencies of terrestrial vertebrate taxa found in the significant deposits of the buildings with galleries .................................................................759

Table 9.6. Absolute and relative frequencies of botanical taxa found in the significant deposits of the buildings with galleries .................................................................767
CHAPTER I

INTRODUCTION

This dissertation addresses the case of the Moche collapse from the perspective of one of the central territories of its vast area of interaction. The Moche were the most complex cultural development on the western coast of South America during the first millennium AD (Shimada 1994a: 9). Their sudden demise represents a case comparable to the downfall of the Classic Maya political formations of the Southern Lowlands (Webster 2002). As is the case with the Maya, new approaches indicate that what we know as the Moche Culture, far from being a unitary phenomenon, hosted multiple evolutionary lines. It can be concluded, then, that different circumstances lay behind the disappearance of its regional manifestations (Bawden 1996, 2005; Castillo 2003; Dillehay 2001; Shimada 1994a). This work is embedded within this new approach, which demands that the Late Moche collapse should be addressed from a regional perspective.

The Moche territory that is the focus of this study is the Lower Jequetepeque Valley. The Lower Jequetepeque Valley offers two essential features that make it an ideal laboratory for studying the collapse of complex regional political entities. On the one hand, this valley had (and still has) a high agricultural potential. This potential results from the combination of a vast extension of arable land (calculated by Eling [1987:107] in 88,000 hectares), and the high mean discharge of the main river (Delavaud 1984, Table 7). Given that the Jequetepeque River feeds its discharge with the input from more than 30 tributaries (ONERN 1988:13), it maintains a superficial flow throughout the year. The
valley not only provided ideal conditions for the evolution of complex societies, but also a water reserve that could sustain local farmers even in dry years.

On the other hand, even though the Jequetepeque Valley holds a central position within the Moche cultural area, it displays in many ways a condition of cultural frontier. The valley lies north of a major natural barrier (the arid desert stretch of Paiján) that, according to various researchers, hindered the integration of coastal cultures throughout the pre-Hispanic era (Castillo and Donnan 1994b, Donnan and Cock 1986b:65, Kaulicke 1992b:899, Kroeber 1930). Moreover, the river itself, which is born in the core territory of the Cajamarca Culture, represents the most direct route for connecting the highlands with the neighboring coast. Some authors think that this valley would have constituted a corridor through which various highland political entities projected their influence toward the coast (Kosok 1965:118, Schaedel 1993:234). Considering all these characteristics, it was evident that the local Moche political developments would have had a distinctive character and a singular historical sequence.

While the collapse scenario presented in this thesis stems from the investigation of a single site (Cerro Chepén), I propose that the results of my research have regional implications. The regional perspective of this study was derived from information provided by various researchers who have developed previous studies in the valley. Especially important in this regard have been the contributions of the members of the Pacasmayo Project, who recently developed a comprehensive survey of archaeological sites in the region (Dillehay 2001; Dillehay and Kolata 2004; Dillehay et al 1998, 1999, 2001; Swenson 2004, 2006). These researchers have disclosed very interesting facts about the local Late Moche settlement pattern. According to their findings, the settlement
pattern is markedly fragmented, without showing any sign of political integration. The population lived in scattered settlements of different sizes. The largest sites were commonly walled. In fact, a new kind of defensive site, which I call a "fortified hillside settlement", is detected in the valley during this time. The smaller settlements, usually unprotected, tend, however, to be located in the immediate vicinity of a fortified hilltop redoubt (Dillehay 2001, Swenson 2004, 2006). In short, the Late Moche settlement pattern suggests that the political communities of the valley were confronting a situation of internecine warfare (Dillehay 2001: 271). Any attempt to explain the collapse of these communities must take this condition into account.

My research focused on one of the great powers who participated in the local conflict, represented by the fortified site of Cerro Chepén. This 40 hectare site housed one of the largest human concentrations of the time. The site was built on the top and eastern slopes of a large hill, which occupies a relatively central position within the alluvial cone. Besides its location and large size, the site is remarkable for two reasons. The first is the presence of two sectors demarcated by two massive encircling walls made of stone. The rough demarcation created by these features makes Cerro Chepén look like two different sites, one lying next to the other. Both sectors manifest marked differences in the style of their monumental architecture. The sector that occupies the top of the hill, which I call Cerro Chepén Alto, contains several buildings that integrate architectural spaces of highland design. The sector located on the slope of the hill, which I call Cerro Chepén Bajo, represents a characteristic "fortified hillside settlement" of the time. The monumental constructions that can be seen in this sector are all terraced buildings of typical Moche design.
One of the most interesting aspects of Cerro Chepén relates to the design of its defensive features. Of the two sectors, Cerro Chepén Alto presents the most elaborate fortifications. This sector is protected by a continuous stone wall 1,720 meters long, that reaches an external height of 5.5 meters in some areas. This wall turns the sector into an impenetrable stronghold, which is very difficult to reach even by modern trekkers. The wall presents only three formal accesses, which are protected by additional defensive features (towers, platforms, and piles of sling stones). There are 12 piles of sling stones scattered along the course of the wall, some of them containing more than 5000 ammunitions. Cerro Chepén Bajo is also protected by a perimeter wall. This wall, rather than being a continuous work, consists of several interspersed segments. These segments are efficiently adapted to the topographic irregularities of the terrain, creating the same effect of invulnerability. The peripheral wall of Cerro Chepén Bajo, although lacking towers, platforms, and stacks of sling stones, presents other notable defensive elements. The most remarkable element relates to panels of adobe bricks that are attached to the stone structure. These panels create a smooth outer surface that is impossible to climb. The same wall becomes an adobe-brick structure when it reaches the plain and circles the base of the hill.

All the evidence mentioned in the preceding paragraphs suggested that Cerro Chepén was an ideal setting for investigating the causes that led to the Late Moche collapse. On the one hand, the site occupation can be confidently circumscribed within the period of interest (final stages of the Late Moche phase) thanks to the surface abundance of domestic ceramics that are temporally diagnostic of this phase (Donnan 1986a:22). On the other hand, the magnitude of the defensive works indicates that the site
inhabitants participated in the internal conflict that affected the entire region. The large size of the settlement also suggested that it represented one of the most important local power centers of the Moche era. Finally, the presence of architecture integrating exogenous elements indicated the possibility of a massive human incursion originating somewhere outside the lower valley.

Research started by elaborating an architectural map of all monumental buildings, defensive features, and other minor structures of the site. During two further seasons, three of the four monumental structures of foreign design of Cerro Chepén Alto were excavated. The purpose of the excavation was to find evidence that could help to prove or disprove the existence of a foreign incursion into the heart of a Moche territory that was being stricken by unrest and animosity. Two collapse scenarios, that I call "internal collapse" and "collapse by external interference" derived from the two possible cultural ascriptions of the occupants of these structures (Moche vs. serranos). The methodology chosen to solve the research question consisted of identifying the cultural origin of the elites based on the physical results of the process of materialization of ideology (sensu DeMarrais 1997, DeMarrais et al 1996) that they led. Special attention was paid to two categories of material culture that were prominent within these structures: the design of the monumental architecture and the style of the fine pottery. Two extensive chapters of this thesis are dedicated to the analysis of these materials, and the final results are presented in the final chapter.
The collapse of complex societies

The need to outline a theoretical formulation for the Late Moche collapse led me to dig into the anthropological literature that specialized in this subject. In short, it can be said that this issue has been addressed from two different perspectives in the past 20 years. On the one hand, there is a proliferation of historical-particularistic explanations outlined from the perspective of regional archaeologies. These models are dominated by environmental explanations, which tend to highlight the devastating role played by events of a magnitude never before faced by the group (Cullen et al 2000, Hodell et al 1995, Kolata 2000, Ortloff and Kolata 1993, Possehl 2000, Weiss et al 1993), or by slow degenerative processes that were not solved in due course (Culbert 1988, Abrams and Rue 1988, Santley et al 1986, see also Jacobsen and Adams 1958). Some regional models signal human agents as directly responsible for the institutional downfall, whether commoners looking to free themselves from oppressive regimes (Bawden 2001, Hamblin and Pitcher 1980; Joyce et al 2001; Shimada 1994a: 249), or elites struggling for power (Balkanski 1998; Janusek 2005; Millon 1988; Owen 2005; Pauketat 1992, Webster 2002: 320; Yoffee 1988). It is not uncommon to find strong disagreements among researchers regarding the main causal factors involved in the same collapse case (compare Janusek 2005 with Kolata 2000; Yoffee 1988 with Weiss et al 1993; Hamblin and Pitcher 1980 with Webster 2002).

The second perspective was an ambitious general model outlined by the American archaeologist Joseph Tainter (1988). Using precepts of economic theory, Tainter suggested that every complex social system reaches a point in its evolutionary path in which it generates diminishing marginal returns. Having reached this point, collapse
ensues in one of two ways: by the refusal of the social base to continue providing
subsidies to the ruling class, or by a sudden disruption that can not be accommodated by
the system (Tainter 1988: 120-121). Tainter’s economic model, which has strong
catastrophic connotations, continues to manifest wide acceptance even today.

These two perspectives wield strong arguments in their favor. They have been
outlined by serious researchers on the basis of a thorough revision of the available
archaeological, historical and paleo-environmental evidence. However, these two
perspectives present certain disadvantages from the standpoint of the transcultural study
of collapse. The historical-particularistic proposals, for example, have a limited
comparative potential. Archaeologists that favor this perspective tend to draw too much
attention to the destructive potential of a limited number of factors, which stand out in
their own archaeological or paleo-environmental records. They tend to overlook other
factors that could have also played a pejorative role, and often do not recognize the
possibility that some societies collapsed even though they made significant progress
toward recovery. The end picture offered by the historical-particularistic perspectives is a
collage of collapse scenarios, in which a single factor, considered of terminal character in
one cultural area, is virtually considered innocuous in another. Given that these models
are strongly focused on regional experiences, it is not possible to find a logical
explanation for these dissimilar patterns.

Tainter’s collapse model, on the other hand, is too general. The notion of
"diminishing marginal returns" does not have sufficient resolution to capture the variety
of environmental and historical circumstances involved in the disappearance of different
organized groups. Societies that failed after deploying a long and tenacious struggle
against a series of contingencies, and societies that fell quickly by a simple inability to respond, are subsumed and masked under the same group. In my view, the model is particularly inefficient in capturing the singular organizational features of Andean societies. A case of collapse in the Andean region, seen from the perspective of this model, would be virtually indistinguishable from a case of collapse that occurred, for instance, in the Middle East. Hence, the model seems to act against one of the main goals of modern archaeology: to document the rich diversity of human experience. I want to stress that, despite the objections noted, Tainter’s volume (1988) remains one of the most comprehensive collapse treatises of modern archaeology. This is why I take several theoretical definitions offered in this book as a starting point of my own study. Particularly relevant are the notions that the collapse is a political process (Tainter 1988:4), and that the collapse, seen from the perspective of ordinary people, can be understood as an adaptive strategy (Tainter 1988: 198).

My strategy for addressing the Moche collapse, and making a parallel contribution to the study of other cases of collapse in the Andean Area and perhaps other cultural areas, did not consist in offering another static model to which the investigator would have to adapt his data. Instead, I considered it more convenient to sketch a research scheme, which is flexible enough to be adapted to different regional scenarios. This scheme includes five research points, which, in my opinion, cover all the topics that are relevant to address collapse cases.

First, the outline forces us to define the specific type of tribute that the ruling classes imposed on the subjugated masses. The scheme is based on the premise that different tributary programs will exert different levels of pressure on the subsistence
economy of the lower classes. Different taxing strategies determine, therefore, different paths towards collapse. Second, the scheme requires us to identify and assess the impact of all the detrimental events (droughts, floods, wars, pests, conspicuous consumption, etc) which would have generated a deterioration of the quality of life of the taxpayers. These factors are cited in many studies as sufficient justification for the collapse of regional polities (see, however, Williams 2002). Third, the scheme demands us to pay close attention to the possible solutions that the elites could have implemented to counteract the negative effects of these events. In this study, I argue that the leaders of complex societies, far from being passive witnesses of collapse, did have enough resources at their disposal and the necessary managerial capabilities to offset most contingencies faced by the group (Ericsson 1999: 641, Santley et al 2000: 158). Fourth, the scheme suggests that we should also evaluate the existence of "detonating factors for collapse", that is, those "bad decisions" made by the elites which could have exacerbated the tolerance of the commoners. Finally, considering that many complex societies collapse when taxpayers willingly decide to stop subsidizing the central institutions of power (Tainter 1988: 121), the scheme demands that we clarify the nature of the popular disaffiliation.

**Political collapse in the Andean Area**

Earlier I wrote that any viable explanation for a collapse case that occurred in the Andean area must take into consideration the unique organizational patterns evidenced by the local societies. From this principle derives the conclusion that some explanations that may be applicable to societies that developed in other parts of the planet may not necessarily be valid to this region. To illustrate this point, I would like to cite some
emblematic examples of current collapse explanations that are not applicable in this cultural area. Many notable researchers have highlighted, for example, that the Andean societies never developed markets nor a monetary economy (LaLone 1982; Murra 1995; Ramirez 1982, 1995; Stanish 2005: 227). In the Andean area, hence, the image of city-states thriving from the gains of international trade, and collapsing when the demand for their products fell down, or when they lost control of trade routes, can not be sustained (Algaze 1989:587, Zarins 2000: 41). I will later argue that the absence of a market economy also prevented the generation of "free floating resources" that the leaders of some Old World empires required to stay in power (Eisenstadt 1993[1963]: 27). Finally, there is also a remarkable the contrast between Norman Yoffee´s position (1979: 12-13) that identifies bureaucratic proliferation as the decisive factor that undermined the political power of the leaders of the Old Babylonian Empire, and Patricia Netherly’s (1990:481) view that the large agricultural societies of the North Coast of Peru, which also based their economy on complex irrigation systems, never favored the emergence of a class of independent bureaucrats.

Besides the absence of a market economy, the Andean societies displayed three specific organizational singularities that any collapse explanation should take into account. These singularities are: a) the implementation of a special tributary system, based not on the direct subtraction of resources, but on scheduled labor contributions, b) the importance that the principle of reciprocity bore for sustaining social order, and c) the leading role that ideology played as a strategy for mass control. Previously I stated that any serious collapse investigation must begin by assessing the impact that the taxation system would have exerted on the local population. Invasive systems, based on the
imposition of a fixed tax rate on the annual production of the domestic units, can quickly degenerate into violent popular responses during times of crisis (Scott 1976). In this sense, the Andean tributary system can be considered of low impact, given that it focused basically on labor inputs. Later, however, we will see that even such systems can become disruptive under certain circumstances.

Reciprocity, on the other hand, was the social cement that guaranteed the internal cohesion of Andean societies (Murra 1999[1955]: 137). Curiously enough, respect for the basic principles of reciprocity was not only mandatory for members of the same social segment. Even though it is clear that the elites comprised a socially-differentiated segment, with rights and privileges sanctioned on myths of origin (Moore 2003: 94, Zuidema 1990: 491), a series of social regulations demanded them to display acts of generosity, hospitality, and even solidarity toward their subjects (Murra 1999[1955]: 176, Netherly 1977: 211, Ramirez 1982: 124). Non-compliance with these rules constituted a serious misconduct, which could call into question their right to govern.

Finally, Andean societies are also characterized by having developed sophisticated systems of ideological control, which found physical expression through programs of materialization that were equally complex. In fact, the great advances that Andean societies made in the realm of manufacturing technologies (textile industry, pyrometallurgy), and even architecture, had an ideological motivation (Haas 1987: 33, Lechtman 1993, Moore 1996). Specifically, as regards the topic of collapse, heavy dependence on ideological control strategies can be counterproductive, because a serious flaw in the formulation of the dominant ideology may endanger the stability of the entire sociopolitical organization. “Dysfunctional ideologies” that are based on expensive
materialization programs (Trigger 1990), that fall into severe contradiction with reality (Bawden 1996: 274), or that make use of a symbolic system that is difficult to interpret (Bawden 2005: 15), far from achieving the much desired social cohesion, generate popular discontent and attitudes of overt rejection.

These are some of the most significant characteristics of the societies that developed on the Andean area, which have direct implications in the study of local collapse cases. The uniqueness of the Andean social strategies makes me conclude that collapse models generated elsewhere will hardly find unrestricted application in this region. This limited application works even in the case of models inspired in societies that were adapted to similar environments (e.g. desert environments), and that displayed equivalent economic strategies (e.g. irrigation agriculture).

“Cultural” and “ethnic” identity

One of the mayor concerns of my study was to define a methodology that could be used to identify the cultural origins of the inhabitants of the central structures of Chepén Cerro Alto. As stated before, the research disjunctive was centered on two options: coastal dwellers (Moche) versus highland intruders. The definition of the specific collapse scenario that affected the study area (“internal collapse” vs. “collapse by external interference”) depended on the result of this identification. Considering how important the ideologies of power were for securing social integration, and the monumental character of the structures analyzed in this study, I decided to base the criterion of cultural identification in the style of the elite material culture. Specifically, two physical manifestations of the process of ideological materialization (sensu
DeMarrais 1997, DeMarrais et al 1996) carried out by local leaders were the subjects of intense analysis: monumental architecture and fine pottery. The identification of the dominant style was based on a comparative study, which ultimately allowed me to pinpoint the possible source of the cultural influences seen at Chepén Cerro Alto.

The methodology adopted by this study ran under the strict understanding that the processes of materialization of ideology can generate confusing results. Sometimes, an act of emulation can obfuscate material patterns to a high degree, leading to wrongful identifications. An act of emulation is an ideological strategy, through which a local elite group copies the power symbols of an alien tradition in order to gain prestige (Bawden 2005: 15). It was necessary to introduce in the analysis, corrective principles to prevent possible cases of emulation leading to wrongful readings. In the case of architectural analysis, the chosen strategy consisted of assigning different analytical weight to the information provided by public and private spaces (Chapter VI). The case of the pottery analysis was more complex, because besides emulated pieces, the ceramic inventory of local leaders could also have been “contaminated” by imported objects. The ceramic analysis proceeded, then, under five discrimination principles, which were designed to filter out the "noise" introduced by non-significant stylistic elements (Chapter VIII).

Despite the problems associated with the use of material emblems of elite ideology in the identification of the cultural background of local rulers, I decided that this approach was more reliable than focusing on the physical manifestations of "ethnicity". The ethnic perspective was eliminated from the outset for several reasons. First, because cultural anthropologists themselves, who have the unique advantage of studying living cultures, tend to highlight the difficulties inherent in the delineation of ethnic territories.
These researchers argue that many cultural traits that are usually used to differentiate ethnic groups (language, ritual behavior, the spatial organization of the endogamous group, the style of material culture), rather than showing discontinuous distribution patterns, show a complex arrangement of spatial overlap (MacEachern 1998). In fact, it is not unusual for members of traditional societies to claim (and express materially) different types of social affiliation according to their own convenience (Wiessner 1983: 271-272). Ethnic groups that occupy a territory dotted with different ecological niches may develop distinct localized manifestations of institutional behavior (Barth 1969: 12).

The composition of ethnic groups also tends to vary over time (Stanish 2005: 228). Finally, not all the material products of ethnic groups are actively used in processes of boundary maintenance (Hodder 1979: 20). Not surprisingly, given all these levels of material variation, many researchers have concluded that there is no simple correlation between ethnicity and material culture (Balkansky 1998: 483; Bawden 2005: 13, Burmeister 2000: 559, MacEachern 1998: 113).

The ethnic perspective has a more limited applicability in cases such as the one studied (a possible cultural enclave in the middle of a foreign territory). Burmeister (2000: 540) has argued, for example, that migrations usually have a multi-ethnic component. Frontier posts, on the other hand, tend to be the scene of all sorts of ethnic and even genetic admixtures (Spence 1996). In the specific case of the highlands that adjoin the Jequetepeque Valley, which are the most likely place of origin for the occupants of Cerro Chepén Alto, archaeological evidence suggests continuity of cultural variability rather than clearly distinguishable ethnic boundaries (Topic 1998: 109).
For all these reasons, I decided to focus the cultural identification of the ancient occupants of the excavated buildings on the physical products of the process of materialization of ideology. This strategy was also encouraged by the fact that the elite material culture of contemporary highland and coastal groups shows patterns of divergence that are clear enough to ensure a reliable differentiation. To reinforce the results of the architectural and ceramic analyses, other types of culturally diagnostic evidence (e.g. ritual behavior) were also considered. The study was complemented with a rigid chronological control, based not only on stylistic parallels, but also on seven radiocarbon dates obtained from samples with significant contextual associations. The dates obtained helped to verify that the temporal location of the studies buildings (end of the Late Moche phase), is consistent with local and extra-valley Late Moche occupations in which the prevailing elite culture is markedly different (Chapter X).

**Significance of research**

Among the various contributions of this study, there are four that I consider particularly relevant. First, this dissertation offers a new vision about what would have been a regional case of Moche political collapse. While this topic has already been addressed for the Lower Jequetepaque Valley (Castillo 2003, Dillehay 2001), the existing theories were formulated on the basis of different types of evidence (ritual behavior and settlement patterns) and reached different conclusions. The research carried out at Cerro Chepén allows us to reconcile the previous models in one consistent scenario. This final scenario corroborates the view advanced by some researchers, which states that the
Moche followed different evolutionary lines, which eventually took different paths towards collapse (Bawden 1996).

On the second hand, this study reveals interesting information on military tactics native to the Andes, especially as regards to the organization of defensive outposts. This study discloses the extraordinary measures that Cerro Chepén’s military strategists used to convert the site into an impenetrable stronghold. The design of the peripheral walls integrates several ingenious defensive mechanisms, such as a) taking advantage of local topographic features to enhance the invulnerability of the bastions, b) the implementation of special measures to prevent the walls from being climbed, c) strict control of human traffic in the vicinity of the entrances, d) the presence of offensive means to repel unwanted incursions from a safe distance, and e) the inclusion of parapets to ensure the safety of the defenders. These mechanisms testify to a thorough knowledge of defensive tactics. The defensive organization of the site also finds expression in the distribution of monumental structures. Two patterns are evident: one that relies on the defensive agglomeration of structures, and one that hinges on visual interconnection. The perfect organization and effectiveness of these measures reveal the presence of military strategists planning and directing on site the erection of the defensive works. These measures are also a revealing symptom of the climate of tension that prevailed at the time. I am sure that researchers interested in ancient military strategies will see in the chapter devoted to the defensive works, an important source of information that can benefit their own studies.

Third, the results of this investigation will force a reevaluation of the main chronological schemes that have been proposed for the Andean area. Both the regional
and broad area chronologies will have to be redefined. On the one hand, in this study I propose a new chronological sequence for the Moche occupation of the Valley, which I think best fits the available evidence (especially as it relates to radiocarbon dates). This new sequence illustrates more clearly the changes that were introduced during the Late Moche phase. On a broader spectrum, my research reveals flaws in the definition of a chronological period known in the Andean area as "Middle Horizon". Traditionally, this period has been divided into four epochs (Middle Horizon 1, 2, 3 and 4) based on a typological seriation of fine ceramics, endorsed by a few contextual associations (Menzel 1964). The first two epochs were further subdivided into two phases (MH 1A, 1B, 2A, and 2B) following the same criterion (ibid). A series of C-14 dates taken from significant occupation context show that a set of ceramic types that can be ascribed on stylistic grounds to Epochs 2A and 2B, are in Cerro Chepén perfectly contemporary with Late Moche material (which in the old scheme is temporally located within Epoch 1). This new evidence calls into question a few evolutionary models proposed for the north coast of Peru, which consider Epochs 2A and 2B to follow the Late Moche collapse (see, for example, Menzel 1977, Rucabado and Castillo 2003, Wilson 1988).

Finally, a final contribution of this study, which hopefully will transcend the confines of the Andean area, relates to a new methodology for investigating past cases of political collapse. This methodology consists of a five-point research scheme, which I believe addresses all relevant issues that are pertinent to this topic. Among other things, the scheme compels us to measure the impact of the forces and events that can hit a political system and make it prone to disintegration. It also compels us to identify the possible responses that could have been offered to mitigate a crisis situation. By
considering intrinsic, detrimental, and ameliorating factors in its formulation, the scheme bears the special property of allowing a detailed and realistic reconstruction of all the events that led to a political downfall. In this sense, it surpasses the limitations of the big universal models, which sometimes are too abstract, and sometimes force us to adapt our data to a static sequence of events that may not have a direct reflection in our case study. It also surpasses the limitations of the historical-particularistic models that tend to be too area-specific, hindering the possibility of establishing inter-area comparisons. The scheme represents, in my opinion, a breakthrough that overcomes the limitations present in the available collapse models.

**Structure of the dissertation**

The central part of this dissertation is organized into nine chapters, which touch relevant issues related to collapse theory, Moche culture history, and, of course, a thorough presentation and analysis of the case study. Chapter II is devoted to presenting the theoretical foundations on which I base my approach to the collapse of complex societies. This chapter covers four main themes. First, I start by presenting a collapse definition, which is singular for including a clear identification of the indisputable signs of collapse cases in the archaeological record. This definition is based on a critical revision of the concepts presented in the Joseph Tainter´s book (1988). Next, I present an extended characterization of complex societies. While complex societies include many distinctive features, there is one that stands above all others. This is the presence of an elite segment, which is disengaged from the bulk of the population in terms of kinship. Then I make a brief review of how the archaeological approach to the collapse of
complex societies has evolved up to the present day. Finally, I present an outline of the proposed research scheme, which is complemented by numerous examples of what constitute predisposing collapse factors, possible mitigating strategies, and detonating factors.

Chapter III is dedicated to Moche culture history. I start this chapter by providing a justification of why the level of development reached by this eminent cultural formation can be considered typical of a complex society. Then, I present a brief review of the evolutionary sequence of this tradition, highlighting the novel information that recent investigations are disclosing about the historical development of its regional manifestations. The chronological section is followed by a description of the North Coast natural environment, and a discussion of the economic strategies that the Moche implemented to ensure their livelihood. I continue with an outline of what might have been the prevailing socio-political organization of the Moche territories. This approach proposes the existence of regional polities displaying a dual-hierarchical political organization, based on a modality that was documented in the North Coast during the early decades of the Spanish domination (Netherly 1977, 1984, 1990). The chapter concludes with a description of the most important cultural formations that occupied highland territories adjacent to the Moche domains. Here, I review what some authors think were the dominant interaction strategies that the Moche established with their highland neighbors.

Chapter IV touches directly on the Moche collapse. This chapter begins by assessing the destructive potential of three main factors (prolonged droughts, sudden disturbances caused by El Niño events, and an alleged Huari invasion) that have been
commonly indicated in the specialized literature as possible culprits for the Moche demise. Then I present a detailed review of three cases of Moche regional collapse, drawing on information provided by the researchers who studied these cases. Their proposals are reviewed from the standpoint of my five-point research scheme, helping me to highlight the strengths and weaknesses of the original formulations.

The next chapter, Chapter V, is aimed at exposing what we know about the Moche occupation of the Lower Jequetepeque Valley. Here I start with a description of the most salient geographical and geophysical characteristics of this valley, which represented an incentive for the evolution of complex societies. The chapter includes a review of the history of investigations of Moche sites, which discloses clear limitations in the state of our knowledge. The historical review is a necessary prerequisite for delineating a new chronological sequence for the local Moche tradition, which only justifies the existence of two evolutionary phases. This new chronology is used as a starting point for discovering the most significant developments that occurred in the realm of Moche settlement patterns and political organization. While the Early Moche phase shows signs of political integration, during Late Moche times we see the emergence of five independent irrigation communities. These communities are identified on the basis of the strict spatial association that existed on the north Peruvian coast between political territories and trunk irrigation canals during late pre-Hispanic times (Netherly 1977: 283, 1984: 236).

Chapter VI presents a detailed description of the archaeological site of Cerro Chepén, and of my research program. As stated before, the internal organization of the site reveals the existence of two separate sectors demarcated by independent defensive
walls. Many pages are dedicated to the description of the sophisticated design of the defensive walls, including the ingenious measures that the builders used to increase their invulnerability. I describe the monumental buildings present in each sector, highlighting architectural details that suggest their membership in different architectural traditions. I present information that leads me to conclude that both sectors were occupied at the same time, the lower sector having an earlier origin than the higher sector. Finally, I comment on the existence of other archaeoological features (huacas, cemeteries, water canals, access road, and even a petroglyph) that can be found on the periphery of the site, and that seemed to have been used in conjunction with it. These interesting features fortunately survive until this day.

Chapter VII is devoted to the architectural analysis of three monumental buildings that dominate the heights of Cerro Chepén Alto, which were excavated during the years 2003 and 2004. Here, I present the logic that guides the analysis, which includes: a) dismembering the structures into "functional units", b) discriminating between spaces of public versus private function, and c) establishing, based on comparisons with similar structures of coastal and highland cultures, their possible tradition of origin. In this work I propose that the design of private spaces is the most reliable indicator of cultural tradition. The architectural analysis is conducted separately for each building, reaching in every case a similar conclusion.

Chapter VIII deals with the second type evidence on which the identification of the cultural background of the ancient occupants of the structures relied: the style of fine ceramics. The excavation of the buildings yielded more than 20,200 ceramic fragments, about half of whom belonged to fine pottery vessels. In this chapter, I present the
methodology that was followed to organize this vast sample into manageable categories. This methodology consisted of a three-step procedure involving a quantification process, a taxonomic classification, and an exercise for verifying the validity of the contextual associations of the ceramic pieces. The sample was then subjected to an exhaustive stylistic analysis based on five principles of discrimination aimed at measuring its degree of affinity with coastal or highland traditions. In the end, five different fine pottery wares were identified, which embraced 13 different ceramic forms. The composition of the sample suggests a significant prevalence of highland styles that is unusual for coastal settlements of the time.

Chapter IX touches on additional types of material evidence, that are also useful for disclosing the cultural affiliation of the site occupants. The study of these materials also revealed important information about the character of the site, the strategies of social domination applied by its leaders, and the atmosphere of crisis that reigned in the valley during the final days of the Moche Period. Most of the chapter is devoted to reviewing the results of paleoethnobotanical and zooarchaeological analyses conducted at the site. These results suggested an intense exploitation of a wide variety of ecological niches of the lower valley. I also present evidence related to the physical remains of ritual behavior (human burials and minor offerings). The patterns disclosed by these remains are also consistent with the theory of a highland intrusion.

The final chapter is devoted to presenting the general conclusions of this study. The results of the architectural and ceramic analyses lead me to conclude that the occupants of Cerro Chepén Alto were not of local origin. I use the particular style of these materials to locate the specific highland sites that could have been the source of
origin of the intruders. Using available paleo-environmental indicators, I advance some speculations regarding the reasons that might have led the outsiders to leave their highland domains and choose the coastal site as their final point of destination. Based on the premise of the foreign occupation, I present a reconstruction of the predisposing and detonating factors that operated in the collapse of the local communities. I also introduce a few assumptions regarding the responses that local leaders could have followed to mitigate the local crisis. It is at this point that my reconstruction reconciles the two collapse scenarios that have been proposed for the valley (Castillo 2003, Dillehay 2001). Finally, I put forward some suggestions for future research in the area.

The results of the present study can not be considered a closed issue. Although the evidence recovered at the site convincingly leads me to conclude the existence of a foreign intrusion, much work remains to be done in order to define the precise sequence of events that led to the disappearance of the local political orders. While this dearth of information seems to have negative connotations, I think it is quite the opposite. In my opinion, the main contribution of this study is that it offers the possibility of stating new research questions that can serve as a guide for future investigations. The possibility is now open for defining a coherent regional research program, which eventually will lead us to gain a better understanding of the unique conditions that accompanied the local Moche developments.
CHAPTER II

THE COLLAPSE OF COMPLEX SOCIETIES

In this chapter, I review the proposals that have been advanced in modern archaeology to address the subject of the collapse of complex societies, with special attention to the approaches that have been developed during the past two decades. Recent approaches manifest two contrasting trends. On the one hand, there is a proliferation of historical-particularistic schemes, outlined from the perspective of regional archaeologies. On the other, there is a general economic model presented by the American archaeologist Joseph Tainter (1988), which has an assumed worldwide application. In this study, I suggest that both approaches are inadequate, first because the high resolution of the former acts against their comparative potential, and second because the low resolution of the latter impedes a full understanding of the specific conditions involved in the disappearance of particular cultural formations. I propose an alternative strategy for investigating cases of political collapse, which consists of a five-point research scheme. This scheme adequately addresses all relevant issues that are involved in events of cultural decline, and that play a direct role in the disappearance of organized political orders. I propose that this alternative research approach is more adequate than the existing proposals for three reasons: a) its flexibility allows it to address the different historical conditions that led to the downfall of different political orders, b) it offers a solution for comparing different collapse scenarios, and c) it recaptures the notion that
collapse is not an unilineal phenomenon, but involves many different scenarios that manifest multiple outcomes.

Before turning to the presentation of past and present collapse models, I deem it necessary to discuss two important concepts. First, I want to introduce the definition of collapse that I use in this study. I developed this definition from the viewpoint that a useful archaeological definition of collapse should not only clarify the specific characteristics of this phenomenon, but should also specify what the unequivocal signs of its occurrence are. I based my proposal on several arguments presented by Joseph Tainter (1988), whose work is taken as the starting point for this study. Second, I present a definition of complex societies that suits the peculiarities of the pre-Hispanic groups that occupied the Andean area. This definition highlights three features of complex societies: a) the presence of two broad social segments (elites and commoners) that are disconnected in terms of kinship, b) the complementary (and even symbiotic) roles that these segments played in the sustenance of the higher social reality, and c) the importance that the strategies of ideological control, advanced by the dominant segment, bore for ensuring social cohesion.

**Defining collapse**

In his book on collapse, Tainter (1988) asserts that any collapse event is marked by four basic characteristics, which allude to the nature, speed, results, and single factor that inhibits the occurrence of the phenomenon:

1. Every event of collapse is the product of a political process (1988:4, 39).

3. Collapse results in a regression to a simpler level of organization (1988:198; see also Tainter 1996:8).

4. Collapse can only occur if there are no contesting political powers in the region (1988:202).

The first point is very important, because it specifies what collapse really is. Any event of collapse is marked by the downfall of the central institutions of power and the sociopolitical order that they represent. Archaeologically, collapse manifests itself in two basic categories of material evidence:

1. The physical disappearance of the elites who directed the now extinct sociopolitical order. This disappearance not only affects the bodily presence of elite individuals, but also their usual patterns of residence, burial, food consumption, and even waste disposal.

2. The cessation of the program of materialization of ideology led by the elites. This program found physical manifestation in monumental architecture, prestige objects, symbolic communication systems, and legitimation ceremonies (DeMarrais 1997, DeMarrais et al 1996).

Other types of evidence that are archaeologically discernible can also be symptomatic of collapse. Among these, Tainter (1988:4) mentions: a less-developed state of centralization, a territorial contraction, less economic specialization, a reduced flow of goods and information between individuals, and a marked decline in the organizational capacity of the group. I believe, however, that this supplementary evidence can not be
taken as definitive because there are certain cases in which collapse does not necessarily entail a complete administrative breakdown. I will present evidence supporting this point when I move on to discuss the Tainter’s third essential characteristic of collapse events.

The second characteristic refers to the speed at which the phenomenon takes place. According to Tainter (1988:4):

"A society has collapsed when it displays a rapid, significant loss of an established level of sociopolitical complexity. […] Losses that are less severe, or take longer to occur, are to be considered cases of weakness and decline."

While the word "collapse" itself implies a sudden and dramatic fall, I believe that this meaning has little value for archaeological research. The justification for this statement was offered by Tainter himself, when he argued that a period of decline necessarily precedes every event of collapse (1988:122). This fact confronts us with a problem of temporal quantification that is impossible to solve from an archeological perspective. Questions like: “what is the maximum time that a collapse event should take, to be distinguishable from a regular case of weakening?”¹ do not find an easy answer. The same problem works for questions like: “how severe should the loss of an achieved level of sociopolitical complexity be, in order to be diagnostic of collapse?”. To avoid falling into useless disquisitions, I propose to define collapse merely as the termination of a sociopolitical order, no matter if this termination was sudden or if it involved an extended period of deterioration.

The third characteristic alluded to in Tainter’s definition refers to the outcome of a collapse event. By seeing collapse as an adaptive strategy, Tainter (1988:198) assumes

¹ John Janusek (2005: 188), for instance, argues that a collapse process can be gestated throughout many generations.
that it must necessarily lead to a simpler level of organization, less burdensome and
easier to maintain from the perspective of the commoners. I am prepared to accept that
many events of collapse may actually have this outcome. Thus, for example, the collapse
of the Teotihuacan state (occurred around 750 AD) was followed by a period of political
fragmentation, during which the population of the Valley of Mexico concentrated in six
towns that were much smaller and simpler than the former urban center (Sanders et al

I believe, however, that the regressive aspect of Tainter’s collapse definition does
not hold any positive connotations for archaeological research. First, because the
assumed organizational regression that collapse entails is not always detectable in the
archaeological record. In the North Peruvian Coast, for example, there was a continuous
succession of complex societies virtually since the third millennium BC. These societies
collapsed in due course without leaving clearly identifiable signs of regression\(^2\). Indeed,
many of these groups would have displayed a special type of political organization that
made it possible for the lower orders of political control to continue functioning even
after the collapse of the central institutions of power (Netherly 1990:464). In the case of
the Peruvian North Coast, a case of political collapse would have left the prevailing
settlement pattern of the affected society virtually unharmed.

Second, it is questionable whether all cases of collapse necessarily entail a
throwback to a simpler organizational level. If we consider collapse as a political

\(^2\) Settlement pattern studies, conducted on the Peruvian North Coast and other regions, have tended to
assume that clusters of dispersed villages that shared the same material culture as a major adjoining
administrative center, not only were fully contemporaneous with the latter, but also were subjected to its
political jurisdiction (see, for instance, Billman 1999, Swenson 2004: 848, Wilson 1988). It is possible,
however, that some of these clusters originated due to an event of population dispersal that followed the
collapse of the major center. The question of the temporal congruity between settlements will remain
unresolved as long as the most advanced chronometric methods available to archaeology (e.g. AMS)
continue to yield wide temporal intervals.
phenomenon, which results in the disappearance of the ruling elites, their domestic spaces, and their programs of political legitimation, then collapse may well be induced from an event of military conquest. As long as the victorious elites destitute the subdued rulers and impose on the annexed population a new ideological agenda, we can confidently speak of the collapse of an old political order. And if this conquest was accomplished by a state society, it is evident that the collapse will not lead to a situation of institutional decline but, to the contrary, to the formation of a new imperial order. This scenario is commonly accepted among experts in Peruvian North Coast archaeology as the most viable explanation for the collapse of Sicán state, which was assimilated by the Chimú empire around 1350 AD (Shimada 1990: 350, T. Topic 1990: 189).

The discussion presented above leads me to reject the fourth characteristic that Tainter regards as typical of collapse processes. This feature refers to the factor that inhibits the occurrence of political breakdowns. According to Tainter (1988:202), the collapse of a complex society can not occur within the context of competing powers, given that if one of the competitors is assimilated by another, the then affected population would end up being subjected to a political regime that is similar in complexity to the one just terminated. Tainter (1988: 213) uses this argument to explain the absence of collapse cases in the modern era. In opposition to Tainter, I not only believe that collapse can ensue from a situation of clashing powers (as was the Sicán case described above), but I also think that collapse cases can still occur in the present time. In fact, I believe that the twentieth century has witnessed many significant events, such as the termination of the Tsarist order in Russia in 1917, the collapse of the democratic system of South Vietnam in 1975, and the downfall of several communist states of Eastern Europe in the late
1980's. All these cases involved major social-political changes that included the emergence, assimilation, or imposition of new ideologies of power (together with their correspondent emblematic symbols). In some cases (Yugoslavia, Czechoslovakia), the collapse led to the reversion to a simpler level of organization, while in others (South Vietnam, East Germany) the collapse led to the inclusion of the old order into a more complex administrative system.

In conclusion, the definition of collapse that I favor in this work, and which I believe has wide archaeological application, is as follows: collapse involves the termination of an established political order, and is manifested archaeologically by the physical disappearance of a traditional group of rulers, together with their everyday practices and their programs of materialization of ideology. While I agree that a collapse event is commonly preceded by a period of decline (which is manifested in a deterioration of the standards of living of ordinary people), it is not important for the definition if this period lasted for a few years or took many decades. Finally, collapse may lead to a reversion to a simpler organizational level, the continuation of current organizational trends, or, conversely, the emergence of a more complex socio-political order.

I believe that my definition of collapse opens new avenues for archaeological inquiry. Among them lies the identification of cultural scenarios that could be easily confused with collapse cases, but in reality are not distinctive of such events. I would like to dedicate the last part of this section to the discussion of two scenarios – “coup d’etat” and “indirect rule” – that, while not diagnostic of collapse, may contribute to a deterioration of the standard of living of the general population. This discussion is a
necessary prerequisite for definitions that are going to be introduced later on in this dissertation.

In his acclaimed publication of 1963, the famed political scientist Shaul Eisenstadt suggested that major political transformations occur when one of the elite factions of a complex society overthrows the reigning group and takes command of the nation (Eisenstadt 1993[1963]: 182, 276, 311, 313). The situation that led to this change of power is commonly named a “coup d’etat”. In line with the collapse definition presented above, I argue that, as long as the new group of regents continues the daily practices of the deposed rulers and does not reject all the tenets of their traditional ideology of power, one can not speak of collapse\(^3\). As some authors have suggested (Bronson 1988: 197, Sinopoli 2001: 450), a dynastic change is not equivalent to collapse.

In fact, I think that internal conflicts among elite factions, and even successful "coups d’etat", must have been common among many pre-literate societies. However, given that these internal conflicts rarely leave identifiable signs in the archaeological record, they tend to pass unnoticed by modern researchers. Slight changes in the material expressions of past ideologies, nevertheless, tend to be temporally arranged into “archaeological phases” by archaeologists. A conflict between elites can lead to collapse, however, if it turns into a long-term armed confrontation that ends up weakening the whole society (Tainter 2002). In cases like these, in which the case of the Inca demise figures prominently, collapse ensues by internal decomposition or when the weakened group is

\(^3\) Eisenstadt (1993[1963]: 150) argued that the leaders of “historical centralized bureaucratic polities”, despite encouraging the proliferation of non-traditional groups within their societies, tended to use status symbols and precepts derived from traditional parties (the landed aristocracy and religious elites) as part of their legitimation strategies. The elite factions that occasionally usurped power (military leaders, high bureaucracy, etc.) usually kept these symbols and precepts along their political lines (1993[1963]: 311, 341). This tendency towards the continuity of ideological precepts would have been more marked among less differentiated complex societies (as the ones examined in this dissertation), in which political activity was dominated by the unrestricted respect of traditional values (1993[1963]: 365).
assimilated by a foreign power. Here, the main causal factor involved in collapse can be more adequately described as “internecine war” (Tainter 2002).

On the other hand, despite what has been stated above, it is clear that not every successful military conquest will necessarily lead to the collapse of the vanquished regime. This is especially true if the victorious leaders decide to govern the assimilated group through a strategy of “indirect (formal) rule” (sensu Doyle 1986: 38). As long as local governors continue in place, are allowed to maintain their usual residence and burial practices, and even continue to rely (albeit in a more limited form) on their traditional strategies of legitimation, one can not talk about the total disappearance of an established political order. Situations of “indirect rule” are better described under the terms “dependency” or “subjugation”. Interestingly, these situations may induce a condition of cultural decline on the annexed populations. Societies subjected to a strategy of indirect rule suffer the imposition of two overlapping tributary systems: one aimed at sustaining the co-opted leaders, and the other aimed at sustaining the newly-imposed imperial order.

Having presented my definition of “collapse”, and clarified the scope and limitations of the term, I can move on to revise the central themes of the chapter. As Tainter did in his 1988 publication, I would like to start by characterizing complex societies. Unlike Tainter, who favored a systemic definition for these groups, I favor a neo-evolutionary approach because I consider it to be more attuned to the particularities of pre-Hispanic Andean societies.
Complex societies

Perhaps the most distinctive feature of a complex society is the existence of social inequality marked by an unbalanced access to resources (Fried 1967: 186; Johnson and Earle 1987: 209). Social complexity emerges when a small segment of the population is catapulted into a position of social prestige, which offers a series of benefits for its members. Among the most significant economic benefits that this new position entails is the right to be exempted from food-producing activities. A complex society is therefore typically composed by two social segments – ordinary people and elites, or food producers and non-food producers – which, by being endogamic, constituted groups that were totally alienated not only in terms of productive responsibilities but also in terms of kinship.

This curious division of labor generates an apparent contradiction. While the elites are exempted from any kind agricultural work, they are the ones who commonly hold exclusive rights to the best lands available to the community. However, these fertile lands are not left untouched. It is the ordinary people who hold the responsibility for working these lands and surrendering the entirety of their agricultural produce, in addition to other goods and services, to the elites. In other words, complex societies represent the first instance in the human evolutionary career in which farmers invest energy not only in the maintenance of their progeny and families, but also in the maintenance of individuals who manifest a marked social distance towards them.

The question arises as to why farmers are willing to invest energy and resources that could accrue to their own prosperity, in the maintenance of a group of “strangers”. The answer is that the institutional order that is commanded by the recipients of their
subsidies is beneficial for the broad community. Johnson and Earle (1987), for example, argued that complex societies arise when population growth overshoots the integrative capacities of traditional mechanisms of social control typical to egalitarian formations – as is the case of Elman Service’s “pan-tribal sodalities” (1962: 102). When a small segment of the population is elevated to a centralized command position, a society achieves the ability to implement large scale projects that are indispensable to the survival of the extended group. Johnson and Earle (1987: 209-11) identify four basic arenas in which the services rendered by the elites make substantial contributions: risk management, production technology, war, and exchange. To these arenas, we can add information management (Claessen 1984: 366) and conflict resolution (Netting 1972). The latter service was of utmost importance for societies that based their subsistence on irrigation agriculture and other complex types of water distribution systems (Sanders et al 1979: 397; Wittfogel 1955).

In sum, we can say that complex societies are embedded in a virtuous circle in which, the larger the social agglomeration, the greater its ability to implement solutions on a large scale. By centralizing power in the hands of a small number of individuals, these groups created opportunities for assembling large masses of laborers in highly coordinated work operations. This unique ability to control vast amounts of manpower allowed the leaders of these societies to create large works of productive infrastructure (canals and agricultural terraces), extensive roads systems, great defensive constructions (fortresses, walls and palisades), as well as conduct the first projects of territorial conquest.
On the other hand, since complex societies embrace large numbers of individuals, they are also characterized by a high incidence of interpersonal conflicts. Traditional methods for ensuring social compliance, which are based on public censure, ridicule and voluntary submission (Sahlins 1962: 327; quoted in Fried 1967: 147), clearly become insufficient to ensure peaceful coexistence. Under the new centralized order, community leaders develop new tools to enforce their decisions based on ideological indoctrination (Claessen 1984: 368; Muller 1981) and coercion (Haas 1982: 82-3; Johnson and Earle 1987: 235; Sahlins 1963: 297).

The case of conflict resolution warns us that not all services rendered by the elites pertained to the earthly world. Maurice Godelier (1978) argued that the most important roles played out by elites had a supernatural character. Elites portrayed themselves as guarantors of the cosmic balance, an accomplishment that they and only they were able to achieve due to their unique ability to communicate with heavenly spirits. In complex societies, elites were seen as agents of a cosmic plan. On their shoulders rested the responsibility of ensuring, through their appropriate ritual behavior, the perpetuation of the universe (Ramirez 1998: 217; Yoffee 1992: 70). As Godelier (1978: 767) coherently states:

“The services rendered by the dominant individuals or group must have involved, in the first place, invisible realities and forces controlling (in the thought of these societies) the reproduction of the universe and of life, and this fact must have played a vital role.”

Godelier (ibid.) asserts that if the services rendered by the elites would have been limited to the tangible reality, their right to govern could have been questioned.
This discussion finally leads us to the topic of ideology. Another important feature of complex societies is the existence of a dominant ideology promoted by the elites. As explained by Terry Eagleton (1991), the term “ideology” does not lend itself to an easy definition. On the one hand, the concept resembles the notion of "worldview". In other words, ideology can be understood as an amalgam of ideas, values and beliefs, derived from an assessment of the natural and social environment, and synthesized in an interpretative doctrine for the mundane and transcendent orders. In this sense, the concept of “ideology” is also very close to the concept of “religion”. On the other hand, the official ideology is also characterized by actively pursuing an ultimate goal, which is to legitimize and perpetuate the political order established by the elites. Setting some distance with classical Marxist concepts, it is not important if the dominant ideology is delusional or realistic, if it pursues sectarian interests or seeks to promote the general welfare of the community, or if it effectively permeates the mentality of the majority of the popular substrate of the society (Abercombie et al 1980). What is always true is that the elite ideology is designed to legitimize the privileged status of the elites and confirm their natural right to govern.

Many archaeologists and social scientists (Bawden 1995, 1996, 2001; DeMarrais et al 1996; Eagleton 1991; Janusek 2005, Joyce et al 2001, Pauketat 1992, Scott 1990) agree that the elite ideologies never existed in a complete state of dogmatic isolation. Quite the contrary, the elite ideology always coexisted in complementary opposition with other ideological formulations set forward by subordinated groups (especially the commoners). The official ideologies, rather than being fixed realities, were being constantly transformed through their interaction with these peripheral ideologies that,
although not so well articulated, nevertheless constituted important forces of change (Bawden 1995: 259, Eagleton 1991: 45). A constant preoccupation of the elites was to gain some ground, or, at least, not to lose any ground, in the continuous negotiation of meaning that they maintained with less powerful groups. One strategy that the elites commonly employed to gain a decisive advantage in front of the opposing formulations was the implementation of programs of materialization of ideology (De Marrais 1997, DeMarrais et al 1996).

The strategy of materialization of ideology consisted in giving physical form to the most basic precepts and rules of the conceptual program favored by the elites (DeMarrais et al 1996: 16). Using the enormous human and material resources available to them, the elites had the privilege of being the only ones capable of creating spectacular media and spaces for mass indoctrination (Bawden 1996: 135). The strategy of materialization of ideology also offered the advantage of allowing a strict control of the contents of the emitted messages, which commonly associated the elites with the basic forces of cosmos, and gave them a degree of internal coherence that was impossible to reach by the antagonistic formulations. This same consistency, according to James Scott (1990: 67), would have acted as a “self-hypnosis” for the members of the dominant groups that allowed them to “… buck up their courage, improve their cohesion, display their power, and convince themselves anew of their high moral purpose”.

Finally, the materialization of ideological precepts would have also opened the possibility for establishing a close surveillance of the popular mass. People subjected to a permanent bombardment of information would have reacted in different ways, especially when thinking that they were not being watched. The implementation of such
indoctrination programs would have opened the possibility for detecting possible evasive behaviors. Once detected, the necessary suppressive mechanisms could have been activated. Finally, materialization programs also offered the opportunity of manipulating lesser nobles. By controlling the production and distribution of power symbols, the rulers not only ensured the allegiance of greedy subordinates, but also secured an instrument to split opposing forces (D'Altroy and Earle 1985: 193).

The material culture of complex societies abounds in examples of major works of productive infrastructure, defensive constructions, and significant advances in the area of transportation and communication technology. Also typical of these cultural formations are the physical manifestations of the programs of materialization of ideology led by the elites. These manifestations include monumental architecture, prestige objects, written or symbolic communication systems, and the remnants of massive ceremonies (DeMarrais 1997; DeMarrais et al 1996). In fact, the ability displayed by the elites to mobilize large numbers of workers allowed them to build religious constructions and residences of unprecedented volumetric proportions. The same ability to subsidize teams of skilled workers allowed them to create a new category of sumptuary artifacts that stand out because of their high technical and artistic quality (Hayden 1998: 13, Schortman and Urban 2004: 195, Service 1962: 162).

One final aspect that characterizes the material culture of complex societies is the emergence of large settlements, sometimes housing thousands of residents (Cowgill 2004; Drennan and Uribe 1987; Earle 1987: 289; Johnson and Earle 1987: 207; Service 1962 : 133). The largest settlements usually accommodated the residences of the ruling caste, as well as other buildings where they performed their specialized functions. These
settlements acted as a pole of attraction for the commoners, who praised the opportunity of having a more direct access to the services offered by the ruling class (high concentration of resources, the best productive facilities, the most secure defensive works, better communication systems, etc) (Boone et al 1990: 631). It can also be argued that the unusual human concentrations at these settlements also responded to the interests of elites, who wanted to have large masses of potential laborers at close hand, and wanted to implement an effective surveillance of potential dissidents.

In sum, complex societies are defined by three essential characteristics. First, these societies are characterized by a high degree of social differentiation, which translates into the existence of two social classes unrelated in terms of kinship. Second, both social segments have different economic standings that are generated by an unequal access to resources. In fact, both classes are imbued with different productive responsibilities. Third, these segments are also imbued with different political obligations. Only the members of the privileged segment can take on their shoulders administrative functions. These marked differences, far from being insurmountable sources of conflict, actually generate relations of mutual dependence that guarantee the prosperity of the whole group. In fact, complex societies can be characterized as symbiotic communities in which each member is assigned a specialized function. By developing this function, the individual not only guarantees the survival of the group, but also gains a specific reward.

As a final comment, I would like to note that many authors have stressed that there is a wide range of variability among societies subsumed under the term “complex” (Earle 1987, Feinman and Neitzel 1984, Johnson and Earle 1987). The reader will note
that the description that I presented in this section refers more closely to socio-political formations which have been called “stratified societies” (Fried 1967), “complex chiefdoms” (Earle 1990, Johnson and Earle 1987, Wright 1984), “archaic states” (Feinman and Marcus 1998) and even “theocratic chiefdoms” (Drucker 1981, Steward and Faron 1959). My description covers a wide range of characteristics that are typical to the groups subsumed under these definitions. In my opinion, these characteristics were also displayed by the pre-Hispanic Andean societies analyzed in this study (see Chapter III). I consider more elaborate forms of socio-political integration, as corresponds to the definitions of "nation-state" (Johnson and Earle 1987) or "centralized bureaucratic polities" (Eisenstadt 1993), to be alien to the Andean area. The latter societies are characterized by both the operation of a market economy, and the existence of marked internal social stratification, that favored the emergence of many different specialized groups. These groups provided a wide range of opportunities and constraints for the power aspirations of paramount leaders (Eisenstadt 1993[1963]: 47, 79; Jonson and Earle 1987: 272). It is, therefore, in the complex interrelationships that existed between the royalty and these economic groups where the reasons for the collapse of these complex orders have to be sought.

**Archaeological perspectives on collapse**

The collapse of complex societies is an interesting phenomenon from an archaeological point of view because it implies an inherent contradiction. This contradiction is expressed by the fact that complex societies were the most sophisticated form of human adaptation that ever existed. Complex societies were characterized not
only by displaying high levels of internal organization, but also by containing a large social base. This type of organization had the potential of mobilizing a large workforce in highly coordinated ventures. These ventures were not only directed at bringing the environment to its maximum productive potential (mediating technological development), but also at counteracting virtually any disruption that could have threatened the continuation of the organization. In conclusion, complex societies had built-in mechanisms for ensuring their own survival.

However, it is an historical fact that many complex cultural formations disappeared, and this phenomenon has not gone unnoticed by modern archaeology. Curiously enough, until the 1960’s, archaeological theory had failed to formulate a coherent model of cultural collapse. Previous efforts to explain the disappearance of great cultural traditions were centered on simplistic explanations that were not based on a rigorous assessment of the available evidence. These explanations usually took on an intuitive appeal, either calling forward catastrophic events (military invasions, severe environmental crises) (Tainter 1988: 52), or relying on preconceived notions about human culture, like an organismic view of civilization (Yoffee 1988: 2), and even a pessimistic attitude towards human progress (Tainter 1988: 78-80).

Although it may sound tautological, it can be argued that not until modern archaeology achieved a precise understanding of what constituted a "complex society" that the possibilities emerged for arriving at the first coherent collapse explanations. This change matured in American archaeology during the decades of the 1950s and the 1960s, when the theoretical discussions were dominated by neo-evolutionist and functionalist arguments (Willey and Sabloff 1993). Anthropological investigation focused on the
search of regularities in the course of human evolution, and the main concern was to organize these recurrent features in a series of evolutionary stages. The engine of progress was considered to be technological change (Trigger 1989: 289-294). Following functionalist tenets, it was thought that different environments could generate unique evolutionary sequences, but were always liable to be encompassed within a general evolutionary model (Steward 1953, 1955; Willey and Phillips 1958: 71; Sahlins and Service 1960). The classical unilineal evolutionary sequence of “bands-tribes-chiefdoms-states”, offered by the American ethnologists Marshall Sahlins and Elman Sevice (1960, Service 1962), remains as one of the most representative evolutionary proposals of the time.

The great thinkers of this era never showed a particular interest in revealing the basic conditions that led to the demise of ancient "states". However, the environmental determinism of the functionalist proposal, coupled with the principles on biological evolution that were adopted by the neo-evolutionary approach, offered the possibility of finding a theoretical formulation for collapse cases for the first time. According to Yoffee (1988: 7) such formulation was implicit in Elman Service´s "law of evolutionary potential". This law simply stated that, groups that developed a highly specialized adaptation to a given environment tended to lose their potential to evolve to a higher evolutionary stage (Service 1960: 97). This law assumed, therefore, that minor fluctuations in the environment could have severely weakened an over-specialized cultural entity, making it susceptible to being eliminated by more flexible competitors (Yoffee 1988: 7). Although this explanation resorted to the old themes of "environmental disturbance" and "military invasion" to explain cultural change, its great merit relies in
having been the first theoretically-grounded proposal that could be used to explain collapse cases.

During the Neo-evolutionary Period of American Archaeology, the limited interest in studying collapse was due, in great part, to the severe limitations that the Evolutionary approach posed for investigating this topic. Two limitations stand as the most compelling. First, research interest was focused on cultural change and, as was the case with the evolutionary proposals of the nineteenth century, this change was always conceived as a progressive movement (Dunnell 1996[1989]: 87). Possible cases of “regression” (collapse) could not be adapted to the universal sequences, and were therefore seen as simple anomalies in the regional sequences that could be explained in terms of over-adaptation (Yoffee 1992: 72). Second, the evolutionary approach assumed that, as cultures evolved from an evolutionary stage into another, all their institutions changed “in block” in the same direction (Dunnell 1996[1989]: 88). This assumption hindered the analysis of the complex interconnections that existed between the different specialized institutions of a society, which are precisely the ones that can generate contradictions that become driving forces of change (Yoffee 1988: 7). One of the possible resolutions for these contradictions is collapse.

Starting in the 1960's, archaeologists working under the tenets of the "New Archaeology" began to make the first consistent attempts to analyze cultural collapse. Particularly important in this regard was the decision made by British and American archaeologists to apply the principles of “General Systems Theory” to the study of cultural change. Two tenets of this perspective had a special resonance in the study of collapse. First, the notion that any cultural system consists of a set of closely
interconnected subsystems. Due to this close interconnection, a system is forced to develop a complete internal readjustment whenever one of its constituent subparts experiences a modification (Plog 1973: 196, Watson et al 1971: 70). Second, the realization that cultures also show a complex hierarchical organization of subsystems as a means for ensuring an efficient exchange of information and energy between centralized (system-serving) and specialized (serf-serving) subsystems (Flannery 1972, Johnson 1978, Wright and Johnson 1975). By focusing on the structural design and inner workings of complex systems, the systemic perspective offered for the first time, the possibility of analyzing the internal processes that can lead to the dissolution of an organized order.

The new systemic perspective allowed the identification of a wide range of potential structural flaws that could adversely affect the operation of systems, and eventually lead to total systemic breakdown. These most prominent failures include:

1. A rigid interconnection of subsystems, so that deficiencies arising in one of the cells will end up spreading rapidly throughout the matrix (i.e. the condition of hypercoherence) (Flannery 1972: 423, Rappaport 1977: 60).

2. A poor interconnection of subsystems, which generates deficiencies in the transmission of information and energy between system-serving and self-serving subsystems (i.e. the condition of near-decomposability) (Rappaport 1977: 59, Simon 1965: 70, Yoffee 1979: 21; see also Johnson 1978).

3. Situations in which a specialized subsystem moves into a command position (i.e. an event of usurpation). The system becomes over-specialized and unable
to respond adequately to a wide variety of external stimuli (Flannery 1972: 414, Rappaport 1977: 61; see also Rathje 1973).

During this time, Colin Renfrew (1978, 1979) introduced into the realm of archaeological enquiry an original collapse model inspired by mathematical topology. This model illustrated the course taken by processes of political demise. The so-called *cusp-catastrophe model* proved the presence of two viable synchronous planes of existence for a society that has made continued progress towards complexity. The model predicts the existence of a higher plane, characterized by high level of complexity, which overlaps a lower plane defined by the complete absence of it. For a group that has already experienced a series of tensions that are inherent in the evolutionary path towards increased complexity, a failed attempt to regulate a costly factor of complexity (like an investment in charismatic authority) can lead to a dramatic fall into the lower level. According to Renfrew (1978: 203), the model vividly illustrates the significant losses of complexity that are often attested in many archaeological cases of collapse.

The 1980's marked the decline of General Systems Theory in American archaeology. This decline was, in part, generated by the harsh criticism that Post-processual archaeologists, and even internal dissidents, directed against the most essential tenets of this approach (Athens 1977, Dunnell 1980, Salmon 1978, Wenke 1981). On the one hand, many critiques were directed towards the systemic view of cultural change. These critiques commonly rejected: a) the tendency to assume that incentives for change are always of external nature (Bender 1978: 207, Gibbon 1989: 113); b) the assumption that a condition of "homeostasis" is not only desirable, but even feasible for any cultural formation (Friedman 1974: 465-66); and c) the inclination to understand the evolutionary
process as a series of jumps between idealized levels of absolute stability (McGuire 1983: 97). Some authors suggested that the systemic approach was not well suited for addressing cultural phenomena. Merrilee Salmon (1978: 177), for instance, complained that the absence of precise definitions led to major confusions regarding what constituted “subsystems”. Michael Mann (1986: 1) even rejected the idea that societies could be interpreted as “systems” and, therefore, disputed the possibility of identifying any kind of “subsystem” within them. Finally, Norman Yoffee (1988: 11) stressed that the high level of abstraction of the systemic models not only made it difficult to address complex cultural processes, but also made them impossible to apply to concrete archaeological phenomena. The devastating blow to the systemic approach was, however, directed by Salmon (1978: 175), who rejected that it constituted a theory, and therefore called into question its explanatory value.

The disappearance of systemic explanations from archaeological inquiry did not necessarily lead to an academic disinterest in the subject of the collapse of complex societies. The research trends that followed the demise of the Processual Period were inspired by historical particularism. Archaeologists began to discuss the issue of collapse, no longer from the perspective of broad theoretical formulations, but from the analysis of individual collapse cases that belonged to the realm of regional archaeologies. In this new arena, the scientific endeavor was centered in identifying detrimental factors that could have played a decisive role in the decomposition of highly centralized political orders. Two main positions are discernible among the new proposals. On the one hand, there are explanations that find a cause for collapse in internal social forces (Bawden 1995, Castillo 2003, Culbert 1988, Janusek 2005, Joyce et al 2001, Million 1988, Owen 2005,
Santley et al 1986, Webster 2002). On the other, there are explanations that signal external factors as responsible, notably environmental disasters (Binford et al 1997, Gill 2000, Hodell et al 1995, Kolata 2000, Ortloff and Kolata 1993, Possehl 2000, Reycraft 2000, Satterlee et al 2000). Among the latter, an interesting group of proposals assess the role played by global climate changes in the simultaneous disappearance of spatially-distant cultural formations (Dalfes et al 1997, Weiss 2000). Finally, in recent years, a new set of propositions, centered in something called *overshoot theory*, have gained notoriety. In these models, the forces generating collapse result from a combination of population growth, climatic imbalances, and poor decisions regarding environmental care (Diamond 2005, Fagan 1999, Janssen et al 2003). These proposals, although not necessarily developed with absolute scientific rigor, are attuned to current concerns regarding the threat posed by global warming to the continuity of civilized life on the planet (Van Buren 2001: 141).

In some way, the new regional trend represents a breakthrough in the study of the collapse of complex political orders. This new perspective has enabled us to understand the multiplicity of forms that the collapse processes can take. However, the current picture has become somewhat chaotic because there is still no general consensus on what constitutes the most relevant topics that must be addressed to understand the disappearance of complex societies. This deficiency has unfortunately undermined the comparative value of the regional explanations. By the end of the 1980s, American archaeologist Joseph Tainter tried to find a solution for this problem, suggesting that there is a single underlying cause for most archaeological collapse cases. Tainter (1988) ended up proposing a general collapse model that, although it reverts to past Processual
and Pre-processual tendencies, is still widely accepted in modern archaeology. It represents, then, an ideal starting point for analyzing the underlying problems involved in the analysis of cultural collapse.

**Tainter and the declining marginal returns of increasing complexity**

Tainter (1988) presented an economic model for explaining the collapse of complex societies that focused on the diminishing marginal returns of complex socio-political systems. The model proposes that societies that are involved in an evolutionary course towards increasing complexity always reach a point in which they become burdensome for the general population. In other words, the benefits that the commoners gain from maintaining over-sized control institutions are always largely exceeded by the costs of this investment (Tainter 1988: 120). According to Tainter, once this negative balance between costs and benefits is reached, two scenarios can topple complex societies. First, when the system is hit by a sudden, major disturbance that overshoots its response capacity. Second, by the mere refusal of the commoners to continue providing subsidies to a political order regarded as maladaptive (1988: 120-21) (Fig. 2.1). One aspect that makes Tainter’s model interesting is that it marks a significant distance from the particularistic approaches, opting for a universal explanation for the issue of collapse.

Tainter’s model is based on a number of assumptions that are essential for understanding archaeological cases of collapse. The model itself is well formulated. Therefore, the wide acceptance that it still manifests today comes as no surprise (Chapdelaine 2000b, Janssen et al 2003, Shimada 1994a, Webster 2002, see also Tainter 2006). Among the several contributions that characterize Tainter’s work, there are three
notions that I consider particularly important. First, the idea that collapse is essentially a political phenomenon (1988: 4). In other words, a collapse event basically affects the central institutions of power. An event of collapse does not necessarily have an effect on other spheres of civilized life, including, for instance, demographic balance (although there are historical instances in which collapse is associated with a significant population loss [Tainter 1988: 20]). Second, I praise the idea that political institutions are problem-solving organizations (Tainter 1988: 118). These organizations need, however, a constant supply of energy and resources in order to function adequately. Political systems are, therefore, beneficial for the popular mass; but this benefit always comes accompanied by a cost. Finally, I find particularly attractive Tainter’s perspective of defining collapse as an adaptive strategy (1988: 198). Collapse is, then, not a disgrace that suddenly befalls
the commoners but rather, a solution that they sometimes eagerly seek in order to improve their living standards.

Despite being based on such positive precepts, I think that Tainter’s model has a limited archaeological application. The main problem with this model lies precisely in its purported universal application. In other words, the model’s high degree of inclusiveness acts against its resolution (Dunnell 1971: 145-47; Steffen et al 1997: 135). Thus, while an abstract concept such as "diminishing marginal returns of increasing complexity" may be useful to define, in broad terms, the determinant factor that caused the collapse of many political entities around the globe (which could be as dissimilar as the Chaco Canyon Anasazi and the Roman Empire), it hardly allows us to understand the precise circumstances that were involved in the disappearance of these political orders. Moreover, as is currently stated, the model does not clarify why some complex societies that developed in isolation never collapsed (e.g. the Hawaiian chiefdoms), or why some complex societies endured longer than others.

**An alternative approach**

Given these evident limitations inherent to both regional and Tainter’s formulations, I decided to apply an alternative approach to the study of collapse which, while integrating some important concepts presented by Tainter, was designed to gain resolution in favor of Andean societies. These societies based their development on unique organizational principles, and therefore demand an epistemological treatment that is also equally singular. I think that this treatment should be particularly sensitive to the four essential organizational strategies that I mentioned in the introductory chapter, and
that include: a) the absence of a market economy, b) the reliance on corveé labor as the main method of sustaining political regimes, c) the importance that the principle of reciprocity bore for sustaining social cohesion, and d) the leading role played by ideology as a strategy of mass control.

The way that I propose to address collapse cases in the Andean area is through a research strategy that represents a midpoint between Tainter’s model, which displays a high degree of inclusiveness, and the regional particularistic perspectives which, by contrast, are marked by a high degree of resolution. My proposal is centered in limiting the study of collapse on five major topics, which together offer a complete picture of the structural antecedents, predisposing conditions, detonating factors, and social decisions that were involved in the resolution of collapse. These five research points should be aimed at evaluating the following issues:

1. The nature of the economic relationships that bonded the elite and commoner segments together.
2. The presence and magnitude of factors that would have negatively affected the standard of living of the general population.
3. The possible implementation and favorable impact of strategies for economic recovery.
4. The possible intervention of what I call “detonanting factors of collapse” (see below).
5. The character of the popular disaffiliation.

This proposal represents more a research scheme, than a strict collapse model. In other words, it does not anticipate a series of events that, linked in a causal relationship,
ultimately led to the downfall of a political regime. The scheme only helps to signal the fundamental research topics that need to be solved in order to arrive at a complete comprehension of a collapse process. I propose that using such a flexible approach offers a series of heuristic advantages that surpass existing proposals. On the one hand, it frees us from the rigidity of general models, which sometimes do not find an easy application in factual reality. The scheme also frees us from the extreme particularism of regional explanations which are more than often articulated around a single collapse factor. The new scheme offers a uniform perspective for studying collapse cases and, therefore, holds the promise of rescuing the comparative potential of the regional explanations.

The rest of the chapter is dedicated to the exposition of the research topics that integrate the proposed scheme, highlighting the importance that they hold in the elucidation of the collapse processes. I also present a few examples of what represent possible scenarios that could be disclosed within each topic. While the exposition is severely biased towards Andean societies, the theoretical formulation is enriched with concepts derived from theory of complex societies and peasant subsistence politics, specially as provided by Johnson and Earle (1987), James Scott (1976, 1990) and Robert McC. Netting (1993). The discussion also integrates valuable ideas contributed by Joseph Tainter (1988, 2002), and is further complemented with information from collapse cases from Central and North America, that involved societies that would have displayed organizational strategies not far distant from Andean groups.
**Economic relations between social segments**

All complex societies embrace different social groups that contribute, through the exchange of resources and energy, to the sustenance of the wider civilized order. The number and strategic importance of these groups varies from case to case. The most complex picture is offered by societies that Eisenstadt (1993[1963]) described under the rubric of “centralized bureaucratic empire”. Here, local leaders had to deal with a wide variety of influential social groups, which included state bureaucrats, a landed aristocracy, professional, religious, and cultural elites, upper urban groups (especially bourgeoisie and merchants), middle and lower urban groups (artisans), the landed gentry, and the peasants (Eisenstadt 1993[1963]: 116). State leaders had to establish continuous negotiations and even strategic alliances with these groups in order to ensure the flow of subsidies that they required to sustain their regimes. The case of Andean agricultural societies, by contrast, was much simpler. Even though some North Coast societies saw the emergence of a high degree of occupational specialization by the end of the pre-Hispanic period (Netherly 1977: 209), it is safe to say that the maintenance of the political systems of these and earlier groups relied on two basic social forces: the peasantry and the elites.

It is, then, in the delicate economic balance that existed between these two forces that we must look for the reasons for the continuity and demise of these political systems. General theory about complex societies provides us some valuable hints to understand the inner workings of these groups. First, as Tainter (1988: 91) has coherently stated, any complex society requires resources and energy to function and, in the case of agricultural societies, it is generally the farmers who provide these subsidies. In the pre-Hispanic
Peruvian coast, peasants were smallholders who faced the challenge of sustaining themselves and their families with meager resources. In this and other similar cases, the economy of subsistence of individuals was marked by three basic characteristics: it was extremely conservative, it was based on effort minimizing strategies, and, above all, it was designed to minimize risk (Johnson and Earle 1987: 12, Scott 1976: 15). The organization of productive activities of peasant families was conditioned by a "subsistence crisis threshold", below which "the qualitative deterioration in subsistence, security, status, family and social cohesion is massive and painful" (Scott 1976: 17). This "subsistence crisis threshold" is manifested in a referential productive output, that is fixed according to experiences lived during years of famine. Farmers avidly seek to avoid reaching this threshold every time they confront a new agricultural season (Netting 1993: 84). This is why, instead of maximizing efforts to obtain an abundant harvest, farmers prefer to opt for conservative, less laborious solutions, which have proved successful in the past. And while these strategies may give the wrong impression that farmers are reluctant to improve their standard of living by working more hours (Boserup 1965: 41), Scott (1976: 13) reminds us that families that face difficult campaigns tend to display huge efforts and make unimaginable sacrifices for the sole purpose of making ends meet.

The operation of the subsistence economy of peasant groups can be illustrated with the following graph (Fig. 2.2). This graph was inspired by a similar figure published by James Scott (1976, Fig. 2). The chart illustrates a fictitious balance between the "subsistence crisis threshold" (arbitrarily fixed at 80 units of grain), and the annual

---

4 Some Peruvian historians (Burga 1976: 86, Rostworowski 1989: 34) have argued that, in the pre-Hispanic Peruvian coast, all the productive lands of a political entity were controlled by powerful local lords. These leaders were responsible for allotting each peasant family a plot of land in which it could pursue its livelihood in an independent way.
Figure 2.2: Representation of the irregular agricultural output of a peasant household during a normal 30-year agricultural period (based on Scott 1976, Figure 1).
productive output of a peasant family during a period of 30 years. This annual output is the result of the implementation of conservative agricultural strategies, and is highly irregular due to vagaries related to climatic factors (especially water availability). Despite the irregularity, and the fact that the curve shows two dramatic falls below the subsistence line, the illustrated period still qualifies as “healthy”. In fact, there are numerous peaks that keep the general productive trend well above critical levels of subsistence. These peaks do not represent, however, opportunities for enrichment.

Traditionally, small farmers exploit this bonanza by engaging in trade relationships with specialized groups, through which they obtain manufactured objects (pottery, stone mortars, woven mats), and various types of foodstuffs (for the northern coast of Peru, the main products would have been required salt and fish [Netherly 1977]). Most of this productive surplus would have been diverted, however, into communal networks of mutual assistance (Murra 1999[1955]: 138). Scott (1976:27) reminds us that every traditional peasant group sustains a network of social relations, positions, and institutions that act as a “risk averaging mechanism” for the whole community. These institutions function under the norms of reciprocity and are an integral part of the risk minimizing strategies of peasants. They tend to be strictly respected under the consideration that they ensure the survival of the whole group.

Besides the subsistence economy of the commoners, complex societies also comprise a political economy, which is directed to sustaining the highest levels of power. The political economy can be defined as the mobilization of energy and resources for the benefit of the central institutions of government. These institutions not only include the higher order representatives, but also their direct dependents and even their official
policies (D’Altroy and Earle 1985: 190, Johnson and Earle 1987: 13, La Lone and La Lone 1987: 48). The provision of economic subsidies for the operation of the political economy is entrusted to the popular mass, which often must sacrifice its own interests in order to comply with this obligation. If we consider the economic fragility of the contributors, it is clear that any ill-conceived tribute strategy would have bore the potential of jeopardizing the stability of the entire system. Andean ethnohistorical documents testify that the leaders of coastal societies were aware of this danger, and therefore devised low-impact tributary strategies. These strategies, rather than focusing on a direct subtraction of resources from the subsistence economies of the peasants, were expressed as labor obligations that the farmers were forced to satisfy every time they were formally summoned by a local lord (Murra 1995: 59, Ramirez 1996: 90).

The most onerous type of labor contribution related to the provision of manpower for agricultural activities (Murra 1999[1955]: 144). Early ethnohistoric documents testify that North Coast curacas, besides providing land for their subjects, also reserved tracts of land for themselves. These documents relate that these lands were quite extensive, and often covered different ecological niches (Burga 1976: 86). With regard to agricultural land, it is clear that the curacas reserved for themselves the most fertile tracts, endowed with better drainage and preferential access to water (Netherly 1977: 271). These were the lands that the peasants had to work, and the fruits of this work represented both their tribute and the income of the local lord. As illustrated in figure 2.3, this system was relatively beneficial for the workforce, since it did not rely on the subtraction of resources that were essential for their subsistence. In this sense, the system differs markedly from high-impact tax policies, like the one that the British Empire imposed on many countries.
Figure 2.3: Representation of the mandatory crop yield that a peasant household is expected to raise on the lord’s land during a normal 30-year agricultural period. It is assumed that the lord’s demands will drop during bad seasons (based on Scott 1976, Figure 2).
of Southeast Asia (Scott 1976). The latter policy prompted serious imbalances in the subsistence economies of local farmers, generating incentives for social unrest and revolt.

In addition to the rotating obligations of agricultural work, the lower echelons of pre-Hispanic Andean societies provided a series of goods and services for the sustenance of the local political economies. These obligations included:

1. Periodic participation in state projects (mining operations and construction of irrigation canals, roads, forts, public architecture, etc) (Murra 1999[1955]: 157, 164).

2. Eventual, non-professional participation in military activities (Ramirez 1996: 89).

3. Communities of non-agricultural specialists (ceramists, textile workers, salt producers, traders) also surrendered a small part of their annual production (Rostworowski 1989: 281).

4. Communities located in areas endowed with highly-valued, “non-domesticated” natural resources (feathers and eggs of wild birds, fur, honey, fish, Lama wool, firewood) were forced to provide a fixed annual amount of these resources to local lords (Murra 2002[1983]: 262).

5. In some cases, it is clear that domestic units that developed a cottage industry (e.g. domestic pottery) also contributed part of their annual production to the state (D'Altroy 2001a: 247).

6. Most communities had to provide a rotating quota of young men and women to work as personal servants in the houses of local nobles (Netherly 1977: 229).
In conclusion, the maintenance of the civilized orders of complex Andean societies was entrusted to two social groups: elites and commoners. These two groups pursued two different types of economies that, although being based on distinct principles, were complemented in a perfect symbiotic balance. At a first glance, the peasants seem to have been the less privileged. Even though their subsistence economies were inherently insecure, they were responsible for providing the energy and resources that both their families and the higher echelons of decision makers required for their sustenance. This additional economic burden was not necessarily seen as detrimental. The peasants benefited themselves from the existence of this privileged group of non-food producers, given that they provided a range of services that were essential for the proper functioning of the broader social order (Johnson and Earle 1987: 15).

The responsibilities of the elite segment, on the other hand, were not limited to the efficient prosecution of their administrative responsibilities. They were also compelled to be sensitive to the necessities and aspirations of their subjects. The elites were responsible, for instance, for devising a tributary strategy that would not overload the tributary capacity of the peasant families. In the Andean case, we have seen that the solution implemented did not demand farmers to render the resources that they needed to ensure their own survival. Andean elites were also forced to attend to basic social rules of hospitality and generosity (Netherly 1977: 211), and even establish bonds of reciprocity with their subjects, donating part of the products raised in their own estates (Ramirez 1996: 91).

This idyllic picture of peaceful coexistence and mutual cooperation should not fool us. Two severe structural problems threatened the continuity of the Andean regimes.
The first related to the fact that elites and commoners constituted two social strata that were alienated in terms of kinship. This social alienation generated opportunities for the violation of basic rules of social behavior. Second, particularly volatile was the precarious conditions of the subsistence economies of the peasant masses. If, during a series of agricultural cycles, the productive output of a large number of households fell below the “subsistence crisis threshold”, a general feeling of dissatisfaction would have permeated the society. The conditions leading to economic crisis, which I call “predisposing factors of collapse” will be reviewed in the next section.

**Predisposing factors of collapse**

Earlier, I suggested that one of the most interesting contributions of Tainter’s model was to regard collapse as an adaptive strategy. In other words, even if it is true that some complex societies fell when they were hit by an insurmountable external force (severe environmental disturbance, military invasion), in most cases their demise was the result of a conscious decision made by the population in order to improve their living conditions (Tainter 1988: 198). *Predisposing factors of collapse* are here understood as those events and circumstances that affect the subsistence economy of the masses to such degree, as to make them consider the disaffiliation of the prevailing political order a viable way of improvement. Rural impoverishment emerges when the annual productivity of the peasant households shows a continued tendency towards deficit. This situation is illustrated in figure 2.4, which shows an hypothetical consistent productivity drop in the order of 20%. In this new curve, the peaks below the “subsistence crisis threshold” far exceed the peaks above it. When this situation is reached, even the “risk
Figure 2.4: The balance of a peasant household’s agricultural production plus its mandatory collaboration to the lord’s political economy during a bad agricultural period (based on Scott 1976, Figure 2).
averaging mechanisms” established within the community can do little to improve the living conditions of the vast majority.

In this section, I review five factors that can generate dramatic losses in productivity and induce a decay of living standards of the peasant masses. These factors are: population pressure, internecine warfare, environmental disturbances, elite proliferation, and conspicuous consumption. These factors in no way exhaust the range of possibilities that can lead a complex system to yield "declining marginal returns." They were selected because they had direct implications in the collapse case treated in this study, and because they also have been detected in other collapse cases that occurred in the Andean area.

There are three cautionary notes that need to be taken into account when measuring the destructive potential of these factors. First, these factors can only be considered as a predisposing condition for collapse because their sole occurrence does not necessarily entail the termination of the affected civilized orders. On the contrary, in this study, I follow the opinion that the leaders of complex societies had enough resources and manpower at their disposal, to counteract most contingencies that threatened the continuity of their regimes (Ericsson 1999: 641, Santley et al 2000: 158). Second, as will be evident during the following discussion, many authors believe that these factors, far from having negative effects, create incentives for the development of complex regimes (see below). We can consider that these factors only become harmful when they weaken, in a steady and consistent way, the productivity of the peasant households. Finally, we must also bear in mind that the destructive power of these factors
will become greater the greater the number of factors simultaneously affecting a given polity (Bawden 1996: 273).

1. Population pressure

By population pressure I mean the situation that emerges when population growth (generated either by internal biological factors and/or immigration) exceeds the productivity of available farmland, which not only depends on its absolute extent and fertility properties, but also on the state of technological development evidenced by the group (Boserup 1965, 1981). Robert Malthus (1982[1798]: 62), the first theorist on population, anticipated that a condition of population pressure generates vices and misery, which always fall more strongly on the disadvantaged segments of the population. Despite this judgment, we can not consider that any process of rapid and sustained population growth necessarily entailed negative outcomes. Johnson and Earle (1987: 16), for example, consider that “the primary engine for cultural evolution is population growth”. In the specific case of Andean societies, the relative wealth of a curaca was measured according to the number of followers he could assemble (Murra 1999[1955]: 157, Netherly 1977: 209, Ramirez 1996: 4). One can conclude, then, that a basic interest of local leaders was to increase the number of their subordinates. However, if this growth placed at risk the ability farmers to support themselves, pushing their economies below the critical level of subsistence, population growth became a source of instability.

There are two distinct situations in which demographic growth becomes detrimental for farmers.
1. When population pressure forced a number of peasants to occupy marginal lands, often characterized by an inadequate access to water, where not even intensive farming techniques could ensure a sufficient production (Scott 1976: 63). In these cases, although one can argue that only a small percentage of the productive force was prone to be affected, the relocation would have had widespread repercussions. First, because marginal lands, now occupied by displaced persons, were usually a source of valuable natural resources (e.g., grasses, wood) that were essential for the survival of the whole community (ibid.). Second, because the “risk averaging mechanisms” inherent to the community would have been activated to alleviate the deprived economic condition of the displaced farmers, distributing and leveling misery throughout the group.

2. One can also argue that demographic pressure would have forced an effective reduction of the cultivation area allocated to each family. Farmers would have been compelled to apply intensive farming techniques (which involve, among other things, a progressive reduction of the fallow period) to maintain production levels similar to those before the emergence of the contingency (Boserup 1965, 1981; Netting 1993). In other words, farmers would have been forced to work harder just to produce the same amount of staples (Boserup 1965: 43, 1981: 56). In the case of Andean societies, the problem generated by this additional workload was that it could have entered into conflict with the quota of corveé labor demanded by the local lord. This conflict would have tended to become more acute in cases in which the prevailing environmental conditions only allowed agricultural activities during a few months of the year.

It is not necessary to add that these two limiting situations are not necessarily mutually exclusive, but can operate simultaneously to the detriment of the same group.
In this study, “population pressure” is considered to be a predisposing factor of collapse even though it does not figure prominently among the arguments that have been presented to explain the collapse of Andean societies. This argument has been, by contrast, often been cited as one of the main causal factors for the disappearance of the Classic Maya political orders of the Southern Lowlands (Culbert 1988; Sanders 1973; Webster 2002: 274). I think it is important, however, to start the presentation of predisposing factors of collapse with a discussion of the negative effects of population pressure, because these effects are also manifested in other potential collapse factors that will be described below.

2. Internecine warfare

War is such a widespread phenomenon in human history, that it can hardly be regarded as an unavoidable cause of collapse. By contrast, many authors have suggested that war has more commonly offered incentives for the development of complex societies. In antiquity and more recent times, war has helped to promote human ingenuity and accelerated technological development (Tainter 2002). War has also often been critical for the survival of organized groups, creating balanced spatial distributions of populations that otherwise would have generated excessive pressures on resources niches (Ferguson 1990: 35). In many societies, individuals and lesser social organizations have seen, in war, an opportunity to catapult their social position and achieve extraordinary gains. In fact, many authors believe that, thanks to the promotion of individuals to command positions generated by war, relatively simple societies reached higher levels of organization and centralization (Billman 1996; Carneiro 1970, 1981; Haas 1987: 33;
Webster 1975; Service 1962: 104; Wilson 1988). The benefits of the war would not have been, however, reserved for a privileged few. Through successful performance in combat, common soldiers would have managed to improve their social standing (Hassig 1988: 41, Keeley 1996: 100), and even increase their reproductive fitness (Chagnon 1990: 95). Some expansionist states achieved, thanks to military prowess, never before seen levels of prosperity, which benefited the general population by fostering, among other things, a reduction of official tax rates (Tainter 2002: 123).

There are so many benefits to be derived from the practice of war that it is valid to ask under what circumstances it can become a driving force of political collapse. The most obvious scenario involves a military power that subdues a weaker opponent, dismissing its authorities and imposing a new political order on the subjugated entity (a scenario similar to what Bronson [1988: 213] has called “tiger strategy”). Joseph Tainter (1988, 2002) has described another type of war-induced collapse scenario that is particularly relevant for this study. In the case of agrarian societies, a potential source of collapse is generated when equivalent powers initiate a long war of attrition that eventually erodes their economic base. If none of the opponents is able to generate an additional energy subsidy that could be transformed into a key military advantage, war would eventually lead into a cul de sac, leading to the economic ruin of all the participants (Tainter 2002: 123).

In any conflict, the social segment that is always more severely impacted by the negative consequences of war is the ordinary people. War undermines the subsistence economies of the working classes in various ways, inducing permanent losses of workforce (deaths and injuries), disruption of trading spheres, and a strong diversion of
human energy in military expenditure. Common military investments include construction of forts and defenses, manufacture of weapons and military equipment, regular or spontaneous participation in armed teams, and feeding of recruits\(^5\). All these investments draw time and effort from food-producing activities. Wars of attrition, in particular, generate two additional effects that are predominantly harmful for sedentary peasant populations because they wear on the productive capacities of the masses. These two effects are: the contraction of the agricultural frontier, and the high locational costs of settlements.

First, in a region affected by a condition of internecine war, farmers are often forced to concentrate their agricultural practices in the immediate vicinity of their settlements. To compensate for such large human agglomerations, the size of individual agricultural plots suffers a significant contraction. In fact, the Mesoamerican experience shows that, in regions affected by a condition of internal war, large tracts of unoccupied land, commonly called “no man's land”, tend to form between the territories of contesting powers (Blanton et al 1994: 99; Sanders et al 1979: 103, Webster 2002: 279). Even though these lands may contain prime agricultural soil, they can not be exploited because of the risk involved in coming too close of hostile territory. Farmers must, therefore, limit their agricultural activities to a safe zone that surrounds their settlements, and apply methods of intensive agriculture in order to maintain a steady production (Carlstein 1982: 198; quoted in Netting 1993: 104) (Fig. 2.5). In other words, internecine war artificially induces conditions of population pressure similar to those described above.

\(^5\) Based on the European experience, Tainter (2002: 106) argued that an increment in military investment rarely confers a decisive advantage, because the opposing parties can quickly match any innovative measure, and design, at the same time, their own counter-strategies. When two regional powers of equal strength clash, high investments in military expenditure, rather than guaranteeing a favorable resolution to the conflict, will tend to drain the resources of the confronted groups.
Before the invasion

After the invasion

*Figure 2.5: The contraction of agricultural plots due to foreign military invasions* (based on Carlstein 1982:198).
Second, when agrarian societies confront conditions of armed conflict inside their nuclear territories, the need for defense outweighs other practical requisites that would guide the location of settlements. Settlements are often moved to areas that are privileged with difficult access, high elevation, unrestricted view, or which offer any other significant protection from attacks (Haas 1990: 178). These areas rarely provide adequate access to water and resources but, to the contrary; tend to stand surrounded by marginal agricultural land (Arkush and Stanish 2005: 15). To the difficulties associated with the exploitation of marginal lands, as described above, residents of defensive settlements must face the challenge of confronting additional energy expenditures. These expenditures are related to the difficulties involved in transporting food, fuel, construction materials, and water to high and/or remote areas. The extra time and energy that is invested in transport and every day mobilizations must be subtracted from the reserves of human effort that could be devoted to productive activities.

A condition of internecine war generates a continuous and sustained drain of energy and resources from the subsistence economies of the peasants. It is not surprising, then, that this factor has been commonly cited as responsible for the disappearance of complex cultural formations in the Americas. Internecine war has been called upon to explain the collapse of the Zapotec State of Monte Alban during Period IIIb-IV (Balkansky 1998: 478), the decline of Anasazi political entities of the Kayenta Region around 1300 AD (Haas 1990) and, of course, the collapse of the Maya States of the Southern Lowlands by the end of the Classic Period (Webster 2002: 340). In the Andean case, Dillehay (2001) proposed that an internal conflict induced the disappearance of the Moche political communities of the Lower Jequetepeque Valley (Chapter IV).
3. Environmental disturbances

Environmental disturbances are commonly assumed to be directly or indirectly implicated in the collapse of complex societies. Andean archaeology has not been immune to this trend (Kolata 2000, Moseley and Deeds 1982, Moseley and Richardson 1992, Ortloff and Kolata 1993, Reycraft 2000, Satterlee et al 2000, Shimada 1994a: 249). The prevalence of environmental explanations in archaeology is understandable in the face of the high degree of dependence that agricultural societies developed towards their productive environments (Janssen et al 2003). This dependence was more acute in the case of groups that derived their subsistence from highly specialized production systems, such as irrigation agriculture (Kolata 2000: 176). In the case of Andean archaeology, environmental explanations have also been encouraged by the proliferation of a wide sort of paleoenvironmental studies during the last two decades. These studies have resulted in detailed environmental sequences – either of glaciological, sedimentological or historical character – that allow drawing temporal parallels between episodes of environmental degradation and archaeological events of site and regional abandonment (Abbott et al 1997; Binford et al 1997; Quinn et al 1987; Shimada et al 1991; Steinitz Kannan et al 1992; Thompson and Mosley-Thompson 1987; Thompson et al 1985, 1995, 1998).

Some skeptical authors, who are detractors of environmental determinism, believe that it is not enough to find a match between events of environmental degradation and collapse cases to speak of a causal relationship. This argument seems to be based on two assumptions. First, complex societies have sufficient organizational capability to adapt to the most severe environmental stresses (Erickson 1999, Stanish 1987: 357, Tainter 2006: 72). Second, some historical and archaeological societies that faced events of extreme
environmental degradation, rather than collapsing, found in these events unique opportunities for the development of complexity (see, for example Hiebert 2000, Osborn 1977). Settling between the “catastrophist” and “adaptive” perspectives, more cautious positions propose to analyze the destructive potential of these events through a series of analytic parameters such as magnitude, frequency, duration, speed of onset, spatial extent, periodicity, time of onset of the event, and even resource type affected (Reycraft and Bawden 2000: 1-2). The analysis of these parameters will only be fruitful if we integrate into the equation some basic characteristics of the affected group, such as resource distribution, main economic activity, technological development, type of productive infrastructure, population density, areal extent, and previous experiences with the event, transport technology, and level of economic specialization (Reycraft and Bawden 2000: 2, Santley et al 2000: 158, Van Buren 2001: 144). To this list we could also add the degree of internal stability of the social order (Moseley 1997, 1999).

It is not my intention to make an exhaustive analysis of how the above mentioned environmental parameters would have differentially affected the social, political and economic institutions of a complex society. A study of this kind would, by itself, require one or more dissertations. I would like to evaluate, instead, the destructive potential of two types of imbalances that have special implications in the case of Moche archaeology. The first type refers to sudden, violent events of limited duration. The second type refers to disorders that evidence a slow progression and that can last for a long time. The socio-political effects of these two types of disturbances have been analyzed by two exemplary investigations conducted in different regions of the Americas, yielding highly revealing results.
The effects of disturbances of the first sort, sudden events of limited duration, were analyzed by Robert S. Santley and his collaborators (2000) as part of a broader study centered on the evolution of political formations in the Tuxtlas region of southern Veracruz. In this region, the greatest challenge for human adaptation is represented by rare but sudden volcanic eruptions, which commonly generate dense ash emissions and limited lava flows. During the Middle Classic Period (450 - 650 BC), the nuclear area of a local state was hit by up to six different eruptions. During each event the local capital, Matacapan, and surrounding agricultural fields ended up being covered by dense ash. Santley and his associates found that, instead of yielding to the natural disaster, local decision-makers decided to implement ingenious solutions to counteract the contingency. These responses included deploying large teams of laborers to liberate the city from the ashes, replenishing the city granaries with resources channeled from peripheral areas, and stimulating the development of a vigorous ceramic industry aimed at export (Santley et al 2000: 157). By acting in this way, local rulers managed to maintain order and diminish the risk of political breakdown.

The lesson learned from this study is absolutely consistent with the definition of complex societies presented above. One can argue that an environmental disturbance of great magnitude but short duration should not necessarily lead to collapse, even if it devastates the nuclear area of a complex society. This conclusion is especially valid for groups that have had previous experiences with this event. An environmental event of great severity may, in fact, induce a sharp fall in the productivity curve of peasant families in the short term. However, if the pool of human energy has not been severely affected, and the collective maintains a safe reserve of resources, the recovery will be
imminent as long as the same event does not reoccur year after year. If, on the other hand, an event of this magnitude occurs when the subsistence economies of the commoners have long been immersed in a trend towards deficit, the maintenance of a solid political order, if feasible, will be more difficult (Tainter 1988: 120, see also Michael Moseley’s [1997, 1999] concept of “Convergent Catastrophes”).

The second type of environmental disturbance, one characterized by a progressive and long-term deterioration of the environment, has been called “environmental threshold” by Alan Kolata and his associates (Binford et al 1997; Kolata 1996, 2000; Ortloff and Kolata 1993). According to Kolata (2000: 166), environmental thresholds refer to “long-term, high-amplitude environmental variations that, at the extreme of variation, significantly and permanently alter or constrain the socioeconomic development of human societies”. The destructive potential of these events is particularly severe in the case of agrarian societies that pursued a highly specialized productive economy, and which attained, thanks to the high output of the economic system, prosperity and population expansion during a previous period of stable climatic conditions. For Kolata (1996, 2000), a 50-year-long "environmental threshold", represented in this case by a prolonged drought that hit the area of Lake Titicaca, devastated the lacustrine raised-field system on which the Tiwanacu state rested its subsistence, causing the irremediable demise of its political order.

Unlike temporary disruptions, a long-term “environmental threshold” gradually erodes the resources that are necessary for the sustenance of complex societies, and therefore constitutes a serious threat for the existence of these orders. Long-term disruptions are dangerous even for socio-political organizations that maintain a healthy
economic balance before the advent of the contingency. When assessing the destructive potential of these events, it is necessary to inquire, however, if they would not have opened unsuspected avenues for development. In the Tiwanaco case, for instance, Clark Erickson (1999: 637) has observed that while the recession of the lake waters would have rendered the shoreline agricultural systems inoperable, it also would have exposed vast tracts of lake-bed soils of extraordinary agricultural quality. It is also important to investigate if there were other economic solutions that the elites might have sought in order to keep the system running (Janusek 2005: 200). The evaluation of the detrimental potential of environmental imbalances should always force us to visualize both the potential damage that they can inflict and the possible solutions of economic recovery that the elites could have implemented.

4. Elite proliferation

An additional factor that can adversely affect the subsistence economies of the peasants is when the balance between food producers and non-food producers is altered in the prejudice of the former. One of the simplest ways through which this alteration can take place is when the elite lineages, together with their retinues and teams of dependent specialists, experience an excessive expansion. In the Andean area, elite individuals were sustained with the harvests that the commoners raised in the lands that they arrogated to themselves. While these lands could have been very extensive, one can argue that only a small fraction of them would have been under constant cultivation. A condition of elite proliferation would have forced an expansion of the area under cultivation, and possibly the application of techniques of intensive agriculture in the new opened fields. Under
these circumstances, it is easy to visualize how these new work demands would have affected the subsistence economy of rural families. Kaare Rodahl (1989: 30) warns us that any healthy individual tends to experience a sense of fatigue after working 8 straight hours under a continuous load exceeding 30-40% of his maximum work capacity. For the farmers, an increment of the work load that they had to invest in the lord’s lands would have represented a concomitant reduction of the time and energy that they could have invested in their own grounds. If this situation was left uncorrected, farmers could have developed a feeling of aversion towards their leaders.

Energy investments in elite sustaining activities are typical to any complex society, and therefore can not be regarded a cause of collapse. Moreover, one can argue that in most cases, elites would have constituted a comparatively small social segment whose sustenance would have not demanded excessive energy expenditures. And, while it is true that this segment would have tended to increase over time, this growth would have been quickly offset by the concomitant expansion of the peasant household units, which are much more numerous. It is for these reasons that it is vitally important to identify the mechanisms that could have promoted a disproportionate growth of the non-food producing segment, affecting the stability of the entire social system.

One of these mechanisms has been identified in the Andean area, and refers to special rules of succession and right transmissions that operated between regents. According to Demarest and Conrad (1983, see also Conrad 1981, 1992; Conrad and Demarest 1984), the principle of “split inheritance” that apparently operated within the upper echelons of Chimú and Inca societies, determined that each newly invested ruler

---

6 This work load is consistent with the energetic demand of intensive agriculture (Rodahl 1989, Fig. 3.9; see also Netting 1993: 115).
was forbidden to inherit the goods and estates that belonged to his father's house. These assets were perpetually granted to the extended family of the deceased monarch, who exploited them to meet the high costs involved in the worship of the royal mummy, and at the same time pursue a pompous life-style. Each new ruler was, therefore, compelled to claim his own land, build his own palaces, and find his own retinue of vassals to work his estates. With the passage of time, this practice resulted in the proliferation of royal houses that, according to the authors, had the potential to “exhaust the surplus time of people, strain the bonds of reciprocity between rulers and subjects, and clearly damage the leaders’ public image” (Demarest and Conrad 1983: 39; see also Murra 1999[1955]: 261)

A different mechanism that could have posed an excessive workload for the subjects is indirect rule (Doyle 1986). Under a strategy of indirect rule, an expansionist political entity administers and extracts resources from an assimilated territory through the aid and collaboration of its native leaders (Doyle 1986: 38). This strategy may prove cost-effective for the conqueror, in the sense that it helps him avoid investing in a colonial administrative apparatus backed by military garrisons (Santley and Alexander 1996: 177). However, this strategy may prove harmful for the affected population, because it rests on the imposition of two tributary systems. Berdan and Smith (1996: 216), for instance, have suggested that the indirect administration systems that the Aztec empire engendered in the core area of the Valley of Mexico would have necessarily undermined the living conditions of ordinary people. In the Andean case, it is well known that the Incas also resorted to indirect administration to control assimilated territories
(D'Altroy 2001b: 209, Morris 1998: 296). This practice, however, might have originated in this area several hundred years earlier (Isbell 1991: 308).

Finally, another mechanism that can throw off the delicate balance between food producers and non-food producers could have been based on a reversed process. In other words, this imbalance could have arisen not due to an increase in the numbers of non-food producers, but rather due to a reduction in the numbers of farmers. Susan Ramirez (1996: 26) thinks, for example, that the severe population drop that followed the establishment of Spanish colonial order in Peru was one of the leading reasons that caused the gradual loss of authority experienced by the local lords of the North Coast. This sharp population fall, which was mainly instigated by diseases introduced by the Europeans, reached overall orders of 75% (Burga 1976: 56). With fewer subjects under their command, local curacas could no longer pursue large-scale communal projects, and therefore tried to sustain their power rights in the Spanish political system. This practice led them to neglect other traditional social obligations, loosing authority in the eyes of their followers (Ramirez 1996: 40).

5. Conspicuous consumption

All wasteful expenditures which elites incur in order to increase their political power and social prestige are considered to be examples of “conspicuous consumption” (Veblen 1899, quoted in Trigger 1990: 124). This behavior is considered wasteful because it often involves the use of large amounts of labor and resources in the implementation of projects that have no clear utilitarian function (Trigger 1990: 125). Conspicuous consumption is an ideological strategy that allows the elites to manifest the
enormous distances that separate them from the common people. This strategy also allows them to broaden their access to women and resources, ensure the allegiance of their subordinates, and even establish competitive relationships with peers from opposing groups (Hayden 1998: 11-12, Neiman 1995: 3). Common examples of “conspicuous consumption” are monumental architecture, lavish tombs, prestige objects, the maintenance of vast teams of servants, rituals in which highly valued goods and resources are destroyed (e.g. human sacrifices), and even the maintenance of costly systems of symbolic communication (Trigger 1990).

The high expenses of "conspicuous consumption" which elites commonly incur can not be considered per se sufficient cause of political collapse. As Trigger (1990: 119) has stated, all leaders of past complex societies displayed this type of behavior. Archaeological experience demonstrates, indeed, that these expenses were extremely high in the formative stages of civilizations and during moments of unusual development of centralized power (McC. Adams 1992: 216, McGuire 1983: 110, Trigger 1990: 127). It would be absurd to conclude that, just because these expenses were high in an early developmental stage, the affected group would have been condemned to spend the rest of its evolutionary course immersed in a crisis environment. However, wasteful investments could be strongly resisted by the population in cases where the prevailing environmental and technological conditions would not have permitted the generation of the resources needed to finance these works (Hayden 1996, 1998: 22).

The negative effects of "conspicuous consumption" have been called upon to explain the collapse of major power centers of the Classic Maya Period such as Copan, Tikal and Altar de Sacrificios (Culbert 1988: 76, Hosler et al 1977; Webster 2002: 13,
Willey and Shimkin 1973: 485-86). In the Andean case, this factor was apparently involved in the major power reconstitutions that occurred during the Moche Period. In the Moche River Valley, for example, a rejection of the aggrandizing behavior and individualistic tendencies of Moche IV leaders would have given rise to the ideological reformulation that led to the Moche V phase (Bawden 1996: 276). In the urban center of Pampa Grande, the massive energy drain generated by the participation in continuous construction programs fostered by the elites would have been one of the triggering factors of the popular disobedience that led to the collapse (Shimada 1994a: 167, 249).

**Economic factors of recovery**

Perhaps one of the most negative aspects of the collapse model proposed by Joseph Tainter, which largely derives from its alleged universal application, is its tendency to assume the inexorability of the event. By ensuring that “declining marginal returns are an internal aspect of any society”, Tainter (1988: 209) leads us to believe that collapse is inevitable. Tainter assumes this inevitability even though considering that elites could have reverted crisis situations through the attainment of an emergency energy subsidy (Tainter 1988: 124). When trying to apply Tainter’s model, the collapse investigator is therefore compelled to pay attention only to those factors that would have increased the maintenance costs of complex political systems (Blanton 1990: 422). Any possible solution implemented by the elites to alleviate the pressures set on the subsistence economies of the populace is considered to be inconsequential.

In my opinion, it is a mistake to assume that elites were simple passive agents of collapse. This view contradicts the premise that complex societies were problem-solving
organizations, and that the leaders of complex societies had enough manpower and resources at their disposal to overcome most contingencies faced by the group (Ericsson 1999: 641, Santley et al 2000: 158). A serious study of collapse should pay attention not only to the factors that would have weakened the subsistence economies of the masses, but also to all viable avenues of economic recovery that the elites might have exploited to their advantage. One lesson offered by this study is that the collapse trajectory evidenced by any particular society will depend, to a large extent, on the outcome of the responses implemented by the elites to reverse situations of internal stress (Chapter X).

Undoubtedly, many situations could have induced a state of crisis. There were also many economic strategies that the elites could have implemented to revert this condition. In the Andean case, one of the immediate alternatives of response would have consisted in strengthening supra-communal mechanisms of reciprocity and redistribution (Ramirez 1996: 40). If the subsistence economies of the peasants were immersed in a consistent trend towards deficit, the most logical path towards recovery was through a direct disbursement of resources. However, under conditions of widespread stress, there would have been limits to what the elites themselves could have contributed. The solution in these cases rested on attaining an additional energy subsidy (Tainter 1988: 124) that could have helped to alleviate the tributary burden imposed on the population, and/or increased the productivity of the dependent domestic units.

In this section, I review three strategies of economic recovery (territorial expansion, expansion of the agricultural frontier, and export of valuables) that could have boosted political economies under severe stress. As was the case of the “predisposing factors of collapse”, I selected these three strategies for discussion, not only because there
are clear traces of their occurrence in Andean archaeology, but also because they are implicated in the collapse case reviewed in this study. When analyzing these strategies, it is important to bear in mind that none of them represents a universal solution to all scarcity problems. Some strategies are better suited to counteract specific factors of economic decline than others. It depended on the elites, therefore, to identify the specific force that was leading the group into a state of internal crisis and to implement, after a careful revision of the available resources and manpower, the most viable course of action. A wrong decision within this context could have precipitated, rather than prevented, political collapse.

1. Territorial Expansion.

There are two advantages that territorial expansion confers to groups that are experiencing a situation of internal stress. When a new population is annexed, the expansionist group amplifies the base of contributors, achieving the double effect of increasing the income of the political economy, while at the same time diminishing the tributary pressure set on every subject (Murra 1999[1955]: 157). The territorial expansion can have a second positive effect, especially in the case of societies that are already experiencing a situation of demographic pressure. The annexed territory may contain vast tracts of prime agricultural land that remain sub-exploited or even unoccupied. In this case, the farmers of the expansionist group who were applying intensive farming techniques or were exploiting marginal land, can be relocated to the new lands won. In this new setting, the farmers become colonists and are given the opportunity to revert to
simpler agricultural techniques that would allow them to obtain a high yield with little effort.

Joseph Tainter (1988: 124) points out, however, that strategies of territorial expansion can sometimes turn counterproductive – when an aggressive polity decides to expand its borders, it also increases the number of potential hostile neighbors. The elites were, therefore, responsible for conducting a thorough assessment of the costs and benefits involved in this strategy before conducting the final expansion. Despite Tainter’s warning, one can anticipate that not all the confronted scenarios would have been necessarily negative. One can argue that, if conditions permitted, a solution commonly adopted would have been to lead the expansion into regions that, while presenting a high agricultural potential, remained under-populated and/or occupied by poorly organized groups. This strategy was commonly favored by some Andean expansionist states (LaLone and LaLone 1987: 51-53, Murra 1999[1955]: 252, Schreiber 1992: 161, Williams and Nash 2002: 255).

A second level of difficulty was represented by regions occupied by better organized groups, in which the assimilation was accomplished not by forcible means but by mutual agreement. In these cases, local elites accept the subordination to the foreign power as long as it favors their own interests (D'Altroy and Earle 1985: 193, Earle 1990: 69). Finally, a third degree of difficulty was represented by armed expansions into territories occupied by other complex societies. Generally, these costly ventures could only be carried out by organized empires with a large population base, an exalted military apparatus, and large resource reserves (D'Altroy 2001b, Smith 2001, Hassig 1988). In this study I suggest, however, that this strategy could also have been followed by
desperate, less complex groups, which had already exhausted other viable alternatives of economic recovery (Chapter X). The high costs that are inherent to strategies of forcible subjugation would be responsible for the relatively short life-span of most prehistoric empires (Sinopoli 1994: 162).

2. Expansion of the agricultural frontier

The expansion of the agricultural frontier would have represented a viable recovery alternative especially for societies that were already suffering the drawbacks of intensive agriculture (Johnson and Earle 1987: 13; Moseley 1982: 11). Within this strategy, the elites, using the vast amounts of manpower at their disposal, design and implement ambitious projects of productive infrastructure aimed at expanding the total area of land under cultivation. Thanks to the implementation of these projects, areas traditionally deemed as marginal are transformed into highly productive land.

It should be noted that not all archaeological projects of agricultural expansion can be considered valid strategies of economic recovery. As indicated above, some of these projects were implemented in the lands that the elites surrogated to themselves. As long as the resources generated were invested in the maintenance of an over-dimensional elite segment, or to fund their costly ideological programs, these projects would have reported little or no benefit to the productive base. Archaeologists interested in solving collapse cases need a practical way for discriminating between projects that were originally aimed at serving the sectarian interests of the nobility, from those that were designed to improve the living standards of the popular mass. I believe that a viable way

---

7 These two interests, however, are not necessarily irreconcilable. Even if these projects were conceived for the benefit of elites, local leaders still could have used part of their production to subsidize the depressed
to solve this dilemma is by examining the style and general characteristics of housing facilities and other types of buildings associated with the agricultural facilities. If the landscape is dominated by administrative buildings, which express the official style and functional design of the elite class, we can conclude that the project was designed for the sole benefit of the dominant group. Notable Andean examples of these projects are the Tiwanaco raised field systems of the Catari Valley (Kolata 2000: 174), the Chimú irrigation projects of “Milagro de San Jose”, “Quebrada Katuay” and "Quebrada del Oso" (Keatinge 1974, Keatinge and Day 1973), and the Huari agricultural terraces of the Carhuarazo Valley (Schreiber 1992: 151), among others. If, by contrast, capital investments in agriculture are surrounded only by small ranches and rural homes, it can be concluded that the project served the collective interests of the masses. In the Andean area, even though examples of the latter developments are scarce, they are not entirely absent. Some possible cases include the Moche land reclamation project of “Quebrada de Lacramarca” (Wilson 1988: 207, 222), and the Chimú irrigation project of “Cerro La Virgen” (see Keatinge 1975, although this author has a different interpretation).

In respect to the viability of these projects, it is safe to argue that they escaped the organizational capacities of complex societies that were being subjected to severe environmental disruptions. In terms of agricultural practices, these stressed groups displayed a different type of response, which could be easily termed “redefinition of productive strategies” (Moseley 1983b, Stanish 1987, Treacy 1994: 111). In the case of Andean societies, these strategies commonly involved the implementation of efficient water management methods, contraction of irrigation systems, experimentation with new subsistence economies of the masses. The discrimination method presented above becomes relevant for collapse studies if it can be demonstrated, for example, that the elite-serving projects were initiated when the central institutions of power were already yielding a “declining marginal return”
types of cultivars, and the exploitation of alternative sources of water, among others (Stanish 1987: 357). While these projects also demanded high investments of labor, they can not be confused with the ones described above, because their implementation did not lead to an effective increase of productivity. In the best cases, these projects only guaranteed the minimum amount of resources necessary to survive the contingency. In the worst scenarios, these projects only allowed a short prolongation of a condemned existence.

3. Exports of valuables

Another economic alternative that the leaders of complex societies could have followed to avoid the total economic degradation of the population base was “administered international exchange” (Rathje 1971, 1973). This strategy implied ensuring a steady supply of staples through the participation in a macro-regional exchange network. The goods that elites could have offered for exchange would have been non-edible natural resources (especially minerals), finished objects, or even some sort of special knowledge that was highly valued by foreign groups. This alternative of economic recovery would have been especially useful for groups that were suffering extreme food shortages. The food obtained from the exchange transactions could have been directly injected into the subsistence economies of the masses, or could have been derived to the political economy of the elites, freeing the depressed peasants of part of their mandatory labor obligations.

This strategy of economic recovery is inspired by a model that William Rathje (1971, 1973) presented to explain the flowering and decline of the population centers of
the nuclear Maya area. According to Rathje, these centers thrived while their leaders were able to supply their local populations with essential goods (obsidian, salt, hard stones) that were obtained from peripheral communities. The goods that the centers offered for export were prestige objects (polychrome ceramics, decorated textiles, carved wooden objects, feather artifacts) and even esoteric knowledge (calendar, writing, stone carving) (Rathje 1973: 411). Rathje (1973: 443-44) surmised that the collapse of the central states of Peten occurred when the peripheral communities stopped requiring their valuables, either because they themselves developed their own versions of elite culture, or because they were integrated into new exchange spheres.

Rathje’s theory, although no longer credited (Culbert 1988: 78, Sanders 1973: 354, Webster 2002: 161), offers an interesting perspective on the strategies that were open to elites for ensuring an extra supply of economic subsidies. A significant share of resources may have been secured through the promotion of an export economy centered on goods that were highly priced by peripheral groups. In the Andean area, a pre-Hispanic case that resembles the model of international trade would have been focused on the export of precious minerals. The Spanish chronicler Polo de Ondegardo (1917, quoted in Ramirez 1990: 527, see also Rostworowski 1989: 286) wrote that, before the Inca conquest of northern Peru, some northern highland communities offered gold and silver to their coastal neighbors in exchange of edible goods. Polo de Ondegardo specified that this trade was controlled by curacas, and that it involved large-scale movements of goods and comestibles (obviously accomplished through the use of llama caravans).
The case described by Polo de Ondegardo is extremely important for the interests of this study. On the one hand, it proves that a trade economy centered on the export of highly valued goods, in this case gold and silver, was a feasible strategy for attaining external food subsidies. In this specific Andean case, we can infer that the strategy remained viable as long as the costs of maintaining the mining operations surpassed the benefits provided by this trade\(^8\). The case described by Polo de Ondegardo is also interesting because it proves that some pre-Hispanic north Peruvian highland groups coveted the agricultural production of their coastal peers. These groups deployed, then, actions to gain access to this production, in this case, involving peaceful means.

**Detonating factors of collapse**

By “detonating factors of collapse”, I mean the bad decision made by the elites that, by negatively affecting a population base that was already experiencing serious economic privations, may have fostered a general rejection of the prevailing political order. Following the tenets of Tainter’s model, we can admit that some complex societies disappeared when they faced “major, unexpected stress surges” (Tainter 1988: 121). In these cases, the factors triggering collapse were of an external nature, chiefly involving environmental disturbances or violent invasions. It can be argued, however, that many societies collapsed due to problems generated within the bosom of the group. Since the elites were the ones responsible for ensuring the general welfare of the group, these problems may well relate to flaws that elites committed in achieving this task (Balandier

\(^8\) Susan Ramirez (1995, 1996) stressed that, during Early Colonial times, many north coast *curacas* pursued a special type of economic strategy that consisted in letting foreign groups exploit the resources of the lands under their jurisdiction in return for part of the total revenues. If this practice was also followed by highland *curacas* during the pre-Hispanic era, then the exploitation of mineral deposits of the high Andes would have not represented heavy energy expenditure for their subjects (Ramirez 1995: 141, 1996: 51, 155).
Elites who demand valuable resources for their support, and that fail to satisfy the expectations of the broader society, may be viewed as incompetent and encourage attitudes of rejection (Tainter 1988: 208).

Since the internal detonating factors of collapse rarely leave obvious signs in the archaeological record, their study forces us to enter the broader field of speculation. This is perhaps the main reason why these factors have been rarely treated by archaeologists pursuing collapse investigations from the standpoint of regional archaeologies. I think, however, that we can reach a general idea of the elite-driven factors that would have proved devastating for the continuity of political orders by combining theoretical precepts derived from general theory of complex societies, with information regarding principles of Andean social organization derived mainly from ethno-historic texts. The main detonating factors that, in my opinion, have special relevance for Andean groups are: insufficient redistribution, ideological crisis, and heavy reliance on physical strategies of coercion.

1. Insufficient redistribution

Patron-client relationships that take place within the realm of traditional societies are commonly regulated by strict social rules that specify the rights and obligations of the participants (Scott 1976). With regard to the appropriate rules of conduct that the elites had to display towards their subjects, there were two obligations that they could never overlook. These rules included the obligation of engaging in reciprocal relations with their subjects, and the obligation of respecting the right of subsistence of the peasant families (Scott 1976: 167). Transculturally, these responsibilities could be expressed in
both maximum and minimum terms. At a maximum, elites were compelled to subsidize the subsistence economies of the peasant families that fell into deep economic crisis. At a minimum, the elites were required to make sure that the tax burden levied on farmers would not endanger their survival (Scott 1976: 178-79). Given that the authority of the elites rested on the respect of these basic obligations, failures in their fulfillment undermined the normative foundations of their political power.

In the Andean case, the elites ensured the livelihood and welfare of their subjects through the implementation of policies of reciprocity and redistribution. The local lords were expected to respect strict canons of hospitality and generosity every time they summoned their followers to work in agricultural or corporate projects (Murra 1999[1955]: 177; Netherly 1977: 211). The lords were also expected to ensure the distribution of part of the agricultural produce raised in their fields, especially in the form of chicha beer during major ritual festivals (Netherly 1977: 216-217, Ramirez 1982: 124, Rostworowski 1989: 279). It is also likely that the Andean lords assumed a more active role in sustaining dependent households in crisis. This is demonstrated by unique ethno-historic texts, that document extraordinary cases of curacas ceding part of their belongings to dispossessed subjects in their wills (Ramirez 1998: 223), or of North Coast curacas who sold part of their ritual paraphernalia (silver goblets) in order to cover a shortfall in the annual tax quota that their subjects had to render to the Spanish Crown (Huertas Vallejos 1987: 109, 115).

All these responsibilities represented socially-sanctioned rules of conduct, whose violation entailed serious consequences for the perpetrators. One can argue, then, that lords that failed to comply with these obligations, either by personal ambition or because
their own depressed economies did not permit excessive disbursements, would have run
the risk of being removed from their command positions. This occurred especially in
situations in which the community was experiencing a condition of extreme famine.
While the feasibility of these scenarios could be doubted, ethno-historic documents
provide a few examples of forcible destitutions occurring in the northern part of Peru.
John Murra (1999[1955]: 140), for instance, recollected the case of a curaca of the
Chachapoya ethnic group (northern Peruvian rainforest) who, during Inca times, was
hanged along with his entire family for demanding his subjects work his lands before
giving assistance to a widow. Patricia Netherly (1977: 180), on the other hand, cites the
case of Xancol Chumbi, the last pre-Hispanic curaca of the Reque polity (North Coast of
Peru), who was assassinated by his own subjects for requesting an excessive quota of
textile garments that he was planning to sell to the Spaniards. While it is impossible to
know all the specific circumstances that led to these executions, it is clear that the
forcible destitutions were intimately linked to the violation of fundamental rules of
reciprocity.

2. Ideological crisis

Not all services rendered by the elites were of mundane character. The elites
claimed supernatural powers, arrogating to themselves the ability to mediate between the
earthly order and the world of the ancestors and other fundamental forces of nature
(Hayden 2001: 261, Ramirez 1998: 217). These assumed supernatural abilities were
backed up by a complex ideology of power that was periodically exposed to the masses
through rituals and other elaborate forms of materialization (DeMarrais 1997). Well
known are, for instance, the bloodletting rituals conducted by the Maya elites in order to ensure continuity of the cosmic order (Sharer 1994: 539). The Moche ideological strategies seem to have been somewhat more ambitious. There is evidence that proves that the Moche elites, far from being satisfied with the role of mediators, often personified their own deities (Alva and Donnan 1993: 141, Donnan and Castillo 1992). The dangers involved in these types of ideological strategies are obvious. If the propitiatory rituals conducted by the elites failed to solve a major crisis, then their purported supernatural powers, on which their right to govern partially rested, might have been questioned. Elites who claimed divine personalities could have faced a worst scenario, since they could have been directly blamed for the contingency (Bawden 1996: 274).

Not every case of ideological crisis, however, can be considered a detonating factor of collapse. Terry Eagleton (1991: 45) suggests that dominant ideologies are commonly maintained in a state of flux, part as a response to the need to resolve their internal contradictions, and part as a requirement to adapt them to a changing social reality. The elites were prone to change the contents of their ideological programs if they felt that they did not resolve the conflicts that affected their relations with the lower class. In Moche archaeology, we have two notable cases of ideological renewal, which interestingly seem to have been aimed at liberating the elites of their alleged supernatural personalities (Bawden 2005, Castillo 1993: 75; see Chapter IV)\(^9\). However, if a serious ideological contradiction became evident at a time when the commoners were suffering

---

\(^9\) One way of proving that the demise of a cultural entity was related to a case of ideological failure is precisely when a major process of ideological revitalization is detected during the final phases of its evolutionary sequence.
serious economic privations, and the subsequent renewal process did not reverse this trend, the ensuing “ideological crisis” would have damaged the credibility of the elites.

3. Physical coercion

Maurice Godelier (1978: 767) suggested that the power of domination exercised by elites rested on two closely related elements: violence and consent. Of these two components, the latter tends to offer the best results (ibid.). One can argue, then, that a successful official ideology is one that can induce the masses to think that the established order is highly beneficial for everyone. Such an ideological construct would generate an almost unconditional acceptance (Janusek 2005: 179). David Friedel (1992) thinks that this tendency was manifested in Maya ideology, which he characterized as “… a collective enterprise involving nobility, craftspeople, peasants, the spectrum of society” (Friedel 1992: 116).

Michael Mann (1986) established a rigid distinction between two power strategies that he called military (which is focused on coercion) and ideological (which is transcendent or immanent). I think, however, that differentiating these strategies in practice is extremely difficult. This difficulty is reflected by the fact that many ideologies of power, including those apparently focused on the common welfare, were imbued with implicit messages of coercion. Such was the case, for instance, of the Moche and Maya elite ideologies, whose material manifestations commonly recurred to violent images of capture, torture, and execution of prisoners (Donnan 1978: 158-73; Franco et al 2001, Photo 3; Hamblin and Pitcher 1980: 249; Miller 1986). When talking about coercive strategies of control, it is useful, in my opinion, to make a distinction between strategies
of physical coercion and strategies of subliminal coercion. The former refer to the violent means of control and punishment that the elites used to ensure compliance. The latter refer to ideological messages that expressed the feasibility of a violent penalty for misconduct, even though this penalty was seldom effected in real life.

Physical coercion might have been the last resort for leaders who wanted to suppress social unrest (Abercombe et al 1980: 159). The strategy also would have been the most resisted by the commoners. James Scott (1990: 109), for instance, suggested that “forced compliance not only fails to produce attitudes that would sustain that compliance in the absence of domination, but produces a reaction against such attitudes”. It is possible to argue, then, that elites who frequently resorted to forcible means of control would have inadvertently undermined the foundations of their own authority. This problem would have been particularly acute in the case of Andean leaders, who were impelled by social norms to give clear signs of hospitality and generosity. Perhaps this fact explains why the Moche leaders commonly relied on strategies of subliminal coercion for ensuring social compliance. It is true, however, that they sometimes resorted to physical means of control, as exemplified by the mass human sacrifices of Huaca de la Luna (Bourget 1998) and the walls that segregated the low-status population of Galindo (Bawden 1982a: 313). Theory predicts that these measures would have instigated social resistance. At least in the Galindo’s case, this resistance ultimately led to political collapse (Bawden 1996: 314).
The character of the popular disaffiliation

A final research topic that any serious collapse study should address refers to the character of the popular disaffiliation. The importance of this inquiry lies in the fact that, as long as this disaffiliation does not take place, the political system can not be considered concluded. Unfortunately, archeologists investigating collapse cases have tended to neglect this research topic, perhaps by a lack of confidence of finding clear cause-effect connections. However, these events can leave clear traces in the archaeological record, which sometimes can help us to identify the specific course taken by the disengagement. Once this course has been identified, theoretical propositions, derived from comparative anthropology, may even help us to attempt an approximation at the possible detonating factors that would have prompted the mass desertions.

The popular disaffiliation can take two broad forms – it can manifest violent overtones, or it can be conducted in a peaceful way. To understand what conditions favor these two alternatives, especially the most violent, the tenets of peasant resistance strategies put forward by James C. Scott (1976, 1990) are of utmost importance. It must be stated, however, that Scott himself admitted that his ideas regarding commoner response to oppression remained basically conjectural (1976: 195). Nevertheless, I have noticed that some of his propositions are supported by a few archaeological cases. In this arena, the Andean area stands in a clear disadvantage position, because little archaeological and ethno-historical information bears on this topic. This is no valid reason, however, to avoid reviewing the possible conditions that can lead to violent or peaceful defections.
Peaceful disaffiliation

The peaceful variant of social disaffiliation would have been the most common among agricultural societies in crisis (Scott 1976: 203). Small farmers are basically risk minimizers, and one of the strongest deterrents of rebellions would have been their assessment of the risks involved in violent actions (Scott 1976: 195). In fact, Scott reminds us that impoverished peasants, before confronting oppressive regimes, prefer to adopt a series of emergency measures that, although involving a high quota of sacrifice, still make subsistence viable. These adjustments include: short-term migration, the reliance on starvation foods, poverty sharing, putting all of the family to work, the adoption of low-output manufacturing activities, getting used to eat less, or even social banditry (Scott 1976: 194, 204). One can consider, however, that even these strategies would have had their limits. Once exceeded, peasants would have been forced to stop providing subsidies to the central institutions of control.

There are two specific conditions that would have favored peaceful defections: the lack of environmental or social circumscription (sensu Carneiro 1970), and regimes that did not rely on physical coercion for ensuring social compliance. In the Andean case, the viability of the first alternative is supported by a singular observation made by the Spanish chronicler Pedro Cieza de Leon. Writing in the late 1540s, Cieza suggested that one factor that made the subjects of the Inca Empire soft and prone to serve, was precisely the absence of fertile and uninhabited places where they could flee:

“[…] porque la tierra del Perú toda es despoblada, llena de montañas y sierras y campos nevados. Y si [los comunes] se salían de sus pueblos y valles a estos desertos, no podían vivir ni la tierra da fruto, ni hay otro lugar [habitable] […] que los mismos valles y provincias suyas. De manera
This opinion can also be stated in opposed terms: the existence of fertile and uninhabited sanctuaries would have represented a pole of attraction for farmers who wanted to escape from repressive regimes. This specific situation occurred in the North Coast of Peru during the first decades of the Spanish conquest (Ramirez 1996). The demographic catastrophe brought on by the Spanish settlers opened the possibility of massive human migrations. In order to evade the high taxation rates imposed by the Crown, the natives fled the places where the Spanish exercised greater control. Towards the late 1560s, this situation became so chaotic that the Spanish government decided to implement the policy of reducciones. This policy meant concentrating the surviving indigenous populations in a few settlements where monitoring activities would be feasible (Ramirez 1996: 30). A similar situation would have occurred in the Maya area by the end of the Classic Period. The collapse of the Maya states of the Southern Lowlands was made possible to a high degree by the existence of peripheral groups who were willing to receive the fleeing lowlanders. These groups were located to the north of the Yucatan Peninsula (Willey and Shimkin 1973: 470-71, Webster 2002: 199) and/or in the highlands of Chiapas and Guatemala (Sanders 1973: 364, Weaver 1993: 356).

Another condition that would have favored peaceful desertions would have been the absence of an official policy of physical coercion. Farmers, knowing that their refusal to obey their leaders would have not entailed physical punishment, would have felt free

---

10 “...[...] for the Peruvian land is all desolated, filled up with mountains, ridges, and snowed fields. And if [the commoners] would leave their towns and valleys for these deserts, they would not be able to survive nor the land gives fruit, nor is there another [habitable] place than their own valleys and provinces. This is why, in order to avoid dying, [commoners] have to serve [...]”.
to abandon their patrons. However, it is clear that the messages of subliminal coercion implicit in many ideologies of power would have also constituted a strong factor that inhibited popular disobedience. Peasant desertions therefore rarely took the form of individual actions validated on earthly needs. On the contrary, James Scott (1990: 115-18) reminds us that peasants faced the challenge of confronting official ideologies by building their own ideological proposals, which were also imbued with metaphysical concepts. These peripheral ideologies have been called “revitalization cults” by Anthony Wallace (1956, 1966) and “crisis cults” by Weston La Barre (1970, 1971). According to these authors, these cults were commonly initiated by a charismatic figure who took over prophetic functions. This individual usually belonged to the most depressed sector of the population, and was able summon a large number of followers as long as his proposition embraced the needs and aspirations of the dispossessed mass (LaBarre 1971: 20, Scott 1990: 103, Wallace 1956: 273.). Given that these cults offered the possibility of group action, they represented a viable alternative to the orders led by the criticized leaders. In the Andean area, Izumi Shimada (1990: 359) and Richard Burger (1988: 139) think that the Sicán (AD. 900–1150) and Chavin (1000–200 BC) pre-Hispanic religions had crisis cult connotations.

**Violent disaffiliation**

James C. Scott (1976) has identified three conditions that tend to incite violent responses from oppressed masses, based on his historical and anthropological studies of peasant societies of South Asia. These conditions refer to special features of the natural environment, social organization, and the type of domination strategy implemented by
the group in power. While there are interesting coincidences between the occurrence of these conditions and historical cases of revolts, it is important to mention that the simple correlation between events does not determine a causal relationship. The inherent propensity of a given group to resort to violent actions will depend on a variety of factors, which include social values, the ethnic origin of the elites, the type of economy, and the nature of the disturbance, among others. (Scott 1976).

First, in his review of historical peasant revolts in South Asia, Scott (1976: 198) found that populations living in regions with a highly unpredictable productive regime were more prone to display violent behavior. In these cases, the violent outbreaks appear to be related to unreasonable taxing policies. A fixed annual tax rate that demands a high contribution of resources may be acceptable to farmers in a year of good harvests, but can be unacceptable in years of famine.

Second, Scott (1976: 201-202) suggests that the proclivity for rebellion also depends on the type of social cohesion manifested by the peasants. The most dangerous groups are those who manifest strong communal bonds and absence of class divisions. The strong social cohesion offers opportunities for collective action. The lack of social differentiation guarantees a widespread social impact for excessive tax demands. Elites facing these types of groups must take care never to apply high and abrupt increments of the tribute quotas. If the shock is sudden and affects a large number of people at the same time, peasants will have neither the time nor the appropriate mitigating mechanisms to assimilate the impact (Scott 1976: 194).

---

11 Scott (1976: 202) admits, however, that these two social characteristics sometimes act as deterrents, rather than motivators, of rebellions. First, because when a sudden economic shock hits an undifferentiated population, its negative effects are evenly distributed among a large number of people. Second, because groups that manifest high internal cohesion commonly have highly developed mechanisms for mutual assistance.
Finally, a rebellion may be triggered when an unpopular, oppressive regime suddenly shows signs of weakness (Scott 1976: 228). These signs may take many forms, including failing to punish isolated acts of public defiance, a major defeat in an external war, or failing to monitor secret places where common people meet to share and strengthen their secret agenda or “hidden transcript” (Scott 1990). This weakness can offer a real or perceived opportunity to depose a regime that did not respect acceptable patterns of social behavior. This scenario finds an interesting manifestation in an archaeological model proposed by Rene Millon (1981, 1988) to explain the collapse of the Teotihuacan state. Million established a causal relationship between the proliferation of military themes in the elite iconography of the Metepec phase (AD 650-750) which he believes reflects a hardening of repressive strategies, and the subsequent popular uprisings that were focused on destroying the most representative symbols of the central government.

Conclusions

This chapter offers two important contributions to the archeological study of collapse. The first refers to a collapse definition that not only specifies the specific characteristics of the phenomenon, but also has the special virtue of highlighting the unequivocal archaeological traces of its occurrence. To recapitulate, this definition suggests that collapse involves the termination of an established political order, and is manifested archaeologically by the physical disappearance of a traditional group of rulers, together with their everyday practices and their programs of materialization of ideology. This definition is based on valuable ideas proposed by other researchers, such
as the notion that the collapse is a political process (Tainter 1988: 4, Yoffee 1988: 15), and that political regimes can be archaeologically identified by the specific nature of the programs of materialization of ideology that they implemented (DeMarrais 1997, DeMarrais et al 1996).

This definition does not consider other possible outcomes that, according to some authors, are symptomatic of these processes. These aspects include the idea that collapse necessarily entails a regression to a simpler organizational level (Bronson 1995: 197, Tainter 1988: 198, 1996: 8), that collapse is always induced by a disproportionate growth of the administrative apparatus (Cowgill 1988: 263, Tainter 1988: 115, Yoffee 1979), or that collapse is accompanied by a dramatic demographic breakdown (Tainter 1988: 20). These assumptions have been discarded for two reasons. First, because these processes do not necessarily leave obvious signs in the archaeological record, and second, because these processes would not have been manifested by every archaeological collapse case.

The second main contribution consists of a new method for investigating collapse cases, represented by a five-point research scheme. This scheme forces the investigator to clarify in his collapse explanation all the significant factors that were involved in the fall of a political order. These factors include: a) the specific type (and impact) of tributary system imposed on the general population, b) other possible factors that would have affected the living standards of the peasant masses, c) the strategies for economic recovery that the elites could have implemented to alleviate existing tensions, d) the bad command decisions that would have exacerbated popular tolerance, and e) the specific course taken by the popular disaffiliation. In my opinion, this new research method overcomes key difficulties that were inherent to previous models. On the one hand, it
frees us from the extreme rigidity and low resolution of general collapse models. On the other, it frees us from the marked particularism and low comparative potential of the regional collapse explanations.

My interest in developing a new research strategy arose from my conviction that Andean societies displayed unique organizational patterns, which may not be adequately covered by general collapse models (Tainter 1988), or collapse explanations inspired by societies that developed in other areas of the planet (see, for instance, Yoffee 1979). The most striking peculiarities of Andean societies that forced my formulation include: a) the absence of a market economy, b) the reliance on corveé labor as a major source of revenues, c) the primacy that the principle of reciprocity held for ensuring social balance, and d) the leading role played by ideology as a strategy for mass control. To these we can add the fact that no past Andean complex society, not even those that based their subsistence on elaborate forms of irrigation agriculture, ever became an authentic hydraulic/bureaucratic state in the Mesopotamian sense of the term (Netherly 1990: 481).

My research proposal is enriched by tenets of general theory of complex societies (Johnson and Earle 1987), and peasant subsistence politics (Johnson and Earle 1987; Scott 1976, 1990; Netting 1993). To these I have adapted relevant ethno-historical and archaeological information relating to the particular organizational strategies of Andean societies, in order to develop a proposal that is applicable to the groups that occupied the north coast of Peru. From this theoretical and factual combination emerge the following research premises:

- Every complex society is a problem-solving organization. In this sense, these organizations represent an adaptive strategy that a group of people freely
adopts in order to solve problems inherent to processes of population expansion (Johnson and Earle 1987: 16).

- The politico-administrative institutions of complex societies require energy to operate, and the provision of this energy is entrusted to the common people (Tainter 1988: 118).

- In the specific case of Andean societies, the central institutions of power acquired the resources needed for their maintenance through compulsory labor obligations assigned on the common people, besides other minor economic contributions (Murra 1995: 59, 2002[1983]).

- In the Andes and elsewhere, the common people prioritized their energy expenditure in the maintenance of their own subsistence economies. This expenditure was restricted to meeting the immediate survival needs of domestic units, and was governed by principles of risk management (Johnson and Earle 1987: 12, Scott 1976: 13).

- Various deleterious factors (demographic pressure, internecine war, environmental perturbations, elite proliferation, etc.) may adversely affect the subsistence economy of the peasant masses, generating productivity levels below the “subsistence crisis threshold” (Scott 1976: 17). These factors are a source of popular discontent and threaten the stability of the socio-political order.

- The group’s leaders, far from being passive witnesses of the people’s ruin, had the capacity to implement the necessary measures to level off the subsistence economy of their subjects and ensure, at the same time, the continuity of the
socio-political order (Ericsson 1999: 641, Santley et al 2000: 158). In the Andean case, the most important solution would have consisted in strengthening mechanisms of macro-communal redistribution.

- In addition to this solution, there was a series of economic strategies (territorial expansion, expansion of the agricultural frontier, and/or export of valuables) that elites could have applied to gain an additional energy subsidy. The income derived from these strategies could have been directly invested in the political economy (relieving the tributary load set on the peasants), or even injected into the depressed household economies of the commoners.

- If, under a situation of economic stress, the elites did not take the appropriate measures to raise the economic productivity of their subjects but, in contrast, displayed socially questionable acts of behavior, political breakdown may ensue.

- Political collapse occurred, generally, when the popular mass voluntarily decided to stop providing subsidies to the central power institutions (Tainter 1988: 121). This disaffiliation could take peaceful or violent forms, depending on the specific environmental, social, and political conditions that surrounded the affected group.

While these premises are arranged in an apparently rigid sequence, they anticipate many viable alternative conditions that would have generated multiple paths toward collapse. The only way to address such a variable picture is through an investigation scheme flexible enough to deal with all possible scenarios. The scheme is based on the assumption that any collapse case can be comprehensively understood only by
elucidating five research topics. Research should be aimed first at defining how the existing tributary strategy would have affected the subsistence economies of the commoners. It is evident that some tributary strategies would have been more difficult to bear than others and, hence, would have had greater disruptive potential. Second, the scheme compels us to assess the destructive potential of other deleterious factors that could have hit the group, weakening the economies of the population mass. These factors commonly generate a situation of popular discontent, but are not sufficient cause for collapse. Third, the scheme forces us to visualize past elites as active decision-makers and, therefore, compels us to evaluate the possible implementation of strategies of economic recovery. Some of these strategies might have induced a full economic recovery, while others would have only slowed down the process of economic decay. Fourth, we should also investigate the existence of “detonating factors of collapse”, that is, ill-conceived official policies that would have exceeded the tolerance of the masses. It is important to note, however, that all the examples detonating factors mentioned in this chapter are absolutely harmless without a prior condition of socioeconomic crisis\textsuperscript{12}. Finally, the scheme proposes that a collapse investigation reaches completion only when the character of the popular disaffiliation is elucidated. I think it is important for archaeologists to understand the specific course taken by this disaffiliation, since it may lead us to clarify the general conditions that prevailed within the group at the time of collapse, and even the specific detonating factors that were involved in the final demise.

\textsuperscript{12} James Scott (1976: 177) argued that “if the balance of exchange [between elites and subjects] is deteriorating but the material situation of the cultivator’s family is stable or even improving, discontent may be evident but it is unlikely to provoke massive unrest”.
CHAPTER III

MOCHE CULTURE HISTORY

The Moche culture developed in what is now the North Coast of Peru between the years 100 and 850 AD. This culture has been appropriately described as "the primary cultural development on the Peruvian coast during the first millennium" (Shimada 1994a: 9). This designation is not only sustained in the high development manifested by Moche arts and crafts, but also in the significant progress that this culture made in the realm of socio-political complexity. In fact, many authors interpret the Moche culture as the first state development that occurred not only in the central Andes, but also in all of the South American Continent (Billman 1996, 1999; Conrad 1978; Donnan 1973; Marcus 1998; Moseley 1983a, 1992; Shimada 1994a; T. Topic 1977, 1982; Wilson 1988).

This chapter is devoted to the description of the most significant features and developments of this distinguished cultural formation, including information on complexity, evolutionary sequence, natural environment, economy, political organization, and patterns of interaction with neighboring highland cultures. This chapter is organized to meet two specific ends. First, this chapter provides basic information that will allow the reader not familiar with Moche archaeology to gain a general understanding about this cultural phenomenon. Second, this chapter presents a series of data that, combined with the arguments presented in the previous chapter, are essential to the general organization of this dissertation and to understand the process that led to the collapse case addressed in this study. Especially important in this regard are four themes related to
Moche organizational strategies: a) ideological programs, b) economic strategies, c) socio-political organization, and d) relations with neighboring groups. Peripherals topics that are not essential for the organization of the central argument of this dissertation, as is the case of the history of development of Moche archaeology, will be treated in a mere tangential way. The reader interested in achieving a more comprehensive vision about the process of discovery of the Moche culture is encouraged to read the volumes published by Bawden (1996) and Shimada (1994a).

**Moche culture as a complex society**

In the previous chapter, I cited a number of features that characterize complex societies. These features often leave clear signs in the archaeological record and are, therefore, accessible to researchers interested in studying extinct cultures. These features include:

2. Presence of large works of productive infrastructure and defense (Johnson and Earle 1987).
3. Evidence of complex programs of materialization of elite ideology which find physical expression in prestige objects, symbolic communication systems, monumental architecture, and massive ceremonies (DeMarrais 1997, DeMarrais et al 1996).

The material evidence left behind by the ancient Moche satisfies, by far, all the criteria that are useful to identify complex societies. In what relates to social inequality, clear indication of wide internal social divisions is represented by evidence of funerary
treatment, iconographic scenes, and housing patterns. First, the royal tombs of Loma Negra (Donnan 1990b: 32), La Mina (Narvaez 1994), Dos Cabezas (Donnan 2003), Sipán (Alva 1988, 1990; Alva and Donnan 1993), San José de Moro (Donnan and Castillo 1992, 1994) and, ultimately, the “Lady of Cao” (Williams 2006), testify, through their exacerbated provision of luxury items, to the special treatment that was dedicated to the most prominent individuals of this society. These contexts contrast sharply with the burials of common individuals, which only include a few, simple offerings (Donnan and McClelland 1997). Second, the rich Moche iconography offers us a rare opportunity to visualize these individuals in real life. The iconographic scenes often make a sharp distinction between prominent persons (who were depicted on a larger scale, leading ritual activities and wearing elaborate garments) and ordinary people (who usually played secondary roles and were dressed with simple loincloth) (Lumbreras 1974: 103, T. Topic 1977: 345). A point of convergence between the funerary and iconographic evidence is that the same ornaments carried by the main figures depicted in the painted scenes have been found as offerings in the more lavish tombs (see Donnan 1988: 550). Third, the same marked social distances that are evident in funerary treatment and iconography are manifested in housing patterns. The few studies of domestic spaces carried out at large Moche settlements demonstrate marked differences between elite residences (which are more spacious, better built, equipped with high quality artifacts, and usually associated with corporate architecture) and the spaces used by the ordinary people (Bawden 1982b, Topic 1977: 352). The presence of intermediate architectural categories suggests some level of inequality within the commoner segment, which is absolutely consistent with the ethnographic evidence (Netting 1993: 189).
In addition to evidence on inequality, the Moche material legacy is also prolific in another indicator of social complexity - large works of productive infrastructure. Johnson and Earle (1987: 209-11) argued that complex societies offered many advantages to their subjects. The most significant contributions were manifested in four areas: risk management, productive technology, military activities, and exchange. Of these four areas, it is possible that production technology is the arena in which the Moche made the most significant advances. Thanks to their irrigation works, the Moche were able to modify the North Coast environment. Their aggressive agricultural practices led them to expand their irrigation networks to the desert margins of the coastal valleys, sometimes exceeding the modern limits of cultivation (Bawden 1996: 236; Moseley and Deeds 1982: 37). In some other cases, desert areas never before exploited were incorporated into the productive landscape (Wilson 1988: 222). The Moche feats in hydraulic engineering stand as one of the most significant achievements made by any North Peruvian cultural formation, and were only overshadowed by similar works carried out by the Chimú several centuries later.

A second major advantage that the Moche complex political institutions would have offered to the broad community relates to the development of better inter-polity exchange mechanisms. Johnson and Earle (1987: 210-11) identified two strategic advantages that complex societies commanded over simpler organizations within the realm of exchange: the ability to carry out large-scale enterprises (sometimes using highly-developed transport technology) and the capacity to negotiate agreements with other centralized polities. Material evidence suggests that the Moche succeeded in these two endeavors. First, it is evident that the Moche made significant improvements in
transport technology. Moche iconography commonly depicts a large-size reed boat with an upper dry deck (see Hocquenghem 1989, figs 109-115). These vessels are a direct antecedent to the large balsa rafts that later pre-Hispanic coastal groups used for the bulk-transportation of commodities between distant regions (Heyerdahl 1995: 16-18). In fact, Japanese researcher Izumi Shimada (1994a: 76, 239) suggests that the maritime traffic between the Peruvian North Coast and the coast of Ecuador, which reached notoriety later, might have started during Moche times. Shimada reaches this conclusion based on the large amounts of Ecuadorian Spondylus shells that he found at the site of Pampa Grande (Shimada 1994a: 216). Coastal communities apparently also conducted frequent exchanges of edible products and other luxury goods (Shimada 1987: 140). Such exchanges, which would have required the negotiation of formal inter-polity agreements, were apparently conducted by sea or overland through the use of llama caravans (Shimada 1982: 163; Shimada and Shimada 1985).

A third essential service rendered by Moche elites refers to the conduction of highly coordinated military actions. War among complex societies serves two collective interests: a) defense against hostile neighbors, and b) the attainment of an energy subsidy (Chapter II). These two objectives were apparently pursued by the Moche leaders of various regional entities. On the one hand, evidence of defensive actions (walled sites, fortifications) has been detected in the Jequetepeque (Dillehay 2001), Moche (Bilman 1996, 1999; J. Topic and Topic 1987; T. Topic 1991: 240), and Nepeña Valleys (Proulx 1985: 280). In these regions, local leaders organized the population in defensive actions to repel other Moche groups (Jequetepeque), or to keep encroaching highland neighbors at bay (Moche and Nepeña). On the other hand, some authors think that a southern
Moche regional polity conducted an aggressive military expansion in the neighboring valleys (Donnan 1973; Conrad 1978; Schaedel 1985a, 1985b; Wilson 1988). In this case, war was evidently aimed at expanding the base of contributors and resources, and resulted in the constitution of the so-called “Southern Moche State” (Bawden 1996: 243-244, Wilson 1988: 335).

Finally, a fourth essential service that the leaders of complex societies offered to their communities relates to risk management strategies commonly manifested by the implementation of corporate storage systems (Johnson and Earle 1987: 16).

Unfortunately, the archaeological evidence that proves the existence of this type of service among the Moche is still imperfect. Theresa Topic (1977: 359, 1982: 275) called the attention to the lack of storage systems in direct association with most Moche monumental structures. This deficiency led her to suggest that the Moche administrators were not deeply engaged in redistributive activities (Topic 1982: 278). In fact, the extensive corporate storage areas detected at the site of Galindo are still considered to be an anomaly, explicable in terms of the serious transformations that affected southern Moche society during the transition between phases IV and V (Bawden 1996: 291). It is necessary to emphasize, however, that the apparent absence of areas of mass storage in Moche sites may be more the product of a slip of researchers than an objective reality. The discovery of the storage areas of Galindo was the product of a carefully-executed research strategy, which is seldom replicated by other North Coast archaeological projects. Indeed, Herbert Eling (1987: 165) and Larco Hoyle (2001a: 259) have highlighted the uniqueness of traditional coastal storage techniques, which easily escape archaeological detection. On the other hand, it is possible that the design of the Moche
corporate deposits was different from the Chimú model, with whom the archaeologists are more familiar (Wilson 1988: 340). So far, these types of deposits have only been identified in the great Moche center of Pampa Grande (Anders 1977, 1981). In conclusion, although archaeological evidence is still lacking, I do not consider it wise to underestimate the redistributive potential of the Moche political orders. Indirect evidence suggests, to the contrary, that this potential was taken to levels never before seen in the North Coast of Peru. This evidence includes: a) the very existence of the Galindo systems (which must derive from previous versions), b) the existence of large Moche feats of corporate labor (which required feeding hundreds of recruits), and c) the success displayed by most Moche political systems, which were able to thrive throughout the centuries on the basis of a balanced and equitable coexistence with the common people.

In sum, Moche culture evidences obvious indicators of complexity not only in the field of social inequality, but also in the specialized services that the central administrative institutions provided to the masses (Johnson and Earle 1987). But perhaps the most striking evidence of complexity is reflected in another key feature of highly developed societies - the programs of materialization of ideology implemented by the ruling classes. As explained by Elizabeth DeMarrais (1997, see also DeMarrais et al 1996), these programs generally manifest themselves in four categories of material culture: monumental architecture, prestige objects, written and symbolic communication systems, and massive ceremonies. The archaeological evidence shows that the Moche elites not only exploited these four physical signifiers to their fullest potential, but also integrated them within a carefully-planned, highly-coherent power strategy.

---

1 The typical Chimú storage areas consist of neatly arranged clusters of identical quadrangular cells, each one having a single, high threshold access (Day 1982: 60).
Perhaps the greatest developments occurred in the realm of monumental architecture. The Moche were great adobe-pyramid builders, and it is likely that no other Central Andean culture built as many of these structures as they did. We find pyramids in all valleys reporting Moche occupations, and some examples reached truly colossal dimensions. Such is the case, for instance, of Huaca del Sol – which is 40 m high and has 1,047,000 m³ of inferred volume (Billman 1996, Table 10.7) – and Huaca Fortaleza – with a height of 54 m and an estimated volume of 1,300,000 m³ (Shimada 1994a, fig. 7.12). Some of these structures included hundreds of adobes marked with simple signs. Authors who have studied the sizes, composition, and distribution patterns of marked adobes concluded that they represented the labor contribution of a series of dependent communities, each one identified with a specific mark (Hastings and Moseley 1975; Shimada and Cavallaro 1985: 69). The Moche offer, hence, unambiguous archaeological evidence of the use of corveé labor to develop the construction projects demanded by the elites.

Putting aside the different meanings that could be attributed to Moche truncated pyramids; there are two main lines of evidence that confirm their role as ideological tools of manipulation:

1. The central role that these structures seem to have played in the process of territorial consolidation that followed the expansion of the Southern Moche State. In the Santa Valley, for instance, the Moche invaders built more monumental structures than any other culture in the regional sequence (Wilson 1988: 336). In the southern Nepeña Valley, on the other hand, 11 of 37 identified Moche sites are adobe huacas (Proulx 1985, Table 2). Michael
Moseley (1978a: 524, 1992: 183) noted that the adobe pyramids of the most important intrusive Moche centers of the southern region reproduced the design and layout of the two main pyramids of the postulated imperial capital. This fact proves the ideological linkages that existed between the peripheral units and the power center of Cerro Blanco.

2. The fact that virtually all major Moche adobe huacas that have been investigated present public spaces (access patios, interior plazas) decorated with polychrome murals and friezes. While a few murals consist of abstract designs (Bourget 2003, fig. 8.1), the vast majority reproduce the rich naturalist iconography that the Moche used to express their complex belief system (Anders 1977, figs.20, 21; Bawden 1996: 289; Bonavía 1961; Donnan 1972; Haas 1985, figs. 11.16; Mackey and Hastings 1982; Pimentel and Alvarez 2000; Schaedel 1951c; Wilson 1988, fig 107). The richly decorated public spaces can be confidently interpreted as instruments for mass indoctrination.

Another strategy of materialization of ideology that was eagerly exploited by Moche leaders related to the manufacture and public display of prestige objects. The Moche have bequeathed a rich legacy of sumptuary objects, in which both metal and ceramic artifacts stand out in terms of artistic quality, technical sophistication, and careful execution. Andean metallurgy has been ranked as one of the major metallurgical traditions of the ancient world (Lechtman 1979), and within it Moche metallurgy reached the highest sophistication (Lechtman 1984: 15). Unlike other world cases, the Moche stimulus for the development of this manufacturing technology was not war, transport, nor productive needs. Moche pyro-metallurgy developed due to the elite’s desire of
acquiring a unique physical means for expressing their privileged social standing and for making power displays (Lechtman 1993: 262). In fact, even though it is true that the Moche made a wide variety of small copper tools (tweezers, needles, chisels, fishing hooks), most of the productive efforts were concentrated on the elaboration of personal adornments (ear rings, nose pieces, crowns, necklaces, bracelets, breastplates, applications for clothing), worship objects (idols, funerary masks) and other power emblems (scepters, banners, and weapons, most of the latter being non-functional). These objects were manufactured through ingenious means, which included the application of sophisticated melting, metal alloying, surface enrichment, and cold and fire-welding techniques. The technical sophistication of these techniques made the objects impossible to replicate by non-experts (Jones 1979, Lechtman et al 1982). Another distinctive characteristic of these pieces is that they all carried the elaborate Moche iconography of power.

The fine sumptuary Moche ceramics, on the other hand, can be grouped into two broad categories based on decoration technique - painted vases and sculptural ceramics. In both categories, the Moche surpassed the accomplishments of previous complex Andean traditions. The Moche sculptural pottery captured, with extreme realism, elements of the natural world, besides buildings and human individuals. Among the latter representations, the Moche *portrait vessels* stand out for the amazing detail with which human faces and expressions were depicted. A traditional interpretation relates these vessels with the portraits of past Moche dignitaries (Larco Hoyle 2001a: 177-78). Within the sculptural category, we also find representations of characters from the Moche supernatural world, which are easily identified for combining human and animal
attributes, attributes of different animals, and even plant and animal features. On the other hand, the Moche art of ceramic painting shows an incremental development that reached its highest expression during the late stages of this culture. During these final stages, the use of a very fine brush allowed the Moche artists to depict complex scenes on very limited spaces (the rounded body of small bottles). These complex scenes – which are characterized by the joint representation of a series of characters simultaneously displaying different actions – have been of vital importance for reconstructing the complex Moche belief system (Donnan 1978; Quilter 1990, 1997).

Besides their elaborate manufacture and ritual decoration, two lines of evidence testify that the sumptuary Moche metal and ceramics objects were carriers of the Moche ideology of power:

1. The fact that the finest pieces known have been found exclusively within the graves of prominent individuals (the prominent status of these individuals is inferred not only based on the location, spaciousness, and elaborate equipment of the tomb, but also on the common presence of human sacrifices).

2. The fact that the Moche ritual iconography often illustrates high-rank personalities using these same luxurious objects when presiding over official ceremonies.

Finally, the last two arenas in which the Moche power ideology found physical manifestation relates to symbolic communication systems and to public ceremonies. While the Moche never developed a writing system, they did express their particular visions and concepts about the cosmos in a graphic record. The figurative character of the representations, and the presence of complex scenes, has offered us a unique opportunity
for reconstructing the Moche belief system. Christopher Donnan (1976) unveiled two trends of this communication system that highlight its value as a power tool. First, he discovered that this register had a non-secular character. In other words, Moche iconography does not include representations of everyday-life characters and activities, but focuses on topics related to the supernatural world. Second, Donnan highlighted that the Moche iconography offered a misleading picture of multiple themes. The myriad isolated representations of Moche characters and activities are actually the constituent pieces of a larger puzzle that find expression in a limited number of complex scenes. Donnan (1976, 1978: 174) and other researchers (Bawden 1996; Castillo 1989; Quilter 1990, 1997) have even suggested that several known Moche complex scenes can be combined into larger narratives. The complex Moche iconography does not allude to a series of isolated myths, but is a reflection of a coherent story that, like a written text, explains the particular Moche view of the origin and operation of the real and mythical worlds.

It is now appropriate to explain the connection that existed between this system of symbolic communication and the past Moche ceremonies of power. It is true that most Moche complex scenes were commonly depicted on small vessels that were often dedicated to burials. The limited visibility of the depictions could lead us to conclude that this communication system had a very restricted diffusion, perhaps even functioning as a secret cult. It is significant, however, that the same motifs we find on ceramics were also depicted, this time on a larger scale, in the mural decoration of public spaces (especially the facades of temples). This evidence proves that this symbolic system of communication was used as a media for mass indoctrination. Indeed, a series of fortunate
archaeological discoveries have enabled us to confirm that some of the mythical stories depicted on the vessels were actually incarnated by human actors during special ceremonies. These theatrical representations could have been viewed by a significant number of spectators. Some of the most important theatrical correlates for the Moche iconographic themes include:

- The 60-odd sacrificed male individuals found in Plaza 3A of the Huaca de la Luna (some showing clear evidence of having their throats slit), which are clearly associated to the Moche “Sacrifice Theme” (Bourget 1998, Donnan 1978, Verano 1998).

- The finding of a simple male burial in the esplanade of the Huaca del Sol that included a javelin-like instrument very similar to the ones depicted in the “Air Purification Scenes” (Donnan 1985a; Donnan and Mackey 1978: 154; Hocquenghem 1989: 47).

- The discovery of three wooden sculptures of tied-up prisoners in the guano deposits of Macabi Island, off the coast of the Chicama Valley, which obviously relate to the “Navigation Theme” (Kubler 1948, Fig. 24).

To these finds we could add a few remarkable funerary contexts of prominent individuals, who were buried wearing the insignia that distinguished a few Moche gods (Alva and Donnan 1993; Donnan 1988; Donnan and Castillo 1992, Strong 1947). This evidence has led many researchers to think that the leaders of Moche society impersonated their deities on special occasions (Alva and Donnan 1993: 223, Donnan and Castillo 1992, Strong 1947: 481).
This brief review of Moche strategies of ideological manipulation demonstrates that the Moche rulers made extensive use of the four major variants of materialization programs (prestige objects, monumental architecture, systems of symbolic communication, and ceremonies). Moche leaders would have gone, however, one step beyond. They integrated these four variants in a highly coherent program, which resulted in the most sophisticated strategy of ideological manipulation through visual media ever developed in the Central Andes. In the first place, Moche leaders conceived a complex mythical story, and gave it material form through a rich iconography that they printed on personal insignia and sacred spaces. Within the solemn framework of richly decorated temples, they organized massive ceremonies in which they presented themselves disguised as deities, interacting in the mythical stories that they themselves created. The setting, costumes, and theatrical representations, in general, would have generated a strong visual impact on the spectators, triggering strong emotions and inducing a feeling of reverence. From the perspective of ordinary people, challenging the right to govern of these blessed individuals was an unthinkable act.

**Chronology and evolutionary sequence**

The information presented in the previous section demonstrates that the Moche culture achieved the status of a complex society. Both in terms of social differentiation, specialized services rendered by the elites, and strategies of materialization of ideology, the Moche far exceeded any preceding North Coast cultural development. As is the case with most complex cultural traditions, the Moche attest to a long and uneven evolutionary sequence that, despite having endured a little over 100 years of scientific research, we are
just beginning to unravel. As was explained by Bawden (1996), if we want to understand the Moche historical developments it is first necessary to bear three important points in mind: a) the notion that the Moche were not an isolated development, but were rather part of a continuous cultural tradition, b) the notion that Moche material culture actually relates to the physical manifestation of an elite ideology, and c) the notion that the Moche evolutionary sequence hosted several parallel developments.

First, although it is valid to characterize the Moche as the most important cultural development in the Peruvian coast during the first millennium (Shimada 1994a: 9), it is also necessary to remark that it was not the only complex development attested to in this region. The Moche were preceded by a series of complex formations that were linked in a continuous cultural succession that started around 2500 BC (Alva 1986a, Cárdenas 1979, Pozorski and Pozorski 1990). At the same time, the Moche laid the groundwork for subsequent complex developments, which included the Sicán and Chimú cultures. The cultural sequence of the Peruvian North Coast could be illustrated with a “dynamic model” inspired by the work of Joyce Marcus (1998) (Fig. 3.1).

This diagram shows that the evolutionary sequence of the Peruvian North Coast is characterized by a succession of different complex cultures that collapsed in due course. Within this sequence, the Moche do not represent an abnormal development possibly diffused from another region but, to the contrary, a local formation that capitalized several centuries of regional experimentation with complexity. In other words, the

---

2 In principle, it is very difficult to prove archaeologically that each of these collapse cases was necessarily followed by a period of “significant loss of an established level of socio-political complexity” (Tainter 1988: 4). This loss would have been manifested, for instance, in a spatial dispersion of homesteads away from ancient power centers. This purported dispersion has not been demonstrated for any of the collapse events that occurred before the Moche era. This is one of the reasons why the collapse definition favored in this work only acknowledges the termination of an established political order (Chapter II).
Moche, just like their predecessors and successors, participated in a single cultural tradition. This tradition was founded on a particular interpretation of the natural, social, and supernatural worlds, which established a conceptual framework for social action (Bawden 1995: 258, 1996: 13).

Second, as Bawden has stated in various publications (1995, 1996, 2001), what we usually call "Moche" actually refers to a small proportion of the total material production of this ancient coastal society. Typical Moche material culture embraces exclusively the sumptuary objects and religious iconography that local leaders used to justify their prestige positions. Bawden (1995: 260) has convincingly proved that the

![Figure 3.1. Modified ‘Dynamic Model’ for the complex societies of the north coast of Peru (based on Marcus 1998, Fig. 3.5).](image)
greatest part of the material legacy of this ancient culture, like the style of monumental architecture, settlement patterns, funerary ritual, agricultural practices, style of domestic pottery, and metallurgical technology, is basically indistinguishable from the material products of its more recent predecessor, the “Gallinazo Culture”. This is why Bawden (1996: 206, 220) interprets "Moche culture" as an ideology of power that was adopted by various Gallinazo leaders that had their seats of power in different valleys of the Peruvian North Coast. While, at the moment, it is very difficult to identify the possible center of diffusion of this new ideology, there are two lines of evidence that demonstrate the unprecedented success that it achieved:

1. Its rapid spread throughout different valleys of the North Coast of Perú. Each regional manifestation of the new cult demonstrated a strong attachment to the most basic tenets of the new ideology (Fig. 3.2).

2. The long endurance of the cult, a fact that demonstrates that the new cult offered an effective tool of social control for several generations of leaders.

The new Moche cult favored both the continuity of ancient precepts and the introduction new ideas. It is interesting to note how the emerging Moche ideology did not reject, from the start, all the traditional power symbols of the deposed Gallinazo Tradition. For example, the most representative fine ceramic types of Classic Moche Style (phases III and IV) found at the urban center of Cerro Blanco, have direct stylistic antecedents in Gallinazo ceramics (Fig. 3.3). There is also continuity in the use of symbols of power that were characteristic of the Gallinazo Tradition, such as the "Moon Animal" icon (Mackey and Vogel 1999: 328) and the "interlocking" design. The latter design was not only adopted as ceramic decoration, but also as mural ornamentation in
Figure 3.2. The thematic integrity of the Moche cult. Representations of the “Decapitator God” at different north coast sites: (a) Loma Negra, Piura Valley (metal ornament), (b) Sipán, Lambayeque Valley (metal ornament), (c) El Brujo, Chicama Valley (wall painting), and (d) Huaca de la Luna, Moche Valley (wall painting). Redrawn from: (a) Donnan 1990: 25, (b) Alva and Donnan 1993, Fig. 191, (c) Franco et al 2001, Photo 11, and (d) Torres et al 2004, Fig. 356).
Figure 3.3. Gallinazo stylistic antecedents of Moche IV funerary vessels. Redrawn from Donnan and Mackey 1978: 112, 123, 137 (Moche vessels); and Bennett 1939, Fig. 16i; Bennett 1950, Plates 8A, 10A; Fogel 1993, Fig. 46; and Larco Hoyle 1945b: 2, 7 (Gallinazo vessels).
many Moche and Gallinazo huacas such as Cotón (Silva and Silva 1984), Licapa (Reindel 1990, fig. 19), Cortada (Ubbelohde-Doering 1952, fig. 8), Cao Viejo (Franco et al 2001, photos 9 and 10), Huaca de la Luna (Uceda and Tufinio 2003, lamina. 20.1b), and Castillo de Tomaval (Fig. 3.4).

The new Moche elite style, however, also showed marked distances with respect to its Gallinazo antecedent. In the ceramic field, for example, the Moche Tradition rejected the "primitivism" of Gallinazo sculptural art, opting for a naturalist development (Larco Hoyle 1945b: 19, 1945c: 38). The Moche also gave a strong impetus to the painted decoration of ceramics, opting for representations that are characterized by high levels of realism and detail. The Moche were also innovative in using the press-mold technique for rendering iconographic scenes, some of them fairly complex (Donnan 1990b: 21). In metallurgy, on the other hand, the Moche made the greatest advances in the manufacturing and decorating techniques of luxurious artifacts. Finally, the Moche iconography of power also manifested an interesting trend to revive religious themes of older north coast cultural traditions such as “Salinar” and “Cupisnique” (Cordy-Collins 1992; Ford 1949: 66; Larco Hoyle 2001a: 18; Shimada 1994a: 71). In this sense, the Moche cult insinuates a brilliant strategy of manipulating the most traditional precepts of North Coast cultural tradition, offering the leaders a transgenerational sustainment to their power aspirations.

The last principle that needs to be taken into account to understand the Moche evolutionary sequence is the existence of several parallel developments. The presence of different Moche regional traditions is largely conditioned by the geographical environment of the Peruvian North Coast, which includes 17 major independent river
Figure 3.4. Different versions of the “Interlocking Design” in the mural decoration of Moche and Gallinazo huacas: (a) Huaca Cotón (Jequetepeque Valley), (b) Huaca Licapa (Chicama Valley), (c) Huaca Cortada (Chicama Valley), (d) Huaca Cao Viejo (Chicama Valley), and (e) Huaca de la Luna (Moche Valley). Redrawn from Franco et al 2003, Lámina 19.1; Reindel 1990, Figs. 7, 19; Uceda and Tufinio 2003, Lámina 20.2a.
systems (Bawden 1996: 45). Each valley is isolated from its nearest neighbor by physical barriers (mountain chains, desert stretches) and, usually, the more disparate cultural developments occurred between regions separated by the harshest barriers (Donnan and Cock 1986b, Castillo and Donnan 1994b). The differences between these regional developments are manifested in the style of luxury objects, in the uneven development of different means of artistic expression (ceramic vs. metal), and even in the diversity of interpretations of the great Moche mythical narrative (Shimada 1994b: 375, 384). A remarkable example of the latter case is the territorial circumscription of the famous “Burial Theme” within the coastal expansion of the Jequetepeque Valley (Castillo and Donnan 1994a: 115, Donnan and McClelland 1979). But perhaps the most significant difference between these traditions is reflected in the existence of multiple developmental sequences, which demonstrate that the leaders that controlled different geographical areas implemented different (ideological, economic, military, etc.) strategies to overcome the challenges they faced. To gain a full understanding of these regional sequences, it is important to contrast the traditional view of the Moche cultural sequence with the new models that are now being generated.

The traditional view

Three investigators made the first significant efforts to unravel the Moche evolutionary sequence: Max Uhle, Rafael Larco Hoyle, and James A. Ford. The German erudite, Max Uhle, has the merit of having defined and characterized the Moche style for the first time, signaling it as a distinct stylistic entity different to the historically-known Chimú and Inca traditions (Uhle 1913: 95). Based on his 1899 excavations at the site of
Cerro Blanco in the Moche Valley, Uhle (1913) also outlined the first reliable ceramic sequence for the North Coast of Peru, composed by five periods that started with the Proto-Chimú (or Moche) style. Decades later, Peruvian investigator, Rafael Larco Hoyle, refined and completed Uhle’s sequence, especially as it concerned the cultural periods that preceded the Moche hegemony. For that purpose, he began excavating pre-Hispanic funerary contexts in the Chicama, Moche, and Virú valleys (Larco 1938). After discovering and characterizing a series of pre-Moche ceramic styles (1941, 1944, 1945a, 1945b), Larco published what can be considered his most important work: "Cronología Arqueológica del Norte del Peru" (1948). In this book, Larco presented the first complete evolutionary sequence for the North Coast of Peru, characterizing it with a detailed description of the ceramic styles of the Chicama Valley. In this book, Larco also presented his famous five-phase chronology for the Moche Style, which was based on a typological seriation of fine ceramics (especially stirrup-spot bottles), endorsed by scant evidence of contextual superpositions. Finally, the American archaeologist James A. Ford (1949), working for the Virú Valley Archaeological Project, established the first chronological sequence for a North Coast valley based on a purely scientific method: the frequency seriation of 308 surface ceramic samples and 132 stratigraphic ceramic samples. The results of Ford’s seriation were absolutely consistent with the chronology advanced by Larco Hoyle.

It can be said that the cultural sequence of the North Coast of Peru was well established by the early 1950’s. The available sequence just lacked chronometrical depth. This problem was solved by adapting the regional sequence to the Andean master

---

3 The five periods of Uhle’s (1913) sequence comprised the Proto-Chimú (i.e. Moche), Tiahuanaco (i.e. Huari), mold-pressed and Tricolor ceramics (i.e. Epigonal), Late Chimú (Chimú), and Inca periods.
chronology of "intermediate periods and horizons" devised by John H. Rowe (1962b, 1967). This scheme was grounded on a sample of C-14 dates, in this case collected in the South Coast of Peru. In the Moche case, the presence of Huari (Middle Horizon) contexts overlying Moche deposits helped to confirm its temporal location within the so-called “Early Intermediate Period” (300 BC. - 550 AD). Larco’s Moche V Phase, however, was located at the beginning of the Middle Horizon, based on evidence of ceramic associations detected in the Rimac Valley (Central Coast of Peru) (Menzel 1964: 33, 1977: 59). Later on, a few C-14 dates provided by Christopher Donnan (1973), members of the "Chancan Moche Valley Project" (1969-1975), and staff of the Royal Ontario Museum Lambayeque Valley Archaeological Project (1971-1975) corroborated the proposed closing date of the Moche IV Phase (Donnan 1973, Donnan and Foote 1978, Conrad 1974). These same dates suggested that the Moche V Phase ended around AD 700 - 750 (Bawden 1977, Shimada 1994a). Curiously enough, the early part of Larco’s sequence was never properly dated⁴. To solve the dilemma of the chronological depth of the pre-Moche V phases, a curious procedure was chosen. This procedure consisted in assigning each phase an homogeneous duration of 100 years (Menzel 1977: 59-60). The origin of the Moche Tradition was tentatively set around the year AD 100. The final Moche and North Coast cultural sequence was illustrated in chronological chart similar to the one presented in figure 3.5.

The traditional view of the Moche culture also includes a series of early interpretations about the historical development of this tradition. At the beginning of the

⁴ Five C-14 dates taken by Christopher Donnan in the Santa Valley from textile samples with reliable Moche III and IV ceramic associations were statistically consistent (Donnan 1973: 131).
Figure 3.5. The traditional cultural sequence of the north coast, with special reference to the Moche Valley (redrawn from Donnan and Mackey 1978, chart 1).
1960's, Larco Hoyle (1963, 1966) tried to apply his five-phase scheme in different North Coast valleys that reported a Moche occupation, discovering that only the Moche and Chicama valleys presented the complete sequence. He concluded, therefore, that these valleys represented the Moche "nuclear area". Within this area, the site of Cerro Blanco was interpreted as the Moche capital city due to the exceptional volume of its adobe huacas and the exalted artistic quality of the local Moche III and IV ceramics. Many investigators concluded, then, that the territorial spread of the Moche culture originated when the rulers of the nuclear area expanded to neighboring valleys through military campaigns (Ford 1949: 66; Schaedel 1985a: 448, 1985b: 161; Willey 1953: 397). A series of settlement pattern studies conducted on several southern valleys (Donnan 1973, Proulx 1968, 1973, 1985, Wilson 1988, 1995) confirmed that the conquest was consolidated during the Moche III Phase. In the far north, a singular isolated Moche I and II development in the valley of Piura was interpreted as an early establishment of a colony of traders (Lumbreras 1979: 82, 119). It was assumed that the regions that lie between the Piura and Chicama valleys were partially occupied during a later date, sometime during the Moche IV Phase (Schaedel 1985b: 161, Shimada 1976: 395-398).

The final crisis of the Moche culture began with the abandonment of the traditional capital of Cerro Blanco during the late Moche IV Phase. All southern valleys were vacated together with the capital. Concurrent with these changes, a new central site of colossal dimensions (Pampa Grande) was founded in the Lambayeque Valley. It was thought that by the end of the Moche IV Phase, the Moche conducted a major population shift toward the northern valleys, possibly being pushed away by a emerging threat coming up from the South (the Huari culture) (Schaedel 1951a, 1966, 1978, 1985a,
The Moche founded their new state capital within a safe zone in one of the most remote northern valleys, leaving the site of Galindo as their southernmost stronghold in what used to be their nuclear area (Moseley 1978a: 531).

**The new perspective**

The new vision about the Moche historical development began to take shape in the early 1990's thanks to new archaeological discoveries, the introduction of new interpretive ideas, and the information provided by new scientific techniques. The most significant advances of the new era include: a) the rejection of a single, over-encompassing Moche chronology, b) the availability of new radiocarbon dates, c) new discoveries that help to complete segmented regional sequences, and d) the theory that postulates that the Moche phenomenon is nothing more than an elite ideology. These four contributions are disclosing the rudimentary nature of our state of knowledge, and are forcing a thorough revision of past accepted theories.

The first suggestions about the possible existence of parallel Moche ceramic sequences appears in an excavation report that Christopher Donnan and Guillermo Cock (1986b) submitted to the National Culture Institute (INC) in Lima. In this report, the authors described the difficulties they faced when trying to apply Larco’s five-phase chronology to date the Moche materials of the site of Pacatnamú (Jequetepeque Valley). Considering the stylistic uniqueness of the Pacatnamú materials, the authors proposed the existence of two major Moche cultural areas: a northern Moche sphere north of the Jequetepeque Valley, and a southern Moche sphere south of the Chicama Valley. The presence of a vast geographical barrier separating the Jequetepeque and Chicama valleys
– the desert pampas of Paiján – was considered to be the main factor that favored parallel developments (Fig. 3.6). Larco’s sequence, which was originally conceived in the Chicama Valley, would be applicable only to the Moche occupations that lay south of the pampas. The northern valleys, on the other hand, contain a different stylistic development, in which the most conspicuous element is the absence of the highly emblematic Moche IV style of the south (Donnan and Cock 1986b: 64-65). The same proposal was expanded in a subsequent publication (Castillo and Donnan 1994b), which defines an alternative ceramic sequence for the northern Moche sphere. The new sequence, however, replicates the same mistake made by Larco in 1948, since it extrapolates the information collected in a single valley (in this case the Jequetepeque) to a far more extensive region. The identification of two cultural areas reminds us that the Moche did not follow a unitary development. Future investigations will certainly disclose more divergent evolutionary paths within the identified macro-regional traditions.

The new vision about the parallel Moche developments has been lately complemented by a new set of highly reliable C-14 dates – most of them processed with the AMS technique – that offer additional support for the theory of multiple sequences. Notable among them are two late dates that Christopher Donnan (2007: 198) collected at a Moche I monumental site in the Jequetepeque Valley (Dos Cabezas), which show a consistent range of AD 390-645. These dates confirm that the early Moche occupation of the Jequetepeque valley was roughly contemporaneous with the Moche IV Phase of the southern valleys! (Donnan 2003: 76). Also notable are the fifteen-odd dates that Claude Chapdelaine (2000a, 2000b) collected in the urban area of the alleged Moche capital of Cerro Blanco. The latest Moche IV dates expand until AD 630-855 and 650-885
Figure 3.6. The Moche territories: Map of the most important river systems of the north coast of Perú, showing the extension of their lower valleys.
This extraordinary evidence – which is corroborated by seven radiocarbon dates obtained by Russell and Leonard (1995, quoted in Billman 1996: 296) at the Moche IV site of Cerro Mayal in the Chicama Valley\(^5\) – shows that the highly distinctive southern Moche IV ceramics were produced throughout the Moche V phase. This apparent chronometric dilemma cannot be solved by postponing the beginning of Larco’s traditional chronology a few centuries in time because, as mentioned above, the end of the Moche V phase in the Lambayeque Valley has been adequately dated around AD 700 and 750 (Shimada 1994a, Table 2). What this new evidence indicates is that the regional stylistic differences do not respond to slight temporal incongruities, but to different socio-political processes.

Is it possible to reconstruct the different evolutionary paths that the Moche power ideology followed in each regional setting? In the following paragraphs, I will attempt a cursory reconstruction, noting that the interpretations presented will remain tentative as long as the forthcoming scientific information does not suggest conflicting trends. I want to organize the discussion respecting the partition of the Moche territory into two sectors (North and South), as has been suggested by several authors (Castillo and Donnan 1994b; Donnan and Cock 1986b: 64; Kaulicke 1992a: 899; Shimada 1994b: 371). This does not mean, however, that the Moche elite ideology manifested only two poles of development. The proposed territorial bipartition is only used as a support for the discussion.

The sequence begins with the early Moche phase, which covers Larco’s Mochica I and II phases\(^6\). The archaeological evidence shows that this style is well developed in the valleys that comprise the northern area. The clear association of this style with elite

---

\(^5\) These seven C-14 dates have a (two sigma) calibrated mean of 775 +/- 100.

\(^6\) The separation of these two early phases was apparently justified on pure typological criteria, given that there is no contextual nor stratigraphic evidence that would confirm the division.
burials (Alva 1990; Donnan 1990b, 2001, 2003; Narvaez 1994) demonstrates that the Moche cult was originally conceived as an ideology of power (Bawden 1996: 206). The new art finds strong physical manifestation in luxurious metal objects (personal ornaments, power insignia). Indeed, the exceptional development that the ornamental metalwork reached during this time, and the large number of sumptuary pieces produced, suggests that the Moche leaders were concerned with accumulating power insignia that nobody else could produce. The same trend towards exclusivity is manifested in the production of fine ceramics. The elite ceramic pieces of the northern sector show a strong trend toward sculptural-figurative representation which – in terms of realism, technical quality and attention to detail – outweights any other parallel or subsequent Moche development (Castillo and Donnan 1994b: 164). It is clear that the leaders were supporting small teams of highly skilled ceramic specialists, who made pieces of such quality that not even modern artisans can reproduce. The northern Early Moche phase also manifests remarkable similarities of ceramic themes and representations among regions as far apart as Piura and Jequetepeque (Castillo and Donnan 1994b: 167; Kaulicke 1991: 384). The stylistic coincidences highlight the high consistency of the new cult, which was probably favored by constant inter-regional contacts. In most valleys of the northern area, it is clear that the Moche elite cult emerged from a Gallinazo substratum (Shimada 1994a: 69-75; Shimada and Maguiña 1994, Bawden 1995). In the area of Piura, on the other hand, the new ideology of power was adopted by the leaders of a different cultural tradition locally known as Vicus. Here, the emerging cult is represented by phases A and B of the Tamarindo archaeological complex (Kaulicke 1991). In the valleys of Piura, Lambayeque, and Jequetepeque, the Early Moche
sumptuary art is associated with monumental adobe architecture. This fact demonstrates that the local leaders were effectively exploiting different aspects of the strategy of materialization of ideology. Indeed, such is the sophistication and artistic quality of the materials exponents of the northern early Moche cult, that some authors have suggested that this power ideology originated in this area (Klein 1967: 50; Kaulicke 1992a: 896, 1994: 358).

Regarding the southern Moche area, recent discoveries in the Huaca Cao Viejo suggest that some political entities of the Chicama Valley might have participated in the northern Moche cult (Franco et al 2001: 149-151; Williams 2006). Moving south to the Moche Valley, the early Moche style is paradoxically not well represented in the future "capital" of Cerro Blanco. The few Early Moche burials excavated at this site attest to poverty in metal artifacts and an equally underdeveloped ceramic art (Donnan and Mackey 1978: 60; Chauchat and Herrera 2003; Kaulicke 1992a: 870; Kroeber 1925a, Plate 58; Topic 1977: 132-33). Sculpted pieces are absent, and most ceramic containers display simple spherical bodies. Curiously enough, representations of the Moche “Decapitator God”, which are common in the northern sphere, seem to be missing, and the ceramic decoration makes strong use of naturalist representations of lizards and monkeys, as well as symbols typical of the traditional Gallinazo ideology (interlocking design, Moon Animal icon). In the neighboring Virú Valley, on the other hand, contextual evidence suggests a similar development (Bennett 1939, fig.15b; Bennett 1950, Plate 12 H, K; Bourget 2003, Lámina 8.2; Collier 1955, fig. 28a, 29a). In this valley, the Early Moche burial pottery shows a consistent association with Gallinazo elite ceramics. Moreover, in this region, we see a more manifest "repression" of the mythical northern themes in the
emerging Moche style. In conclusion, the Moche and Virú valleys show a modest
development of the Early Moche elite style, perhaps conditioned by the strong influence
exerted by the still blooming Gallinazo ideology. Early Moche evidence in valleys further
south is rare or totally absent (Donnan 1973: 55; Proulx 1968: 38, 1973: 47).

The Middle Moche phase is well represented in the valleys that make up the
southern sphere. The valleys of Chicama, Moche, and probably Virú (if we accept the
theory of concurrent developments) developed the emblematic Mochica III and IV
ceramic styles (Larco 1948). These styles are characterized, among other things, by a
remarkable development of pictorial decoration. The use of very fine brushes allowed
Moche artists to decorate the small rounded bodies of bottles with an amazing variety of
human and human-like characters conducting different actions. Among the new
iconographic themes we identify, for the first time, a proliferation of deities and other
mythological beings. Funerary evidence demonstrates that Moche prominent individuals
personified some of these divinities in life (Strong 1947). This evidence indicates that the
iconographic developments were not a mere decorative character, but were the product of
a carefully-orchestrated strategy of power. The Middle Moche phase in the South also
manifested a strong impetus in the construction of adobe pyramids, which were usually
decorated with elaborate murals. The largest and most embellished huacas are found at
the site of Cerro Blanco, which many authors still think was the capital of a Southern
Moche State. This state apparently pursued and accomplished the annexation of five
southern valleys: Chao, Santa, Nepeña, Casma, and Huarmey. The theory of territorial
expansion is founded on three lines of evidence (Proulx 1985, Wilson 1988):
1. The sudden, widespread appearance of the mature Mochica III and IV elite styles in the regional sequences of these valleys.

2. The dramatic changes in settlement distribution and organization that accompanied the introduction of the new ceramic styles.

3. The concurrent change of attitude that the coastal populations of these valleys manifested toward their highland neighbors. Relations that were traditionally grounded on cooperation and peaceful coexistence were suddenly transformed into attitudes of exclusion and even hostility (see below).

In the northern Moche Sphere, the absence of the distinctive Mochica III and IV elite styles makes the identification of a Middle Moche Phase difficult. In the remote Piura valley, the Early Moche style retains its stylistic consistency until the beginning of the sixth century AD, at which time it disappears (Kaulicke 1992a, fig. 4; 1994: 340; fig 10.13). In the Lambayeque Valley, the tomb of the "Lord of Sipán" has been assigned to the northern Middle Moche phase (Castillo and Donnan 1994b: 169; Shimada 1994a: 81). Interestingly, in the neighboring La Leche Valley, Shimada (1994a: 70-71; see also Shimada and Maguiña 1994) detects an extensive Gallinazo occupation that he thinks was contemporaneous with Sipán. This fact proves that the political map of some northern regions remained split between contesting ideologies. Finally, in the southernmost Jequetepeque Valley, the late dates of Dos Cabezas offer virtually no room for a Middle Moche phase. At the site of San José de Moro, Castillo and Donnan (1994b) detected a clear superposition of Late Moche burials over earlier Moche contexts that

---

7 It should be noted, however, that Narváez (1994: 79) drew interesting stylistic parallels between the ceramic inventories of the Moche I tomb of “La Mina”, Jequetepeque Valley, and the tomb of the “Old Lord of Sipán”.
they think belong to a Middle Moche phase. It should be noted, however, that the fine ceramics of the latter burials are very scarce and denote poor artistic and technical qualities. The use of precious metals is also very limited. If these contexts actually belonged to elite individuals, we could easily speak of a weakening or even de-evolution of power strategies in the Jequetepeque Valley during the Middle Moche phase.

Finally, the Moche sequence culminates with the Late Moche phase or Larco’s Mochica V Phase. During this time, the pictorial ceramic art becomes extravagant, with iconographic scenes manifesting dense concentrations of motifs (Donnan and McClelland 1999: 152). At the same time, however, the use of sculptural representation decreased sharply (Donnan 1976: 58). The Russian archaeologist Yuri Berezquin (1978, quoted in Shimada 1994a: 230) noted a significant reduction in the inventory of mythological beings in Late Moche iconography, which he interprets as the result of the centralization of power in a small number of reigning houses. In fact, Late Moche iconography manifests an important thematic change, which involved rejecting a few typical Mochica IV complex scenes, and the introduction of new representations that attest to a high incidence of marine themes (Bawden 1996: 277; Castillo 2003: 101; Shimada 1994a: 230). The iconographic evidence suggests a reconstitution of the mythical Moche narrative, which was obviously aimed at meeting the power interests of current leaders (Bawden 1996: 282). The ideological overtone of the new narrative is confirmed by the burials of the “Moro priestesses”, which demonstrate that Moche leaders were impersonating the new dominant deities (Donnan and Castillo 1992, 1994).

---

8 I should note that none of these contexts has been properly dated and no stratigraphic superposition of the presumed Middle Moche contexts and true Early Moche interments has ever been detected.
With regard to the regional sequence, as was the case with the Early Moche phase, during Late Moche times, the northern territories attest to the most interesting political developments. The valley of Lambayeque saw the emergence of the large urban center of Pampa Grande. In this new power center, the local leaders apparently adopted southern strategies of personal aggrandizement that included: a) strong investments in monumental architecture (which were also accompanied by development in mural decoration), b) the promotion of dependent specialist for the production of luxury items, and c) a heavy reliance on traditional themes of the Moche narrative (Bawden 1996). This new power center apparently dominated a small territorial entity comprised of three valleys (Shimada 1994a: 167). The Jequetepeque Valley, on the other hand, witnessed an alternate development that is illustrative of the different power strategies followed by Moche leaders. In this area the Moche tradition remained strong. The Jequetepeque Valley yielded superb examples of Late Moche ceramic pictorial art (Bawden 2001: 296, Castillo 2003: 95, Donnan and McClelland 1999: 139). The sudden appearance of the fine line technique in this regional setting led Castillo (2003: 97) to propose that the local elites embraced displaced southern craftsmen that were familiar with Mochica IV artistic canons. On the other hand, local elite Moche burials attest to an unusual percolation of ideological precepts of non-coastal elite groups (Castillo 2000). This influx of foreign ideas, which could be related to the arrival of highland emissaries, was evidently favored by a singular state of political fragmentation that was pervasive in the valley (Dillehay 2001).

In the southern Moche territories, the new radiocarbon dates for the Moche IV phase referred to previously (Chapdelaine 2000a, 2000b; Russell and Leonard 1995),
force us to change our interpretations about the end of the Moche hegemony in this sector. Evidently, we can no longer speak of a "relocation" of the southern capital, nor of a "strategic northern retreat" of the enclaves of the southernmost valleys. The most likely picture is that the site of Cerro Blanco and its southern dependencies were abandoned at the same time that the Moche occupations of the northern sector were coming to an end.

Here, the most intriguing topic related to the Moche collapse is represented by the apparent coexistence of sites with Moche IV and V material culture in the Chicama and Moche valleys. The southern Late Moche "intrusive" sites attest to significant changes in the iconography of power, marked by the near total suppression of figurative representations. Bawden (1995, 1996, 2001, 2004) interprets this unusual evidence as the manifestation of a new power strategy followed by some progressive leaders, who rejected the strong individualistic tendencies of the Moche IV ideology – which was foremost expressed by the "portrait vessel" – to win popular acceptance.

In conclusion, the new perspective about Moche archaeology is forcing us to accept the existence of different power strategies and different political scenarios in various North Coast valleys. The diversification of ideological strategies is first attested to during the Early Moche phase, when at least three different trends (Piura / Jequetepeque / Moche and Virú) were pervasive in the Moche domain. The separatist trend would become more pronounced with the passing of time. It should be stated, however, that despite these different interpretations, most Moche regional manifestations retained the most basic precepts of the Moche cult throughout their history. The high internal consistency of the Moche ideology may be due to a conscious attempt made by

---

9 There are, however, a few ceramic pieces decorated with the rich northern Late Moche iconography, which were presumably imported from the North (Franco et al 2001, fig. 19).
regional leaders to maintain the integrity of the cult, and might have also been reinforced by their joint participation in formal ceremonies during special occasions. Whatever the case, the truth is that the regional leaders manipulated the Moche cult in various ways, and just as there were multiple versions, there must have been different situations that led to political collapse. These various scenarios will be reviewed in the next chapter.

Natural environment and subsistence

In the previous section I reviewed the evolutionary sequence of the Moche elite art, and the variety of ideologies of power that lay behind its many regional manifestations. In this section, I would like to describe the environment of the Peruvian North Coast, not only to illustrate how its particular geography favored the generation of parallel cultural developments, but also to demonstrate that in this setting simple technological solutions can generate production levels that are high enough to sustain complex societies. The coastal environment offered, in addition, many advantages for the practice of intensive agriculture which, due to its high labor demand, could have deteriorated the living conditions of the commoners.

The Peruvian north coast is a narrow strip of flat land sandwiched between the Andean Cordillera on the East, and the Pacific Ocean on the West. This strip maintains a constant width ranging between 25 and 30 km in its southern section, which more or less corresponds to the territories that lie between the Huarmey and Jequetepaque valleys. The coast begins to widen north of the Zaña Valley until the area of Piura is reached, where the coastal plain exceeds 150 km in width (Petersen 1972: 48).
Despite being located at exactly the same latitude as the humid Amazon jungle, the northern coast of Peru manifests a distinctive arid environment\(^\text{10}\). In fact, the coastal landscape is dominated by vast expanses of desert land, sometimes crossed by active systems of barchan dunes. It would be a mistake, however, to characterize the Peruvian coast as a vast desert. Every 20 or 30 km the barren pampas of the coast are interrupted by green valleys of contrasting fertility. These valleys are created by 18 independent river systems that descend from the Andes\(^\text{11}\). The vast majority of these rivers have a similar physical conformation. They are born on the higher slopes of the western Andean watershed, between 3200 and 5000 meters above sea level. From their points of origin, they cut down the mountain range reaching the ocean in relatively short and straight courses. The coastal rivers spend approximately two thirds of their initial courses trapped between high mountains, offering little opportunity for agriculture. It is only when the rivers reach the coastal plains that their agricultural potential increases exponentially.

When the rivers leave their mountain entrapments, they form wide fan-like expansions of fertile land which are commonly called "lower valleys."\(^\text{12}\) It was precisely in these "lower valleys" where the Moche exercised their sovereignty (Fig. 3.6).

The Moche evolved within these discontinuous coastal settings under a typical condition of *environmental circumscription* (sensu Carneiro 1970). These environments presented conditions that both promoted and limited the practice of intensive farming. On

---

\(^\text{10}\) The climatic phenomenon that is responsible for the aridity of the Peruvian coast is technically called “thermal inversion”. A detailed description of the inner workings of this climatic phenomenon can be found in Peñaherrera del Aguila 1988: 215.

\(^\text{11}\) These northern coastal rivers are, from south to north, Huarmey, Culebras, Casma, Nepeña, Santa, Chao, Virú, Moche, Chicama, Jequetepeque, San Gregorio, Saña, Reque-Lambayeque, La Leche, Piura, Chira, Tumbes and Zarumilla. The valleys of the latter three rivers show no evidence of Moche occupations.

\(^\text{12}\) The point where alluvial cones start to fan out is commonly called the “valley neck”. This point has an approximate altitude of 300 meters above sea level among most north coast river valleys. The valley neck is regarded as the highest limit of the coastal section of the western Andean river valleys (Netherly 1977: 276, Shimada 1982: 186).
the one hand, since these territories are located a few meters above sea level in a tropical latitude, they present a warm climate throughout the whole year, with temperatures ranging between 19º and 25 º C (Petersen 1972, Table 10). Therefore, this area is not affected by any type of thermal cleft that would have prevented agricultural activities any time of the year. In some of these valleys, however, the dense cloud cover and lower temperatures that prevailed during the winter months combined to lengthen the growing season of maize from 3 to 4 months. Another important agricultural advantage offered by the lower valleys is the fertility of their soils, which have been catalogued by the ONERN13 (1985:55) as the most fertile of Peru.

In the coastal desert, the main limiting factor to the practice of agriculture is the availability of water. The Peruvian North Coast registers annual precipitation volumes ranging between 25 and 75 mm (Petersen 1972, table 13). This moisture is insufficient to practice a rain-fed agriculture. On the western slope of the Andes, rain-fed agriculture is possible only above 1600 - 1800 meters (Bonavía 1991: 32). At this height, precipitation reaches between 200 and 250 mm during the rainy season (November to April), which is sufficient to grow one harvest of corn (Petersen 1972:140). Agriculture on the coast depends entirely on the water provided by the coastal rivers. As will be shortly explained, this type of dependence is not without its problems.

The main problem faced by North Coast canal-fed agriculture is the erratic discharge of the coastal rivers. Between 60% and 70% of the total annual river discharge

14 Some pre-Hispanic intensive farming systems that depended on alternative water sources, as is the case of “sunken fields” (Parsons and Psuty 1975), “raised fields” (Moore 1988), and drizzle-fed “loma fields” (Engel 1973), were not exploited in the North Coast during the Early Intermediate Period. Nevertheless, fresh water springs located in the mid Chicama and Moche lower valleys might have offered a useful water source for Moche irrigation (Netherly 1977: 276).
flows during the short coastal summer (December to March). The time span corresponds, more or less, to the peak of the rainy season in the nearby mountains (ONERN 1985: 78). During these months, the rivers turn into muddy torrents of high flow. Since most of these rivers enter the lower valleys with superficial channels, it is not unusual for them to overflow their lower courses. By contrast, during the dry season months (May to November) the river discharge drops dramatically. In some cases, the decline of water volume can reach orders of 400% and 500%. Since there are no glaciers in the northern highlands, the only available source of water for highland rivers comes from the occasional condensation of cloud moisture in the highest reaches of the Cordillera. Therefore, only the coastal rivers with the largest drainage basins maintain an active flow during the dry season. Rivers with smaller basins (Huarmey, Culebras, Chao, Moche and San Gregorio) loose their superficial flow during these months (Fig. 5.1).

Agriculture

The north coast farmers could have used the irregular flow of the coastal rivers to their advantage. One of the easiest ways for growing cultigens in the lower coastal valleys is through the technique of "floodwater irrigation" (West 1981: 65). This labor-effective agricultural technique requires, as maximum energy investment, building small canals and dikes for channeling receding overflow waters (Parsons and Psuty 1975: 261). Significantly, this technique does not require the use of fertilizers, given that land fertility is constantly renewed by the sediments brought in by every new summer overflow (Lanning 1967: 62, West 1981: 65). This technique has its drawbacks. It is only possible

---

15 The only North Coast river that is fed by glacial waters is the Santa River. During the 1980s, the drainage basin of the Santa River comprised 616 km² of mountain glaciers (ONERN 1985: 79).
to raise one crop a year, and the extent of land that can be cultivated tends to be limited. The strategy of "floodwater irrigation" implies a level of agricultural expertise that corresponds to what Boserup (1965) called "bush-fallow agriculture assisted with simple hand tools" (digging sticks, primitive hoes, clod breakers). This strategy would have sufficed to sustain low density populations, as might have been the case during the Early Horizon.

A small additional harvest could have been raised through another simple strategy: cultivation in the wet lateral river terraces. The cultivation area could have been extended into the bed of rivers that lost their superficial flow during the dry season. This strategy can still be seen today in the San Gregorio River, which crosses the northern sector of the Jequetepque lower valley (Fig. 5.16). This strategy would have sufficed to sustain the low density communities that occupied the margins of the San Gregorio River during the Early Moche Phase (Chapter V).

In the Peruvian North Coast, the big step towards intensive agriculture with high human energy input was taken during the Early Intermediate Period with the introduction of large irrigation canals. These canals were designed to irrigate the most remote areas of the coastal valleys, including the lower valley margins and even the surrounding desert plains. This step was initially taken by Gallinazo people (Willey 1953: 362), but it was the Moche who took this agricultural technique to its highest development. In the Moche Valley, for instance, the Moche extended their irrigation systems beyond the modern limits of cultivation (Moseley and Deeds 1982: 37). This feat was accomplished with canals that reached 30 km in length (Farrington 1974: 85; 1980: 696). The longest canals had their intakes at the highest and narrowest part of the lower valleys, approximately
between 200 and 300 meters above sea level (Netherly 1977: 276). From this point forward, they crossed the natural slope of the surrounding terrain, with a diagonal, controlled (ca 1%) descent.

While the use of large trunk irrigation canals enabled the expansion of agricultural systems, this benefit was accompanied by an exponential increment in the regular work load of common farmers. In addition to the large amount of manpower required for the construction, occasional repair, and frequent maintenance of canals, this new technology brought in two further labor demands that represented a substantial increment in the energy expenditure of farmers. These demands included: a) the need to use fertilizers, and b) the potential to expand the agricultural season throughout the year.

First, unlike the strategy of “floodwater irrigation”, the use of long irrigation canals did not favor the automatic renewal of soil nutrients. Fertilizers were needed in order to raise annual harvests on the marginal lands of the coastal valleys. During pre-Hispanic times, the most successful fertilizer used by coastal groups was seabird guano, which was mainly collected on offshore islands. While we do not have direct evidence of its use during the Moche era, three types of indirect evidence (ethno-historic, iconographic, archaeological) may suggest otherwise:

1. When the Spanish chronicler Pedro Cieza de Leon passed through the Peruvian coast in the late 1540s, he recounted the use of island guano by the natives of the South Coast. Interestingly, Cieza (1995[1553]: 222) noted that thanks to the use of guano “…la tierra se vuelve muy gruesa y fructífera, siendo en realidad absolutamente estéril; porque si dejan de echar este
 estiércol cogen poco maíz”. Spanish administrative documents of the sixteenth century prove that the exploitation of island guano was also common among the inhabitants of the North Coast (Netherly 1977: 50).

2. The Peruvian researcher Rafael Larco Hoyle (2001a: 258-259) described an Early Moche ceramic vessel with a sculptural representation of a guano island. The vessel illustrates, among other things, three reed rafts loaded with sacks that may have contained seabird guano. A very similar vessel has been described by Lumbreras (1979: 78, 82). Sea crafts similar to the large reed boats with dry decks described above could have been used to accomplish a large scale exploitation of this fertilizer.

3. Guano harvesters of the nineteenth century discovered a cache of Moche objects 20 meters deep in the guano deposits of the Macabi Island, located off the coast of the Chicama Valley (Kubler 1948: 44). This evidence proves that the Moche did indeed reach this island.

The indigenous chronicler Inca Garcilaso de la Vega (1991[1609]: 258) described another fertilizing technique that was applied, in this case, in the Peruvian highlands. This technique implied the use of human excrement that was dried up and ground into flakes or powder before being dispersed in the fields. This technique could have also been used by Moche communities that did not have easy access to bird guano. The dearth of human coprolites in Moche dwelling areas may be the product of this fertilizing strategy.

Whatever the technique used, the important thing about techniques of artificial fertilization is that they increase the regular work load that traditional farmers dedicate to

---

16 “[…] land becomes thick and fertile, being in reality absolutely sterile; if they stop adding guano to the soil they will produce poor maize harvests”.
their lands (Boserup 1965: 25). While the soils of the coastal lower valleys are regarded as the most fertile in Peru, a sustained annual agricultural production is only possible under an aggressive practice of artificial fertilization (see Cieza’s quotation above). This fact is clearly understood by modern smallholders of the Jequetepeque Valley, who dedicate up to 20% of their annual planting budget (which includes land rental, purchase of seeds, machinery rental, manpower recruitment, payment of water rights) to the purchase of fertilizers.

Another labor increment introduced by the use of large irrigation trunk canals refers to the potential to lengthen the agricultural season to the whole the year. In the coastal valleys, most agricultural activities are restricted to the summer season due to the irregular discharge of the rivers (Burga 1976: 244). However, some North Coast rivers maintain reduced superficial flows during the winter season that can still be used for irrigation. In order to reach this dwindling water, the farmers needed to devise a method to adapt the rigid structure of the canal to the receding water stream. Herbert Eling (1987) described a technique that small farmers of the Jequetepeque Valley employed to achieve this task. The method consists of extending a dam made of branches and canes diagonally into the river course. The dam is supported by a row of tripod-like, log supports that are firmly set on the wet riverbed with stone weights. The function of the dam is to create a water entrapment right in front of the canal intake. The water level of this entrapment can be controlled by modifying the structure of the dam. If the water level is too low to reach the base of the canal, the dam can be turned into an almost impermeable structure by adding more reeds and branches. The dam could also be thinned if the water level rises too much. This simple technology, which may have its origins in the Moche era, allowed
the irrigation canals to remain active virtually during the entire year. This same technology may have also been useful in sustaining summer agricultural activities during years that experienced extreme water shortages.

In conclusion, the introduction of large irrigation canals represented a great step towards the development of intensive agriculture in the Peruvian North Coast. The Gallinazo made the first major advances, but it was the Moche who took this technique to its maximum development. For the first time, the most distant sectors of the valleys were brought under cultivation. The new technology not only generated a significant increase in overall production, but also relieved the pressure that expanding populations would have exerted on the highly productive river-side lands. Thanks to the technology of "adaptive dams", it was also possible to keep distant lands under cultivation during periods of low river discharge. These advances in productive technology also had a downside. The introduction of large canal networks raised the regular work load of peasant families. Farmers were now forced to devote additional time and effort in building and repairing large hydraulic works, in raising additional harvests, and in implementing techniques of artificial fertilization, especially in marginal areas that were poor in soil nutrients. However, as long as this additional work load would have not threatened the subsistence economies of the busy farmers, the new technology would have not affected the stability of the local political regimes.

**Llama herding**

Besides agriculture, an important economic activity pursued by the Moche people was camelid herding (Shimada and Shimada 1985). In fact, llama remains are so common
in most Moche sites that it is possible to infer the presence of large herds on the coast\textsuperscript{17}. The llama is a cargo animal \textit{par excellence} and the common Moche iconographic representations of llamas carrying big loads indicate that the Moche proficiently exploited this quality (Donnan 1978: 113, 115; Lavallée 1970). The llamas were also an important food source, and some authors think that they represented the main source of animal protein for coastal farmers (Pozorski 1979: 175, 1982: 180-81; Shimada and Shimada 1981: 38). These animals also provided coarse wool for textile activities, and were important in Moche ritual sacrifices. It is very likely that the lamas also played a key role in the expansion of agriculture to the marginal areas of the valleys. These animals would have been necessary for carrying and spreading guano and seeds over long expanses, as well as for transporting agricultural products to the settlements. It is difficult to conceive how the expansion of the agricultural frontier would have been possible without the support of these animals.

An interesting topic to investigate concerns how the maintenance of large body-sized animals would have affected the regular work load of coastal farmers. Ester Boserup (1965, 1981) discusses this issue at length, questioning the relative benefit that the adoption of draft animals created for peasants families. The llamas, however, are not draft animals, and although they would have been employed in agricultural activities, their multiple uses would have mitigated the costs of their annual maintenance. Besides, the llamas do not require special alimentary attentions because they are highly adaptable animals that can consume a wide variety of plants and even human garbage (Shimada and Shimada 1985: 17). Different strategies could have been implemented for their

\textsuperscript{17}The presence of large llama herds at Moche sites is not only inferred from the high incidence of bones, but also from the presence of large quadrangular enclosures with llama manure that have been interpreted as corrals (Bawden 1977: 194, Shimada 1994a: 145).
sustenance, like allowing them to graze from vegetal residues on harvested fields. This strategy also favors the fertilization of the soil (Moseley 1992: 31). One can conclude, then, that in terms of food, transportation, and energy saving strategies, the use of llamas would have been highly advantageous for coastal farmers. However, it is true that these animals had to be nurtured and maintained, and this responsibility was appointed to peasant families (Shimada and Shimada 1985: 20).

**Fishing**

The Moche not only derived their livelihood from the effective exploitation of fertile land of the lower valleys. Direct archaeological evidence indicates that they also pursued an intense exploitation of marine resources. Taxonomic analyses of faunal species conducted at Moche sites testify to high levels of marine shellfish, crustacean and fish consumption (Lockard 2005, Pozorski 1979, Shimada and Shimada 1981, Vásquez et al 2003, Wilson 1988: 222). At the southern capital of Cerro Blanco, sea fish might have even represented the primary source of animal protein for the city dwellers (Vasquez et al 2003: 44). All of these sites also indicate rather limited consumption of other animals adapted to marine environments, like sea gulls, penguins, sea lions and seals (Shimada 1994a: 184).

The heavy dependence on marine resources is not surprising if we consider that the Peruvian sea contains the richest marine biomass of the Western Hemisphere (Moseley 1975a: 7, 1978a: 499). The abundance of sea species is largely due to the Humboldt Current that borders the Peruvian coast. This coastal current has a "cold"

---

18 In the southern Peruvian highlands, modern peasants who cultivate in sunken fields or “qochas” take their cattle to graze on these fields during the fallow period to enrich the soil with animal droppings (Flores Ochoa and Paz Flores 1986).
(between 14º C and 17º C) surface temperature generated by numerous upsurges of deep sea water emerging from depths ranging between 300 and 400 meters (Peñaherrera del Aguila 1988). These upsurges contribute large amounts of mineral nutrients to the surface which, in conjunction with other factors – low salinity, high amount of oxygen – favor the superficial growth of phytoplankton. The phytoplankton becomes the initial link in a very complex food chain, which include up to 225 different pelagic and demersial fish species (Hrones Parsons 1970: 292). Especially important for human use are those fish species that form large superficial schools that tend to congregate only a few meters away from the coast. Examples of these species include the Peruvian pejerrey (Odontesthes regia regia), mackerel (Trachurus murphyi, Scomber japonicus), and mullet (Mugil cephalus).

All these species can be exploited on a large scale with relatively simple technologies. These technologies would have been available to the inhabitants of the Peruvian coast since very early times. During the Preclassic Period (3000 - 1800 BC), the large-scale exploitation of sea resources allowed the generation of a surplus that played an important role in the premature emergence of sociopolitical complexity (Feldman 1983, 1985; Lanning 1967: 59, Moseley 1975a). In 1946, the American archaeologist Junius Bird excavated at the Preclassic mound of Huaca Prieta (3100 - 2000 BC), located on the seashore of the Chicama Valley, a large fishing net that still had gourd floaters and stone weights attached (Bird 1948, fig 10). Fragments of similar gear have been reported in virtually all coastal Preclassic sites that have been investigated, many of whom bear monumental architecture (Lanning 1967: 60). In the Moche case, archaeological evidence of fishing equipment is very low, given the scarcity of seashore
settlements that have been scientifically investigated (and the concomitant lack of proper publications). Fragments of fishing nets similar to the one described above have been found in Middle Moche interments from different cemeteries of Pacatnamú, in the lower Jequetpeque Valley. This site apparently housed a group of lower class fishermen (Donnan and Donnan 1997: 223; Ubbelohde-Doering 1983: 50). Three of these contexts even reported "malleros", which are small, elongated stone implements that are used in the manufacture of fishing nets (Donnan and McClelland 1997: 36).

The use of fishing nets might have been complemented with the use of reed boats, including the famous "caballitos de totora". Early Moche iconographic representations of this simple type of reed craft replicate, with amazing precision, the boats that are currently used by small North Coast fishermen (Donnan 1978, fig 160). Moche iconography affords a perspective of another common fishing technique, which involved the use of strings and fishing hooks (Hocquenghem 1989, figs. 109 and 118). The use of harpoons, on the other hand, is not well documented. The extraction of mollusks and crustaceans, on the other hand, would have required even more simple techniques, involving, in most cases, direct collection by hand. The highly appreciated violet crab (*Platxanthus orbignyi*), that dwells at higher sea depths, may have been collected through diving operations or through the use of simple traps such as the one found by Cárdenas Marin (1978: 119) at the Formative site of El Paraiso, in the Central Coast of Perú.

All the techniques described above are fairly simple, and their implementation would have not required long working hours. The exploitation of marine resources, however, may have not represented additional labor demands on Moche farmers. Ethno-
historic documents show that, at the time of the Spanish arrival on the North Coast, the local communities were divided into specialized groups of fishermen and farmers. The former were devoted to the exclusive exploitation of marine resources (Netherly 1977, Rostworowski 1981, 1989). Fishing groups supplemented their dietary requirements through barter activities established with farming communities. In most cases, the economic transactions were facilitated by the fact that both communities were subjected to the political hegemony of the same group of rulers (Netherly 1977: 235, Rostworowski 1989: 268). The symbiotic relationship between fishermen and farmers was reinforced by the fact that each group also provided materials that were essential for the proper operation of the other group’s economic activities. The farmers provided cotton that fishermen needed to make their fishing implements. The fishermen, on the other hand, would have been responsible for exploiting the guano deposits of offshore islands (Netherly 1977: 50). Interestingly, this type of occupational specialization seems to have very deep roots in Andean tradition, possibly dating back to the Preceramic Period (Shady 2003[2000]: 116). A few iconographic scenes may suggest that the Moche coastal communities also pursued this dual economic specialization (Fig. 3.7).

We have seen that the Moche farmers apparently faced hard labor conditions. The introduction of large irrigation canals, and the attendant innovations that this agricultural technology brought with it, meant new obligations that left little time for leisure. The coastal fishermen, on the other hand, seem to have faced a different picture. The incredible biological richness of the Peruvian sea, coupled with the simple organization of the extractive technologies described above, would have provided the opportunity to raise bountiful sea harvests with little effort. Coastal fishermen also implemented
Figure 3.7. Middle Moche fine line scene that depicts a food exchange between farmers (right) and fishermen (left) (redrawn from Donnan and McClelland 1999, Fig. 4.62).
ingenious fish conservation techniques that allowed them to accumulate a surplus that could have been invested in the maintenance of complex systems (Rostworowski, 1981: 114). It is possible, therefore, that coastal fishermen pursued a more relaxed lifestyle. In fact, Rostworowski (1981: 89) recounts the bad image that Spanish had of the coastal fishermen, who were regarded as sluggish for spending their time drinking and dancing instead of sailing every day to sea. It is necessary to note, however, that the exploitation of island guano would have required high labor investments. Fishermen were also responsible for exploiting the vast reed expanses that grew near the shoreline, supplying both their own demand for this product as well as the demand of agricultural communities (Netherly 1977: 66). Even though it is unfair to stigmatize coastal fishermen as lazy people, it is possible that the dissimilar labor obligations that they held in comparison to farmers would have generated different stimulus toward collapse.

The image of the North Coast environment presented in this section offers a skewed vision of stability and balance. The reality, however, is very different. This region is periodically hit by a series of climatic disturbances that can severely affect the productive potential of coastal ecological zones, and put in check the subsistence and political economies of local groups. Curiously enough, the impact of these disturbances would have been more severe on fishing communities, who did not transform their productive environment, but depended directly on the biological balance of the Peruvian sea. The destabilizing potential of these disturbances will be addressed in the following chapter, in which I will review the theories that have been proposed to explain the Moche collapse.
**Socio-political organization**

The lower valleys of the North Coast constitute discontinuous geographical units that favored the evolution of highly localized cultural formations. The high variety of resources that these valleys offered, coupled with the prospect of achieving high levels of production with relatively simple technologies, were a stimulus for economic self-sufficiency (Netherly 1977: 207). The North Coast natural environment fostered, therefore, the evolution of independent political units. The existence of different power strategies confined to specific regional settings confirms that this was the norm during Moche times (notable exceptions were the possible evolution of a southern Moche IV state and the political integration of three valleys under the aegis of the Moche V site of Pampa Grande). We can now ask how the political institutions of these independent regional units would have been organized.

The best way to answer this question is through the information provided by settlement patterns studies. The good news is that North Coast archaeology has seen many exemplary studies of this kind (Billman 1996; Proulx 1968, 1973, 1985; Willey 1953; Wilson 1988, 1995). The bad news is that the interpretations offered by these studies have often been obscured by the absolute predominance of functionalist arguments. When delineating political territories, these studies tend to follow the same rigid procedure: a) assume that any site with monumental architecture – mainly adobe huacas– was a political center, b) establish a rigid hierarchy of these centers in terms of a single dominant attribute (in the Moche case, the most favored attribute is huaca volume), c) delineate basic territorial units drawing together all the nearest villages to a so-called tertiary center, and d) define the political circumscription of major centers according to a
similar criterion of spatial proximity to dependent units. While not all the assumptions of
the functionalist approach are necessarily wrong, those assumptions tend to generate
political images that do not necessarily fit archaeological reality. Two of the most
prominent incongruities are: the lack of consistency between the quasi-hexagonal shape
of the proposed political territories and the linear character of irrigation networks (see
Wilson 1988: 82 for a similar opinion), the unusual lack of correspondence between
settlement size and huaca volume19.

Fortunately, the gaps offered by functionalist interpretations can be corrected with
ethno-historic information. Based on a series of judicial and administrative documents of
the Spanish Crown, Patricia Netherly (1977, 1984, 1990) managed to reconstruct the
sociopolitical and territorial organization of the minor chiefdoms that occupied the
Peruvian North Coast during the sixteenth century. These documents testify that the local
people of the North Coast were organized into different "parcialidades", which were
composed of a series of lineages related by patrilineal descent, that apparently shared
virilocal rules of residence (Netherly 1977: 119). Even though there was a high degree of
occupational specialization among several parcialidades – there were parcialidades of
fishermen, salt-makers, pottery makers, chicha brewers, metal smiths, leather workers,
traders, etc. – the socio-political landscape was dominated by farmer communities (ibid.).
Each coastal valley housed several parcialidades, and each parcialidad was represented
by a leader. All regional leaders, together with the social units they represented, were
organized according to the principles of duality and hierarchy (Netherly 1977: 101, 1984:
230). In principle, every major political territory (i.e. a lower valley) was organized into

19 San Ildefonso, the largest Late Moche settlement in the Jequetepeque Valley, manifests a deficient
development of monumental architecture (Swenson 2006). Signam, the second largest Early Moche adobe
pyramid of the same valley, sits alone in the landscape.
two halves of different rank, and the leader of the upper half – the “cacique” – governed
the whole entity. However, this leader did not rule alone, but was always accompanied by
the leader of the lower half – the “segunda persona”. This organization contained still
larger hierarchical subdivisions. Within any half, the maximum leader did not preside
alone, but was assisted by another subchief: the “principal”. The principal was, at the
same time, the leader of a lesser order parcialidad. In fact, these four regents generally
appeared together before Spanish authorities when formally requesting any kind of
benefit for their communities. From the second level of the hierarchical organization
downwards, lesser parcialidades joined the major structural organization, always
respecting the dual-hierarchical arrangement. The bottom of the hierarchical structure
was occupied by a multiplicity of smaller communities – many of them embracing non-
agricultural specialists – that were commanded by individuals that the Spanish called
“mandones”. The final configuration of the model of structural organization of coastal
communities is illustrated in figure 3.8.

Netherly (1977, 1984, 1990) highlighted several advantages that this odd pattern
of structural organization offered its participants. First, it defined clear limits regarding
the number of workers that each leader could recruit. Thus, the paramount leader of the
upper half held the greatest access to labor. The leader of the second half, on the other
hand, could only recruit workers within his own half. The second regent of the upper half
could command laborers of lower-order parcialidades of his own half, with the exception
of the parcialidad of the “cacique”. The access restrictions continued as we moved down
the hierarchical ladder (Netherly 1984: 233)\textsuperscript{20}. It is worth mentioning that the organization of the chain of command also made clear the rules of subordination between leaders, providing channels for coordinated social action and suppressing the threat of potential power conflicts.

\textbf{Figure 3.8. The dual-hierarchical organization of north coast rule (after Netherly 1990, Fig. 1).}

\textsuperscript{20}Significantly, this singular pattern of communal work organization offered many possibilities for fashioning works of monumental architecture which go beyond the simplistic distinction between primary, secondary and tertiary power centers acknowledged by most functionalist proposals.
Second, Netherly (1990: 464) argues that this pattern of shared leadership also established restrictions to the power aspirations of ambitious leaders. Decisions affecting the entire community required the consensus of at least four senior leaders. It is true, however, that some high rank caciques did try to increase their authority by appointing close relatives as headmen of other major parcialidades (Netherly 1977: 150, 183).

The third advantage refers to the flexibility of the system. If the population increased – either by internal growth or through territorial expansion – the structure was flexible enough to accommodate new parcialidades without destabilizing the established hierarchy. On the other hand, if the upper levels of decision-making fell down, the social order could have continued unharmed under the guidance of lower level commanders (Netherly 1984: 233, 1990: 464). This last point is especially relevant for this study. The organizational model revealed by Netherly can give the false impression that every coastal valley was politically integrated. However, the same model allows for the possibility of the coexistence of different hierarchically-organized political entities within a region21.

Early Spanish documents also reveal interesting information about the territorial organization of these political entities. As expected, Netherly (1977, 1984, 1990) found an intimate association between the territorial distribution of parcialidades and the courses of key irrigation canals. Commonly, each parcialidad claimed as its territory, not only a major canal, but also the lands irrigated by it. These territories typically had the shape of a long wedge, stretching out from the river course down to the coast. These territories not only embraced wide expanses of valley bottom agricultural land, but also

21 Given that, under this system of organization, both politically-fragmented and centralized regimes would have manifested the same settlement pattern, it would be impossible to detect archaeologically a post-collapse situation of “regression to a simpler level of organization” (Tainter 1988: 4).
other types of ecological niches (land affected by summer river overflows, dry land outside the valley, swamps near the beachfront) (Netherly 1984: 236). Usually, there was a direct relationship between the size and extension of the irrigation canal and the importance of parcialidad that was served by it (Netherly 1977: 283)\textsuperscript{22}. There were, however, exceptions to this rule. In some cases, a single canal was shared by two or more parcialidades of equal hierarchy. This was particularly the case around major trunk canals, which had several side branches that served different parcialidades (Netherly 1977: 281, 1984: 238). As for the territories of the parcialidades of non-agricultural specialists, they seem to have been located in the immediate proximity of the resources they exploited (coastline, salt sources, clay sources) (Ramirez 1996: 154). It is likely that the communities of specialists that did not depend on spatially-fixed resources (chicha brewers, leather workers, merchants) were located next to or spread within the largest settlements of farmers, where the demand for their products would have been higher.

In conclusion, early ethno-historic documents offer valuable information that allows us to fill the information gaps offered by functionalist models. Particularly evocative is the notion of dual-ranked political systems, which permitted the survival of small political entities in case of the eventual disappearance of the higher levels of administration. The information about the existence of a multiplicity of minor political territories within a major political circumscription is also revealing, specially the fact that each political entity claimed an irrigation canal and the lands watered by it. While the same documents do not tell us anything about how the settlements would have been distributed within these territories, we can consider several options. In the Late Moche

\textsuperscript{22} Netherly (1990: 476) also suggests that the canals of the most important parcialidades had their intakes in the highest sectors of the lower valleys.
case, for example, the archaeological evidence suggests the existence of nucleated settlements. In some cases (Pampa Grande and Galindo), the largest settlement was located close to the canal intakes. In other cases, (Jequetepeque Valley) the largest settlement was located along the final run of the canal. I will return to this theme in the fifth chapter of this dissertation.

**The Moche neighbors**

A final issue that must be addressed to understand Moche sociopolitical developments is the nature of the connections that the elites established with peers from neighboring groups. As John and Theresa Topic (1983: 237) argued, "interaction between societies unarguably affects the trajectories of individual cultures", and there is no reason to think that the Moche represented an exception to this rule. Curiously, throughout their history, the Moche seem to have remained "land-locked" in their lower valley territories, actively exploiting the rich coastal ecosystems and conducting horizontal inter-valley exchanges between them (Schaedel 1985a: 457; Shimada 1982, 1987, 1994a: 92). While there are signs of contacts with cultures of the Central Coast (Stumer 1957, 1958), and even the South Coast of Peru (Knobloch 1991, quoted in Shimada 1994a: 257), these encounters seem to have been sporadic, almost circumstantial, and possibly carried forward by intermediaries. Contacts with the south coast of Ecuador – especially with Guangala culture – would have been more frequent, possibly involving exchange networks sanctioned by formal agreements (Kaulicke 1991: 385, Shimada 1994a: 213). However, very little is known about the nature of this interaction and how the Ecuadorian traditions influenced Moche developments and vice versa.
The cultural formations that would have exerted a greater influence on the historical evolution of the various Moche regional manifestations are, without doubt, the ethnic groups that occupied the neighboring highlands (Fig. 3.9). The clashing point between these traditions would have generally been the middle section of the western valleys. Evidence consistently proves that the "pressure" was always exerted from the same direction. While the Moche never attempted an expansion into the Andean heights, the serranos commonly pushed forward in the direction of coastal territories. In this section, I will characterize the main highland political groups that interacted with the Moche, and elucidate, as far as the available evidence permits, the specific kind of relationship that was established between these dissimilar cultural traditions.

**Cajamarca Culture**

The Cajamarca culture developed in what is known as the Cajamarca Valley, located between 2600 and 3800 meters above sea level in the northern Peruvian highlands, east of the Jequetepueque River. The Cajamarca culture represents a typical highland development, locally evolved from the Formative traditions of its core area. The Cajamarca culture is best represented by its elite ceramics, in which ring base and tripod-footed bowls made of white kaolin clay predominate. The bowls are clearly identifiable for having their inner surfaces profusely decorated with painted designs, most of them of abstract character. During the Middle Cajamarca phase (ca. AD 450-900), which was possibly a time of cultural splendor, bowl decoration became very elaborate – manifesting a dense concentration of motifs executed with sharp and short brush strokes.
Alfred Kroeber (1944: 69) called this decoration “cursive” because it resembled “the movements of the pen in rapidly running handwriting”.

Three basic features distinguish the Cajamarca ceramic tradition from other similar Andean developments:

1. The long duration of the sequence. The Cajamarca sequence starts at the end of the Formative Period (ca 250 BC) and lasts until the arrival of the Spanish invaders (1532 AD). This sequence has been organized into five ceramics phases (Initial, Early, Middle, Late, and Terminal phases) by members of the Japanese Scientific Expedition to Nuclear America (Terada and Matsumoto 1985). Lasting nearly 1800 years, the Cajamarca exhibit the most prolonged ceramic sequence of the Central Andes.

2. The stylistic consistency of the elite ceramic style. Despite having interacted with many different highland and coastal ethnic groups throughout their history, and despite having been surpassed by the Huari and Inca territorial expansions, the Cajamarca always remained loyal to local artistic cannons, rarely assimilating foreign stylistic influences in their ceramic products.

3. The odd configuration of the pictorial decoration of the kaolin bowls, especially relating to the cursive style. The uniqueness of the Cajamarca decorative style led some authors (Kroeber 1925a: 212, Larco 1966: 134) to believe that it was diffused from Central or Mesoamerica. This position was later corrected by Kroeber (1944: 70), who demonstrated that it had clear roots in Andean Tradition.
Figure 3.9. The Moche neighbors: spatial distribution of the most important highland groups that interacted with coastal Moche communities (based on Julien 1988; Lau 2002, Fig. 1; Topic 1991, Fig. 1; and Topic and Topic 2000).
A fourth characteristic that distinguishes the Cajamarca tradition is the wide territorial expansion attested to by some of its most distinctive cultural traits. This expansion seems to have taken two forms: long-distance exports of its most distinctive elite pottery, and an effective occupation of neighboring areas. During the initial stages of their cultural evolution, the Cajamarca ethnic groups remained relatively isolated within their nuclear territories (Reichlen and Reichlen 1970[1949]: 480, Julien 1988: 223). The export of fine pottery to distant regions started during the Middle Cajamarca phase (Terada and Matsumoto 1985: 85). Vessels of Cajamarca style have been documented even in the Ayacucho valley – the seat of Huari power – some 800 linear km away from their place of origin (Menzel 1964: 44). Concurrent with the dispersal of fine pottery, Cajamarca leaders apparently opted to extend the area of their territorial control. Cajamarca groups occupied the headwaters of the Lambayeque, Zaña, Jequetepeque and Chicama valleys on the western slope of the Andes. This expansion would have led them to clash with the Moche communities of the lower valleys. Interestingly, the Moche-Cajamarca interaction took different forms depending on the state of political integration manifested by the various coastal polities.

In the Lambayeque valley, the Moche political-military power centered on the imposing site of Pampa Grande apparently offered a stiff resistance to the arrival of highland intruders (Shimada 1987: 140). Cajamarca influences transcended the lower valley confines only during the subsequent Early Sicán phase (ca. 750-900), when a new ceramic style with strong highland connections crystallized in the area (Shimada 1982: 173, 1990: 315; 1994a: 254). In the neighboring Zaña Valley, which was part of the three-valley polity controlled by Pampa Grande, the Cajamarca commanded an absolute
dominion over the middle and upper sections of the valley (Dillehay 2001: 264; Dillehay and Netherly 1983: 29). The coastal section, however, remained in Moche control (Shimada 1994a, fig 3.15). A similar case occurred in the Chicama valley, one of the core territories of the Southern Moche State. Leonard and Russel (1993: 156) reported sites with Cajamarca domestic pottery only on the outskirts of the coastal territory. The authors interpret these sites as a "frontier phenomenon of relatively intimate interaction" (Leonard and Russel 1993: 156).

A contrary case to the ones described above occurred on the Jequetepeque Valley. In this setting, at least two lower valley sites – Cerro Chepén and San José de Moro – offered large quantities of Cajamarca cursive pottery (Bernuy and Bernal 2005; Disselhoff 1958a, 1958b; Rosas 2007; Rucabado and Castillo 2003). Of these two sites, the funerary center of San José de Moro is famed for being the archaeological site that has yielded the highest number of complete Cajamarca vessels known to date. In both places, the Cajamarca cursive and Late Moche styles show similar temporal dimensions (Bernuy and Bernal 2005: 68; Rosas 2007). The lower Jequetepeque Valley might have also been the birthplace of one of the several variants of the distinctive “Coastal Cajamarca” style (Julien 1988: 228). Typical vessels of this local style were deposited as offerings in the richest Late Moche elite burials of San José de Moro (Donnan and Castillo 1994: 421). The abundance of Cajamarca material in this sector of the Jequetepeque Valley led Herbert Eling (1987: 391) and Izumi Shimada (1985b: 380) to propose the existence of a highland enclave at or in the vicinity of San José de Moro.
Marcahuamachuco

Marcahuamachuco is the archaeological site that presents the highest concentration of monumental architecture in the northern Peruvian highlands (Topic 1998: 119). The site is located in the upper reaches of inter-Andean Condebamba valley – a secondary tributary of the Marañon (Amazon) River – at 3,600 masl and approximately 40 km east of the upper limits of the Moche River drainage basin. This huge site was built on top of a 240-meter-long mesa that dominates the surrounding alluvial plains. The site consists of a series of monumental stone buildings spread on top of the mesa. These buildings can be classified in two broad types: niched halls and galleries. The niched halls are long rectangular enclosures with a maximum length ranging between 27 and 60 meters and with a wall height reaching up to nine meters (J. Topic 1986; 1998: 116). Besides the presence of internal rows of niches, these buildings are singular for presenting human remains embedded in their walls. This evidence has led John and Theresa Topic (2000: 189) to suggest that the niched halls were used as places for ancestor worship. The galleries, on the other hand, are narrow and elongated multi-storied structures that would have served housing functions. The galleries come in two variants: straight and curved structures. Both variants surround and open their doors to an internal courtyard where communal activities would have taken place (J. Topic 1998: 116, J. Topic and Topic 2000: 187). Some of the Marcahuamachuco galleries reached up to three stories in height (J. Topic and Topic 1985: 18).

Within a radius of only 6 km southeast of Marcahuamachuco, we find three other major sites of the same tradition: Cerro Sazón, Cerro Amaru and La Cuchilla. Like Marcahuamachuco, these sites were constructed on prominent heights. Perhaps the most
important site of this group is Cerro Amaru, for it apparently functioned as a specialized center for water propitiation rituals (J. Topic and Topic 1992). Among other important features, Cerro Amaru includes a mausoleum, a series of circular deposits ("colcas"), and up to three ceremonial wells ("chiles") that were built within a massive artificial hilltop terrace (Topic and Topic 1984, 1985, 1992). The wells were designed to collect rainwater and are still functional today, serving the domestic needs of modern peasants. In 1900, the German investigator Max Uhle drained one of the wells, discovering that it originally had ritual functions. From the muddy bottom of the structure Uhle recovered, among other small offerings, more than 3000 pieces of worked Spondylus shell (McCown 1945: 305, Topic and Topic 1984: 4).

The site of Marcahuamachuco has been traditionally interpreted as a "city" that functioned as the "capital" of a "territorial state" located in the northern Peruvian highlands (Moseley 1992: 191; J. Topic and Topic 1985). The big power center and its adjoining sites had their origins during the local Early Huamachuco phase (300-600 AD). During this time, Marcahuamachuco’s first niched halls and galleries were built following a distinctive architectural style (J. Topic and Topic 1985). Starting in this early phase, the new power center maintained contacts with remote areas of the Peruvian highlands, as demonstrated by frequent imports of Cajamarca ceramics (cursive style), obsidian from Cuzco, and the development of a local stone sculpture tradition that had its roots in the southern Callejón de Huaylas (Topic and Topic 1985: 20-22). The elites of Marcahuamachuco controlled a small territory that spread mainly towards the upper reaches of the Virú and Chao rivers. A series of small hilltop centers were built along linear courses that connected the core area with the uppermost reaches of the western
coastal valleys (J. Topic and Topic 1987: 53, T. Topic 1991: 241). The architecture of these sites is reminiscent of the Marcahuamachuco style, and it is clear that all outposts were associated with roads.

The subsequent Amaru Phase (AD 600-800), which falls within the Middle Horizon, represented a time of cultural splendor. During this phase, local leaders redefined their strategy of territorial control, abandoning the western territories and redirecting the expansion toward the northwest, that is, toward the upper drainage basin of the Chicama River (J. Topic and Topic 1987: 53). This phase also saw the development of a new ceramic elite style that was manufactured in three different wares: fine orange, fine black, and fine brown. Local potters reproduced ceramic shapes that were typical of the Huari tradition (flat base *escudillas*, lyre-cups, bottles with tapering spouts)\(^23\) (Thatcher 1975, 1977; Topic and Topic 1984). Even local copies of Huari polychrome vessels were made (Thatcher 1977: 105; Topic and Topic 1984: 52). But the Huari influences were more vividly manifested by the construction of a Huari administrative centre (Viracochapampa) just 3 km away from the capital city. While the site was never completed nor occupied, a small contingent of Ayacucho traders were buried in the mausoleum of Cerro Amaru (J. Topic and Topic 1985: 31). According to Theresa Topic (1991: 243), Marcahuamachuco apparently functioned as an intermediate post in the central Andean interregional distribution network of Ecuadorian Spondylus shells. The Huari established links with the regional center only to secure their access to this highly priced ritual item.

\(^{23}\) Even though the most common Amaru Phase fine ceramic shapes have a clear Huari inspiration, the decoration of these vessels follows strict local patterns.
During the final Late Huamachuco phase (AD 800-1000), the splendor of the old regional center began to fade. The site lost contact with other power centers of the distant South (J. Topic and Topic 1985: 46). Imports of Cajamarca ceramics also fell dramatically (Terada and Matsumoto 1985: 88). In Marcahuamachuco, the construction of curved and straight galleries continued, but with less emphasis than in previous phases. The site continued to exert influences on the high Andean territories to the Northwest. Finally, from the year AD 1000 forward, the site entered a stage of complete isolation.

Concurrent with the winds of change that are blowing in Moche archaeology, John and Theresa Topic, who have been conducting research in the Marcahuamachuco area since 1977, have recently changed their interpretations about this important site. Even though they still validate the regional sequence, they no longer regard the site as a "city", but as a major ceremonial center in which independent local communities congregated to honor their dead (J. Topic 1998, J. Topic and Topic 2000). These groups, locally known by the Quechua name "pachaca", shared the same culture and occupied the area formerly considered as the core territory of the Marcahuamachuco state (the upper drainage basins of the Moche, Chicama and Condebamba rivers) (J. Topic and Topic 2000: 187-188). Distant outliers of this same tradition would have been located in the Cajamarca Valley (Cerro Coyor) and in the southern area of Conchucos (Cungush) (J. Topic 1998: 118).

The new vision about Marcahuamachuco represents a breakthrough in Andean archaeology, because it is consistent with behavioral patterns that are typical for this cultural area. In the specific case of the highland-coastal interactions, investigations carried out so far have been unable to prove the existence of direct contacts between the
Marcahuamachuco *pachacas* and Moche communities (see, however, this study). It is possible, however, that during the Middle Horizon indirect exchanges between some of these communities may have taken place. The Spondylus artifacts that were used in Cerro Amaru’s rituals had a coastal origin, and the Late Moche site of Pampa Grande may have been the main distribution center of this commodity during that time. In fact, Pampa Grande has yielded the earliest-know workshops specialized in the large-scale production of Spondylus ornaments in the Andean area (Shimada 1994a: 213, 257). It is also true that Pampa Grande has not yielded fine ceramics or other ritual artifacts that are clearly distinctive of the Marcahuamachuco interaction sphere.

**The Otuzco Tradition**

The Otuzco area spreads along the upper drainage basins of two major coastal rivers: Moche and Virú (J. Topic and Topic 1987: 52). This area apparently housed a number of small independent polities that developed ceramic and architectural styles different from those of the Marcahuamachuco *pachacas* (T. Topic 1991: 237). These groups also lived in constant interaction with neighboring coastal communities. The point of contact between highland and coastal groups was the middle section of the western river valleys; a territory that is commonly know as "chaupiyunga"²⁴. In this area the highlanders grew crops that were impossible to sustain at higher elevations, such as coca leaves and chili peppers, as well as cotton and fruit trees (Netherly 1988: 265).

---

²⁴ *Chaupiyunga* is the name of a valley-bottom ecological zone that spreads between 300 and 1,800 meters above sea level in the western Andean river drainages (Netherly 1988: 264). This zone has a warm ad sunny climate throughout the year, and represents an ideal setting for agricultural activities. Given that precipitation levels are low, agriculture depends on the use of irrigation canals.
John and Theresa Topic (1983) argued that the Otuzco highlanders moved into the chaupiyunga of the Moche and Virú valleys long before Moche times, possibly during the Late Formative Period (ca 200 BC). The intruders shared the valley bottom territories with pre-Moche coastal groups in peaceful coexistence, conducting small-scale exchanges and even joint exploitation of local resources (J. Topic and Topic 1983: 257). Some intrusive Otuzco outposts possibly participated in a long-distance exchange network with emerging highland power centers, and were apparently responsible for the arrival of pre-Recuay and Early Cajamarca (AD 200-450) fine ceramics in coastal Gallinazo sites (J. Topic and Topic 1983). It is likely, however, that the Otuzco middlemen were importing prestige wares since earlier times. The Salinar site of Cerro Arena, located in the lower Moche Valley, has yielded examples of Layzon style ceramics (400-250 BC) from the Cajamarca area (Mujica 1984, Terada and Onuki 1982: 262).

During Moche times, the relations between the Otuzco communities and their coastal neighbors experienced a dramatic downturn. During the Moche IV phase, the coastal dwellers sought to establish a strict control of the middle part of the Moche Valley. For this purpose, they built the Huacamochal fortified site, located at 600 masl on top of a low spur overlooking the valley bottom, 36 km inland from the coastline (J. Topic and Topic 1987, Fig. 2; T. Topic 1991: 240). The conflict apparently worsened during the Moche V phase. By this time, the Moche had erected a series of fortifications in the vicinity of Huacamochal, spread along the river course at altitudes ranging between

---

25 Brian Billman (1996, 1999) has a different opinion. In his view, the Otuzco highlanders organized an armed incursion into the southern margin of the Moche Valley during Late Gallinazo times. This incursion allowed them to occupy even lower valley grounds at 100 meters above sea level. According to Billman (1999: 158), the highland intruders were eventually evicted from the Lower Moche Valley by a charismatic Gallinazo leader, and this feat marked the origin of the Southern Moche State.
700 and 500 meters above sea level (J. Topic and Topic 1987: 53). Their clear intention was to block out the lower valley and part of the middle valley from highland intrusion. Even the site of Galindo, located at the "valley neck" would have included a fortified redoubt (J. Topic and Topic 1987, T. Topic 1991). John and Theresa Topic (1987: 55) argue that the conflict with the highland neighbors was one of the main factors that prompted the demise of the Moche Valley coastal polities by the end of the Late Moche phase.

**Recuay Culture**

The Recuay Culture had its nuclear area in the upper Santa valley, a territory that is known as the "Callejon de Huaylas". The Santa River differs from most north coast rivers by having a long upper section that runs in a northerly direction through a typical highland environment. In this section, the river discharge is nurtured by the waters of melting glaciers, and the river forms a broad alluvium that is fertile enough for sustaining large populations. The Recuay Culture was composed of a series of independent petty chiefdoms that shared a distinctive elite ceramic style (Lau 2006). As was the case of the Cajamarca Tradition, the most typical fancy vessels of this style are made of kaolin clay. Unlike the Cajamarca case, the Recuay produced a wide repertoire of ceramic forms and their decorative variants are more complex. While ring-based bowls are still common, the Recuay also produced large jars with ovoid bodies and expanded necks, bowls with lateral handles, and many sculptured vessels representing buildings, humans and animals. Recuay painted decoration makes frequent use of abstract motifs, but also of stylized figures of *viscachas*, felines, condors and snakes (Lumbreras 1974: 112, 115; Moseley
The Recuay are also famous for their stone sculpture, which they used to decorate their monumental buildings (elite residences and mausoleums). Their most distinctive creations include tenon heads and, above all, carved monoliths with crudely-shaped, full-bodied representations of warriors.

The Recuay culture lacks a well characterized cultural chronology. Radiocarbon dates give it a temporal range extending from AD 250 to 700, which makes this tradition contemporary with the Moche phenomenon (Lau 2006). What is clear is that the Recuay, like other northern highland formations, established contacts with their coastal neighbors. Even though a few Recuay and Recuay-derived vessels have been found in the Lower Virú Valley (Bennett 1939: 72-73; Strong and Evans 1952, fig. 81), the most important contact points were located within the coastal section of the Santa, Nepeña, and Casma valleys. Settlement pattern studies conducted in the two former valleys (Proulx 1973, 1982, 1985; Wilson 1988) have disclosed the precise nature of this coastal-highland interaction, which repeats patterns attested in northern settings.

In the Santa Valley, David Wilson (1988) surveyed the area that stretches along the final 70 km of the river, which extends from the beachfront up to 500 meters above sea level. According to him, only this extended lower-valley-section offers spaces that are suitable for both irrigation agriculture and human occupation (above it, the river runs locked in a deep canyon) (Wilson 1988: 19). The cultural sequence of this valley section shows evidence of contacts with highland (Recuay) groups starting during the local Gallinazo Period. During this time, the coastal-highland interaction was apparently driven by economic concerns and involved peaceful exchanges. While Wilson did not detect any highland site within the surveyed area, the local Gallinazo occupation concentrated along
the highest part of the valley, and the ceramic repertoire of the Gallinazo sites included many typical Recuay ceramic forms – involving up to 65% of the type variants of the Early Gallinazo Phase (1988: 175). While Wilson’s classification of Gallinazo settlements includes many fortifications – 34 during the Early Gallinazo Phase and 21 during the Late Gallinazo Phase – these forts are evenly distributed along the valley, suggesting that the perceived threat came from neighboring coastal territories and not from the highlands (1988: 193). Indeed, Wilson (1988: 197) thinks that the unprecedented development attested to by the human groups that occupied the upper section of the surveyed area might have been due to the economic transactions established with displaced Callejon de Huaylas groups.

During the succeeding Moche Period the situation changed dramatically. Coastal settlements withdrew to the lowermost sections of the valley, leaving the upper part of the surveyed region almost deserted (Wilson 1988: 220). Even though the Moche built no fortifications, it is also true that they did not establish any kind of contacts with neighboring highland communities (there is no influx of highland ceramic influences). Within the Santa Valley, the Moche seem to have excluded the inhabitants of the Callejon de Huaylas from their sphere of interaction.

A similar pattern was documented in the neighboring Nepeña Valley (Proulx 1973, 1982, 1985). While Proulx was unable to define a Gallinazo presence in the area, he detected two Recuay and Moche settlement clusters, which he assumes were contemporaneous. These two clusters occupied separate parts of the valley (middle and low), showing no signs of territorial overlap. The same valley geography favored the separation. The Nepeña Valley narrows significantly in the transit zone between the
lower and middle valley sections, forming a natural boundary that was apparently used as a political frontier. Proulx (1985: 285) argues that there is very little evidence of armed conflict between highland and coastal groups, even though the Moche locked up the entrance to their coastal territory with the construction of a fortification at the valley neck. Both groups apparently followed policies of mutual respect and exclusion, and dedicated their time to exploiting the bountiful natural resources offered by their valley territories (ibid.).

What general conclusions can we draw about relationships that the Moche established with neighboring highland groups? First, it is quite clear that the Moche never attempted an expansion into the core territories of highland groups (valley and mountain settings above 1800 masl) (J. Topic and Topic 1983: 250). While anoxia (lack of oxygen at high elevations) would have represented one of the biggest obstacles that discouraged the coastal intrusions, it is likely that the Moche also rejected them because they found, in their own lower valley territories, all the resources that they needed for their sustenance (Moseley 1992: 27, 46). The human displacements that generated the encounters always followed the same direction: from the high mountain altitudes down into the coastal plains. The meeting ground was the chaupiyunga section of the western valleys, where both highland and coastal populations cultivated plant species that were highly prized in antiquity. Interestingly, in at least two cases – the Moche and Santa valleys – the Moche predecessors apparently were more agreeable to the presence of highlanders next to their coastal domains. During Gallinazo times, the middle section of coastal valleys represented areas where both groups pursued a joint exploitation of resources and exchanged basic necessities and luxury items.
Once the regional Moche power centers consolidated in the lower valleys, the situation changed radically. Each regional entity blocked up its territory by establishing a political boundary at the valley bottom at altitudes ranging between 500 and 600 meters above sea level. This barrier, which in some cases was secured with a formal system of fortifications, would have been designed to keep the highland intruders at a safe distance or at least to slow down their advance. This border was, however, not impenetrable to any kind of intercultural contact. Some prominent highland individuals sought to gain access to precious coastal commodities (Spondylus shells) that they needed to conduct their specialized rituals (water propitiation ceremonies). The specific mechanism used to ensure a stable supply of these goods to highland groups remains obscure.

A notable exception to the pattern described above was attested to in the Lower Jequetepeque Valley. Here, the Moche were not organized under a centralized rule, and hence, could not maintain an impassable border at the valley neck. This condition of political fragmentation would have facilitated, and possibly encouraged, the arrival of highland inhabitants into the very heart of the lower valley. This fragmentation also made possible the influx of foreign prestige objects in numbers never attested to in other coastal regions. A deeper review of the situation that prevailed in the Lower Jequetepeque Valley, especially at the site of Cerro Chepén, will be presented in subsequent chapters.

**Conclusions**

In this chapter I have described a number of distinctive features of the Moche cultural phenomenon that serve both to characterize this unique cultural development,
and to support various arguments that will be presented in following sections of this dissertation. The most important topics discussed in this chapter include the following:

1. The Moche culture presents obvious signs of sociopolitical complexity. There is clear evidence of marked social distances separating a prestigious elite segment from the vast majority of the population. There is also evidence of large corporate undertakings that were conceived and executed under a central management for achieving a better adaptation to the natural and social environments. But, perhaps the most distinctive feature of complexity is represented by the elaborate programs of materialization of ideology set forward by the elites. These programs involved the creation of large and highly embellished worship places, the manufacture of a wide range of power insignia, the development of an extremely complex system of symbolic communication, and the frequent staging of ritual ceremonies in which the elites portrayed themselves as guarantors of cosmic stability. The Moche elites were skilled in integrating these programs into a coherent proposal, which represented the most sophisticated strategy of ideological manipulation through visual media that was ever developed in the Central Andes. For the common villager, the mere idea of doubting the right to govern of these powerful leaders would have been unthinkable.

2. Despite these significant advances, the Moche phenomenon does not signal a major break with previous North Coast cultural developments. Many aspects of Moche material culture – productive infrastructure, construction techniques, settlement patterns, burial types, domestic ceramics – are similar, if not identical, to those of their Gallinazo predecessors. The Moche phenomenon is better distinguished by a new power ideology that was apparently adopted by a group of progressive Gallinazo leaders who wanted to
consolidate their prestige positions (Bawden 1995, 1996, 2001). In addition to assimilating various key concepts of the Gallinazo cult, this new ideology also embraced precepts of older North Coast cultural traditions – like Cupisnique and Salinar. In other words, in order to increase the acceptability of their new proposal, the emerging leaders merged the most transcendent myths and sacred icons of the greater North Coast Cultural Tradition into a single, potent cult.

3. The new vision that we are gaining about Moche culture indicates that, while the new elite cult displayed an astonishing unity of concepts throughout space, it also allowed the existence of different regional variants. During early Moche times, the new cult emerged with strong impetus in the northern Moche territories. The emerging cult demanded the production of a new set of ceramic and metal prestige objects that showed technical and artistic qualities almost impossible to replicate. These objects were carriers of the new Moche iconography, and were dedicated in large numbers to the burials of deceased leaders. In the southern territories, on the other hand, Early Moche development was weak. This situation changed dramatically during the succeeding Middle Moche phase, when a multi-valley state apparently consolidated in the South. The state leaders modified the existing symbolic communication system, introducing complex scenes as new means of ritual expression. In these scenes, we see a proliferation of new divinities, each one displaying specialized functions that were possibly imitated by elite members. In the northern sphere, the Middle Moche Phase represents a time of "cultural regression" in the Jequetepeque Valley. At the same time, however, the Lambayeque Valley was ruled by a dynasty (Sipán) that concentrated an amazing quantity of finely-crafted sumptuary objects. Finally, the northern Moche territories gained notoriety again during
the Late Moche phase. The inhabitants of the Jequetepeque Valley produced the best Late Moche ceramic pieces known, and the Lambayeque Valley housed one of the greatest Moche power centers of all time (Pampa Grande). One of the logical conclusions derived from this proliferation of ideological strategies is that the Moche collapse did not follow a unitary course. The analysis of the Moche demise can not be approached, therefore, from a holistic perspective.

4. The geography of the North Coast of Peru is largely responsible for this explosion of ideological variants. The Peruvian North Coast is a continuous desert strip crossed at irregular intervals by valleys of contrasting fertility. Each of these valleys concentrated enough (terrestrial and marine) resources to sustain the development of highly-localized, self-sufficient complex political orders (Netherly 1977: 207, Schaedel 1985a: 456). Great levels of productivity could have been achieved through the implementation of relatively simple agricultural techniques (irrigation canals with "adaptable dams", artificial soil fertilization, and the use of beasts of burden). Local leaders only had to pay close attention not to overload the work capacity of their subjects in their agricultural endeavors. The exploitation of marine resources was entrusted, on the other hand, to specialized communities of fishermen. These individuals reached an absolute nutritional balance thanks to their close interaction with farmers. Even though coastal fishermen would have enjoyed less stressed lifestyles, they also carried forward hard labor enterprises that furnished products necessary for the survival of the whole coastal community. The stability of both groups would have also been threatened by the occasional occurrence of environmental perturbations that had the potential of tearing down the productivity of the environments on which they sustained their livelihood.
5. Early Spanish judicial and administrative documents offer us a unique opportunity to understand the patterns of sociopolitical organization that were native to the North Coast (Netherly 1977, 1984, 1990; Rostworowski 1990). These documents prove that the local population was organized into different parcialidades, which comprised a set of interrelated family lineages. Each parcialidad was economically specialized, and claimed a territory that comprised the basic resources and infrastructure that the community needed for its survival. The local government of the broad community was entrusted to a series of parcialidad leaders (“principales”), who formed a command chain organized according to principles of duality and hierarchy. Interestingly, this hierarchical command system was flexible enough to ensure the survival of the lower-order decision makers in the event of the disappearance of the higher levels of command. In other words, a regional centralized political entity based on this system could collapse without leaving visible traces in the material record.

6. The Moche did not evolve in complete isolation within their lower valley enclaves, but were continually forced to deal with different peripheral groups that influenced, in one way or another, their historical development. Of the several cultural formations that evolved in the Northern and Central Andean Cultural Areas during Moche times, it was probably the groups that occupied the immediate highland territories who exerted the greatest influence on Moche regional developments. Most Moche local leaders shared the same concern – they were forced to devise strategies to counteract the natural tendency of highland groups to expand their control into the middle section of the western valleys. The preferred strategy consisted of closing up the access to Moche
grounds by establishing a cultural frontier that was sometimes sealed up with fortifications (Schaedel 1985a: 457).

Among the various Moche evolutionary trends, the Jequetepeque Valley might have housed the most diverging development. During the Early Moche phase, local leaders were able to concentrate an unprecedented amount of power, as manifested by the sumptuous elite funerary contexts of Dos Cabezas (Donnan 2003), La Mina (Narvaez 1994), and Balsar (Alva 1992). Interestingly, during the succeeding Middle Moche phase, this valley would have been the only Moche realm that experienced a setback in strategies of ideological control. During the Late Moche phase, the local power groups regained their vitality. However, during this time, the local political landscape was fragmented into several competing polities. The lack of centralized power enabled the percolation of highland influences, which affected the local cultural developments in a way not attested to in any other Moche territory. In summary, the Jequetepeque Valley is a good candidate for demonstrating one of the most singular collapse scenarios of the Moche sphere. While some authors (Castillo 1993, 2000; Dillehay 2001) have already made significant progress in the elucidation of this process, only the information provided by Cerro Chepén allows us to attain a complete image. The details surrounding this interpretation will be presented in subsequent chapters.
CHAPTER IV

THE MOCHE COLLAPSE

The Moche collapse was not a unitary phenomenon that affected all North Coast regional occupations at the same time. On the contrary, this process manifested various parallel trajectories, with a series of regional breakdowns taking place between the years AD 700 and 850. The purpose of this chapter is to review the main arguments that have been presented to explain the collapse of the Moche political regimes. The most important causal factors that have been cited by these explanations can be organized into two major categories: a) general factors (i.e. factors that would have affected, in one way or another, all Late Moche occupations), and b) historical factors (i.e. factors that were unique to each regional sequence).

The first category is dominated by environmental arguments. In the previous chapter, I presented a brief characterization of the natural environment of the North Coast that may project a false idea of stability and prosperity. The truth is that the North Coast is occasionally hit by different types of environmental perturbations (tectonic disturbances, droughts, severe El Niño events) that can destabilize the economies (both domestic and political) of local populations. During the decades of the 1950s until the 1970s, another general factor that was commonly cited to explain the Moche demise is military overthrow. In this case, a presumed northward expansion of a Middle Horizon highland empire (i.e. the Huari) was considered responsible for the abandonment of Moche power centers. In this chapter, I will evaluate the power of these factors
considering both the interpretive models that have been proposed and the evidence that has been gathered in recent years.

The historical explanations are case specific and highlight the particular circumstances that were involved in the disappearance of distinct Late Moche political orders. Although these formulations do not necessarily deny the destructive potential of the general factors cited above, they tend to draw more attention to cultural pathologies of social, economic, political and ideological character. To date, the disappearance of Late Moche political regimes has been investigated in detail in only three North Coast regions: the Lambayeque, Moche, and Jequetepaque valleys. In the second part of this chapter, I will use the original arguments presented by the investigators who reviewed these cases, in combination with my own research scheme, in order to complete a collapse picture that is attuned to the interests of this study. The quality of the final reconstructions will largely depend on the validity of the data provided by the original investigators. Data that, according to my scheme, are not pertinent to collapse processes will inevitably lead to ambiguous reconstructions.

The great droughts

A review of the various collapse models that have been proposed for the Moche case requires starting with an assessment of the available paleo-environmental evidence. In the Central Andes, the possibilities for building an extended paleo-environmental sequence with a high temporal resolution (as would be, for example, the case of a prolonged tree-ring sequence) are rare. There might be a single exception to this rule,

---

1 These data include, for example, information that hint to the existence of a “dynastic change”, rather than true political collapse.
represented by a 1500-year-long long rainfall record of glacial origin (Thompson and Mosley-Thompson 1987, Thompson et al 1985). This record was obtained from two ice cores that were drilled in the over 150 meter deep Quelccaya Glacier, located on the eastern escarpments of the southernmost section of the Peruvian Andes. While the Quelccaya glaciological record is not the only one of its kind in the tropical Andes (see Thompson 2000, Thompson et al 1984, 1995, 1998), it is singular for having offered the longest precipitation record, characterized by a high level of resolution even in its oldest sections. The remarkable resolution of the sequence depended largely on a series of special characteristics of the glacier that were not replicated in other cases. These characteristics include: a) the slight slope of the rock substratum (which favored the horizontal accumulation of ice), b) the low temperatures of the deepest segments of the glacier (which maintained the stability of the deepest ice layers), c) the unimodal rainfall pattern of the region, and d) the heavy annual deposit of atmospheric dust (Thompson 1980: 73, Thompson et al 1984: 4639-4640). This last feature was particularly important for the assembly of the sequence, since the deposit of atmospheric dust occurs every year only during the dry season, forming a stratigraphy in the ice that can be counted as if it were the rings of a tree (Shimada 1994a: 124).

In 1983, members of the Byrd Polar Research Center of Ohio State University used a solar-powered drilling system to extract two long ice cores from the top of the glacier (Thompson et al 1985: 971). These cores were called "Summit Core" and “Core 1”, and were 154.8 and 163.6 meter long, respectively. Once drilled, the ice cores were cut and stabilized in the field, where the initial micro-layer density measurements were also developed (Calaway 2005: 781). The samples were later sent to the central
laboratories in Ohio, where further analysis of oxygen isotopes, microparticle concentrations, and conductivity were conducted. These analyses resulted in the longest high-resolution paleo-climatic sequence for the Central Andes, extending back in time to the decade of AD 470. This sequence bears a high value for Moche archaeology\(^2\), given that it is the only one available that illustrates, with relative clarity, the climatic conditions that prevailed in the Andean area during the final decades of this great cultural tradition.

The reconstruction of the annual pattern of ice accumulation demonstrates that the last decades of the Moche sequence were not endowed with a favorable climate. Periods of low precipitation would have occurred between the decades of AD 540-560, 570-610, and 650-730 (Thompson et al 1985, Table 1). The resolution of these periods is considered to be reliable within a range of variation of +/- 20 years (Shimada et al 1991: 261). Of these three periods, the second constitutes the most severe drought of the entire glaciological sequence (Shimada 1994a: 124, Thompson et al 1985, Table 1). Intercalated with the periods of low precipitation, we find above-normal rainfall records elapsing between the decades of AD 610-650 and 760-1040 (Ortloff and Kolata 1993: 199, Thompson et al 1985, Table 1).

One of the most interesting results that we obtain when comparing the Quelccaya precipitation record with the Moche cultural sequence is that the great drought of the late sixth century did not unavoidably lead to collapse. This situation holds true even considering that this dry period reached the most extreme values of the whole sequence

\(^2\) Even though the Quelccaya Glacier lies more than 850 km away from the nearest Moche territory, the precipitation record derived from its ice cores is still valid for the Peruvian North Coast. This congruence is due to the fact that both the southern and the northern Peruvian Andes fall within the same area of climatic influence (Shimada et al 1991: 258). Some authors even suggest that the Quelccaya sequence may be applicable to the whole South American Andes (Ortloff and Kolata 1993: 218).
and, therefore, had the potential of becoming an “environmental threshold” (Kolata 2000). This event forced, nevertheless, a major redefinition of the organizational strategies carried forward by the leaders of North Coast complex societies. This situation is well documented in the case of the Lambayeque Valley (Shimada 1994a, Shimada et al 1991).

The great drought of the late sixteenth century would have caused an almost total cessation of rainfall in the northern highlands. The lack of rain would have affected, in turn, the discharge of the rivers that flow on the western slopes of the Andes. As happens today with La Leche River, it is likely that some North Coast rivers would have lost their superficial flow several kilometers before reaching the sea (Moseley 1999: 66). The answer that the Moche elites of the Lambayeque Valley put forward to confront this contingency consisted in organizing a massive population shift to the valley neck. In this area, they created the large urban center of Pampa Grande, which housed between 10,000 and 15,000 inhabitants (Shimada 1994a: 119). This site was erected inside a dry ravine that opens up into the river, 55 km from the sea. In this strategic location, the Moche gained several life sustaining benefits, which included: a) preferential access to (superficial) river water, b) access to the most fertile agricultural lands of the “Valle Viejo”3, and c) physical closeness to the canal intakes located at the valley neck (Shimada 1994a: 119, Shimada et al 1991: 263). We can gain an idea of the extreme water scarcity that affected the Lambayeque Valley during the late sixth century when comparing the local settlement patterns of the Late Moche (AD 550-750) and Middle Sicán (AD 900-1100) cultural phases (Shimada 1990). During the latter phase, the greater

---

3 “Valle Viejo” is the name of the most fertile and intensively cultivated section of the Lambayeque Valley. This section spreads along the mid and upper parts of the lower valley (Shimada 1976: 41-42).
availability of water made possible the colonization (with long irrigation canals) of the seaside sections of the lower Valley. In this area, the Middle Sicán built several power centers like Chotuna, Santa Rosa (near Lambayeque), and El Mirador (Shimada 1990: 338-39).

A similar population relocation occurred concurrently in the Moche Valley. In this region, the large Late Moche population center of Galindo was built at the same time that the occupation of the former capital of Cerro Blanco was fading (Bawden 1996). Interestingly, the old capital lay only 5.5 km from the sea, while the new site of Galindo was located at the valley neck (17.5 km off the coast). It should be noted that the Moche River has one of the smallest drainage basins of the North Coast, and therefore tends to lose its superficial flow during the dry season (Ortloff, Moseley, and Feldman 1982, figure 6). Drought-induced population movements were not unique to the North Coast, but also happened in other Central and South coast settings (Shimada et al 1991: 253-54).

Since the time of the initial publication of the Quelccaya sequence (Thompson et al 1985), many researchers have been optimistic about the prospects of finding significant cultural correlations for the most dramatic climatic imbalances recorded in it (Kolata 1996, 2000; Moseley 1997, 1999; Ortloff and Kolata 1993; Shimada 1994a; Shimada et al 1991; Williams 2002). Recently, however, the soundness of the Quelccaya sequence has been cast into doubt (Calaway 2005). Michael Calaway (2005) raised two objections that not only questioned the reliability of the data, but also the validity of the measuring techniques applied by the original investigators. First, Calaway (2005: 784) observed that the two Quelccaya cores only show consistent trends during the last 350 to 400 years of the general sequence. During earlier periods, the two sequences are not only difficult to
match, but also yield contradictory paleo-climatic reconstructions. Second, Calaway (2005: 784) argued that the exponential formula that Thompson and his colleagues (1985) applied to compensate for the extreme ice compression at the deepest levels of the cores only amplified any errors that the authors made when measuring the density of ice micro-layers on the field.

Even though Calaway’s article has not raised a formal reply, his objections can be easily refuted. First, it is fair to say that Thompson and his colleagues were aware of the cores’ inconsistencies from the start. The lack of congruity resulted from a skewed ice section found deep within “Summit Core”. This is why the authors suggested that only the data of "Core 1" should be deemed valid for time periods earlier than AD 1200 (Thompson et al 1985: 971). As for the alleged measurement errors, Calaway must demonstrate that they occurred or that it was an act of sloppiness which resulted in the identification of high humidity and drought periods during the initial part of the sequence.

In conclusion, while Calaway’s (2005) arguments can be refuted, his objections still serve as an alert to any over-optimistic attitude toward the validity of the Quelccaya data. The Quelccaya sequence may not have the temporal resolution of the North American dendroclimatic sequences. It is, however, the best indicator of broad climatic trends in the Andean area during the past 1500 years.

“El Niño” as a factor of political collapse

Climatic disturbance known as ENSO events (El Niño-Southern Oscillation), or simply put “El Niño”, are imbalances in air pressure, wind, and ocean circulation patterns that occur in the tropical Pacific (Caviedes 1984: 267). Normally, the circulation of wind
and sea currents in the tropical Pacific is determined by an area of high pressure located on Easter Island and an area of low pressure located on Indonesia. From time to time – measured with a relative frequency of once every 15 to 16 years – the differences between these pressure areas are exacerbated, and a siphon effect is generated in Southeast Asia. When the pressure stabilizes, the large masses of warm water accumulated around the islands of Indonesia begin to flow eastward across the Pacific on a collision course with the coast of South America (Moseley 1983a: 427-28, Nials et al 1979). At the same time, the South Pacific Anticyclone loses strength, and the cold Humbold Current, which borders the coasts of Chile and Peru from south to north, gives way to the warm waters coming down from the Northwest (Delavaud 1984: 20).

While El Niño disturbances tend to have worldwide implications, it is the coasts of Ecuador and Peru the areas that suffer the most severe impacts. Once the westward-flowing warm oceanic waters hit the coast of Ecuador, a current begins to move south along the coast of Peru, displacing the prevailing masses of cold water at an incredible speed of up to 16 km/day (Barber and Chávez 1983: 1205). This warm water intrusion, which directly affects the Peruvian North Coast, has two immediate consequences: a) an increase in the surface sea water temperature of up to 8° C, and b) sporadic formation of tropical storms on coastal settings that lie below 800 meters above sea level. The first factor is especially harmful for the fishing economies, given that the intruding warm waters are poor in phytoplankton. The marine food chain is destroyed from its very foundation, inducing high mortality levels and mass migrations of local cold water fish and mollusk species, as well of the birds and mammals that feed on them. The second factor, on the other hand, is devastating for the practice of irrigation agriculture.
The devastation that tropical rain storms can bring to the desert environment of the North Coast, which only receives up to 75 mm of rainfall per year, is simply overwhelming. Recorded severe rain episodes poured down 226 mm of water in just three days (Moseley 1983a: 428). These rains augmented the discharge of coastal rivers up to 11 times their average summer peak flow (Caviedes 1984, Table II). Rivers overflow their regular courses, razing adjoining agricultural land and human settlements. During the 1982-83 El Niño, for example, the bed width of the Reque River expanded from its usual 400 meters to 2000 meters (Caviedes 1984: 283). The destruction of the agricultural zone is not restricted to the valley center. During a rain of great magnitude, flash floods flow down the dry ravines of the barren hills that surround the lower valleys, sweeping across the irrigation canals that reach the most distant valley sectors (Satterlee et al 2000: 102). The rains also destroy deposits and other structures made of adobe bricks, which was the favored construction material on the Peruvian coast during pre-Hispanic times (Caviedes 1984: 281). Finally, once the backwaters recede, plagues of insects and rodents raze the few surviving crops and bring diseases to local human populations (Huertas Vallejos 1987).

For many authors, severe ENSO events may have constituted a cause of political collapse during pre-Hispanic times. Michael Moseley (1990: 20), for example, believes that an El Niño of great intensity and duration can lead to the downfall of political regimes because “they destroy the irrigation systems that feed the desert populace”. In the Piura Valley, Kaulicke (1991: 416, 1992b) associated a thick layer of alluvial origin with the origin of the Moche occupation and, consequently, with the downfall of the previous.

---

4 In March of 1983, the discharge of the Piura River reached record levels of 2428.4 m/sec., exceeding 22.4 times the average March discharge of the previous 30 years (Caviedes 1984, Table II).
Vicus-Vicus political order. The same author suggested that a similar event might have been responsible for the end of the Moche occupation in the area (Kaulicke 1993: 305). In the South Coast, an inundation of large proportions (called the “Miraflores Event”) led the Chiribaya farming communities of the Lower Osmore Valley to a devastating and abrupt end (Reycraft 2000, Satterlee et al 2000). Other authors have suggested that the beginning of long term episodes of site abandonment of major North Coast archaeological sites are associated with clear signs of flooding. The list of sites includes the large Formative ceremonial center of Purulen, in the Zaña Valley (Alva 1985: 68), the great urban center of Pampa Grande, in the Lambayeque Valley (Shimada 1990: 365), the "Intermediate" (final Late Moche) occupation of Pacatnamú, in the Jequetepeque Valley (Donnan 1986a: 22), the initial occupation of the Chotuna ceremonial center, also in the Lambayeque Valley (Donnan 1990: 269), and the Middle Sicán ceremonial precinct of Batan Grande, in the La Leche Valley (Craig and Shimada 1986: 36; Shimada 1990: 365), among others.

For Michael Moseley (1978b, 1983a, 1983b, 1997, 1999; see also Moseley and Deeds 1982, Moseley et al 1981, Moseley and Richardson 1992, Satterlee et al 2000), the destructive potential of ENSO events is not only related to its intrinsic magnitude, but also to its association with other geological and climatic disturbances that affected, and continue to affect, the Peruvian coast. Two additional types of disturbances are particularly pernicious: a) localized tectonic uplifts, which usually are accompanied with earthquakes, and b) droughts. First, Moseley reminds us that the Peruvian coast is a tectonically unstable setting. The Peruvian coast is located along the subduction zone of the Nazca Plate, which is colliding with, and introducing itself under, the South American
Continental Shelf at an average annual rate of 10 cm (Moseley 1983b: 781). This process generates seismic movements and lifts large blocks of the Continental Shelf, which do not evenly affect the whole coastal strip (Ortloff et al 1982: 575). One of the immediate results of the localized tectonic uplifts is the destabilization of the ravines and active water channels that abound on the coast. Earthquakes also release large amounts of rock and sediment that commonly block out these water courses. When an ENSO event of great magnitude occurs shortly after a major uplift episode, its destructive potential is magnified. Rain waters run with great force through dry gullies taken out of hydrostatic balance, carrying massive quantities of sediment with them. Rainstorms generate flash-floods of great magnitude that have landscape alteration properties equivalent to past Pleistocene events (Moseley 1983b: 783). Moseley and his associates (Moseley 1983a: 429, Moseley et al 1981: 238, Moseley et al 1992: 207) call the confluence of mega-El Niño and tectonic events “REACs” (Radical Environmental Alteration Cycles). They reserve, on the other hand, the term "Convergent Catastrophe" to describe cases in which a REAC occurs during a prolonged drought. In these cases, the devastating power of the REAC depends, not so much on its intrinsic magnitude, but on the low response capacity of a society that has experienced a long succession of poor agricultural harvests (Moseley 1997, 1999; Satterlee et al 2000).

For Michael Moseley (1992, 1997, 1999; Moseley and Richardson 1992; Moseley et al 1992), a "Convergent Catastrophe" involving a 30-year-long drought and a REAC of great magnitude would have been responsible for the abandonment of the Moche capital of Cerro Blanco, and the subsequent collapse of the Southern Moche State. A series of stratigraphic cuts indicated that, sometime late during the Moche IV Phase, a large REAC
flowed through the low ground that separates the two major huacas of the site, dragging with it a layer of sediment that reached up to 4 meters in depth (Moseley 1983a: 432, Moseley et al 1981: 249). The Quellcaya precipitation records indicate that this event occurred when the Andean area was suffering the effects of a prolonged drought (Moseley 1999: 66-67). While the Moche were apparently able to survive this occurrence, they ended up succumbing to a side effect of the massive flash-flood: the inland intrusion of a sand dune formation. The late sixth-century REAC drove large amounts of sediment into the sea, which were later pushed toward the shore by strong sea currents. The sediment formed a large sand bank along the beach, which fueled the formation of sand dunes that moved inland thanks to the action of strong southerly winds (Moseley et al 1992: 207-208). The dune advance created havoc in the southern section of the Moche Valley. It reached the Moche capital city of Cerro Blanco, covering the structures that lay between the two huacas. The dunes also spread through farmland and blocked out two of the three major canals that irrigated the southern valley (Moseley and Deeds 1982: 37). Agriculture in the nuclear Moche area, which possibly had already experienced a significant contraction due to the drought, was finally destroyed.

Despite the severe damages that high-magnitude ENSO events can inflict in the arid and tectonically active North Coast environments, some authors have presented evidence that seems to disprove their alleged role as collapse inducers. The second largest adobe huaca of the Moche capital of Cerro Blanco (Huaca de la Luna) shows repeated signs of architectural remodeling in response to high precipitation events (Uceda 1992, 1993). The same holds true for the Moche IV Huaca Cao Viejo, located in the neighboring Chicama Valley (Franco et al 2003: 155). The Late Moche site of Galindo,
also located in the Moche Valley, was hit on at least three different occasions by massive flash-floods that poured down a narrow gorge that stretches behind the site. Each flood not only destroyed part of the site’s architecture, but also altered significantly the morphology of the geographical setting (Moseley et al 1981). After each event, the site was rebuilt. In respect to the alleged REAC-induced abandonment of the Moche capital of Cerro Blanco, Chapdelaine (1998, 2000b) has demonstrated that the site maintained a significant occupation even until the eighth century of our era. While the site was affected by a dune intrusion, the local inhabitants conducted continuous sand-clearing operations, integrating the sand that could not be carried away into construction fills (Chapdelaine 2000b: 132). The picture offered by Cerro Blanco is, therefore, congruent with the Matacapan case (Santley et al 2000: 158, see Chapter II), proving that when complex societies see their most valued central precincts being devastated by a natural phenomenon, they do not hesitate to implement hard-labor enterprises in order to reestablish their former grandeur.

After reviewing the pertinent information that both supports and denies the role of ENSO events as collapse-inducing factors, I think that it is viable to ask under what circumstances a major El Niño event can lead to a total political breakdown. I think the answer lies in Moseley’s concept of “Convergent Catastrophes”. As explained in Chapter II, if the disturbance occurs at a time when the subsistence economies of farmers are yielding a positive balance, and the political economy of the central power institutions maintains a healthy level of reserves, the recovery will be imminent. If, by contrast, the environmental imbalance occurs at a time when the productive force is already experiencing high levels of stress, the recovery will be more difficult, if not impossible.
This relationship is well expressed in two specific North Coast cases that date back to the late pre-Columbian and Early Colonial periods.

An exemplary case of recovery occurred in the Moche Valley during the Early Chimú Phase (ca. 900-1200 AD). Around AD 1100, a REAC of great magnitude destroyed the complex irrigation networks that the Chimú had built in the vast agricultural expanses that lay behind their capital city, Chanchan (Moseley 1978, 1983a, 1983b; Moseley and Deeds 1982; Moseley et al 1981). The REAC was so devastating that it swept away a 1-meter-deep superficial soil layer in the entire lower valley, and induced a severe entrenchment of the Moche River in the area where most canal intakes concentrated (Moseley 1983b: 786). After this disastrous event, the Chimú were able to rebuild only a small fraction of the previous irrigation system, giving up to 75% of the land that was formerly under cultivation. Despite this loss, the Chimú political order flourished under a new official program of territorial conquests (Topic 1990: 184). The Early Chimú case illustrates that a complex society that maintains an adequate reserve of resources can survive a high-magnitude REAC. This case also gives support to the theory that states that a complex society under stress can reach prosperity when replacing a failed energy subsidy (agricultural expansion) with a more efficient strategy (territorial expansion) (Moseley 1990: 34).

A second case concerns an event of institutional collapse that occurred on the North Coast a few decades after the arrival of the Spanish. In the year of 1578, an El Niño of great magnitude hit the Peruvian northern coast. This event was the first mega-ENSO witnessed by the Spanish, and was registered in many documents and testimonies that stated, among other things, that "el valle de Túcume [La Leche] era una mar y las
acequias eran ríos caudalosos (Huertas Vallejos 1987: 73). This El Niño would have constituted the "coup de grace" to the already weakened institution of local governors – curakas – who had already experienced a great loss of authority due to the changes introduced by the Spanish administration. After 1578 El Niño, local curakas no longer had the power to summon large workforces for repairing the damaged canals, and for the first time, Spanish official were forced to take over this responsibility (Huertas Vallejos 1987, Netherly 1984: 246). Susan Ramirez (1996: 40) argues that the decade of 1570 was a turning point in North Coast power structures. For the curakas, this decade marked the demise of the "old style" of government, which was focused on the pursuit of the common good. This decade saw the initiation of a "new style" of political service, marked by the satisfaction of personal interests and a strong adherence to the interests of the Spanish Crown.

Finally, the specialized literature lacks an objective assessment of how dissimilar the impact of a severe ENSO would have been for fishing and farming communities. As we have seen, these two groups made up the most important component of the North Coast parcialidades. Usually, it is assumed that the most affected group would have been the farmers, since they were highly dependent on delayed-return economic systems. Fishermen, on the other hand, are commonly seen as simple "opportunistic gatherers" (Netherly 1977:4 2). When a severe El Niño hits the coast, farmers not only lose the prospect of replenishing the energy reserves that they invested in their fields, but must invest more energy to bring up the agricultural system back into operation. The fishermen, on the other hand, must simply wait for tropical fish to replace the displaced cold water species in order to continue with their *modus vivendi*.

---

5 “the Tucume Valley was a sea and its canals were charged rivers”.

The vision that magnifies the impact on farmers and minimizes the impact on fishermen is highly unreliable because it overlooks key environmental and technological features. First, this vision does not address the uneven recovery potential of river and marine ecosystems. While it is true that a heavy rainstorm can ruin a complex irrigation system, these events usually offer other opportunities for agriculture. Flash-floods and river overflows deposit thick layers of silt on the ground that are "a favorable factor for the regeneration of exhausted soils in northern Peru" (Caviedes 1984: 283). On the other hand, heavy rainfall activates most arid ravines of the North Coast, and some of them may carry surface water flows for months after the perturbation. These spontaneous water sources help to expand the practice of "floodwater irrigation" to broad sectors of the valleys, allowing farmers to raise bountiful harvests with minimal effort (Delavaud 1984: 91). For example, after the devastating 1578 rains, which razed farmlands and villages in the Lambayeque and Saña valleys, the inhabitants of the neighboring Jequetepeque Valley experienced an unusual agricultural prosperity. A Spanish witness explained the reason behind this unexpected economic boom:

“[Los indios del valle de Jequetepeque] tenían abundancia de maíz, porque habían sembrado maíz en unos arenales y con el gran xugo que quedó de las aguas se crió gran fuerça de maíz.”7 (Huertas Vallejos 1987: 180).

Other positive side effects of El Niño events include the recharge of the water table, and the formation of large lagoons and grasslands in areas that otherwise sustained

---

6 After the 1983 El Niño rains, a water stream flowed through the commonly dry Cupisnique ravine, located between the Jequetepeque and Chicama lower valleys, for almost two years (José Carcelén 2006, personal communication).
7 “[The indians of the Jequetepeque Valley] raised a lot of maize, especially those who planted on the sandy plains which, thanks to the abundance of water, produced large quantities of maize”.

barren hills and pampas (Ferreyra 1988: 60, 1993). The marine ecosystem, on the other hand, can take up to three years to recover its normal level of productivity.

Second, this vision tends to overestimate the adaptability of the technologies used by fishermen. The fishing technologies developed by North Coast fishermen were designed to exploit cold water fish species. Early colonial documents note that coastal fishermen employed up to nine different types of fishing nets, each one designed to catch a specific type of fish (Rostworowski 1981: 102). These nets would not have been suitable for catching tropical species, some of which – like tuna, marlin, bonito, swordfish, *perico* – have large body sizes and high weights (Caviedes 1984: 275). While some occasional captures might have taken place (perhaps using other means), massive extractions would have been impossible. The situation is compounded when we consider that the Peruvian coast mollusks, which are easier to capture and could represent a protein reserve in the case of fish absence, also tend to be decimated by ENSO events\(^8\). In this case, the replacement by tropical species, whose larvae are carried by warm water currents, tends to be very slow. Within the altered Peruvian sea, warm water mollusks only flourish when they find a particular shallow lagoon ecosystem with direct access to the sea (Diaz and Ortlieb 1993). Once the ocean anomaly has passed, the recovery of cold water shellfish species tends to be even slower than that of fish.

Another major disadvantage that a widespread oceanic anomaly would have represented to North Coast fishermen relates to the total disruption of traditional fishing strategies. Early colonial documents note that coastal fishermen had fixed fishing

\(^8\) It should be noted, however, that ENSO events would not have eradicated all the mollusk species adapted to the Peruvian sea. A population survey of 14 species of cold water mollusks affected by the 1983 El Niño demonstrated that, while most species experienced dramatic population losses, two species (*Argopecten purpuratus* and *Thais chocolata*) manifested an unusual reproductive rebound (Diaz and Ortlieb 1993). Of these two species, only the latter is common in the North Coast.
territories (Rostworowski 1981: 84, 1989: 270). These fishing areas tended to coincide with deep-water areas where upwellings took place and were vigorously defended by the communities that exploited them. Early Spanish legal documents testify that these areas were the subject of treaties, negotiations, and even disputes between groups of fishermen of neighboring and distant regions (Rostworowski 1981: 85). One of the immediate effects of an ENSO event would have been the disappearance of predictable areas of fish agglomeration. While the intruding Equatorial waters would have also been enriched by the nutrients carried by the deep-water upwelling, the warm water would not encourage the proliferation of phytoplankton (Barber and Chávez 1983). This problem would have generated two impacts among fishing communities:

1. Uncertainty in fishing operations. In fact, the high energy investment involved in the assembly, preparation, and transportation of fishing teams to predetermined fishing areas was not paid back by the promise of a safe catch.

2. Dissolution of treaties. The disappearance of fishing areas that were the subject of negotiations between fishing parcialidades would have most likely entailed the disappearance of the covenants that regulated their exploitation.

We can anticipate, then, that El Niño events prompted, in some cases, the contraction of catchment areas of fishing communities.

It is difficult to visualize, without a detailed investigation, how the fishing communities managed to survive the severe environmental perturbations caused by ENSO events. Given that most of them participated in complex political orders led by farming communities, they could have been provided with emergency subsidies, especially during the most severe months of the perturbation. We can not rule out,
however, a certain level of internal crisis and "institutional anxiety" within the communities that were used to a relatively relaxed lifestyle from harnessing the bounty of the Peruvian Sea. Even though the collapse of non-agricultural societies is not addressed in this study, I think that it represents an exciting research topic.

**The Huari invasion**

Huari is the name of a powerful ethnic highland group that had its seat of power in the Ayacucho Valley, some 520 km southeast from the southernmost Moche territory (Huarmey). One of the most remarkable material aspects of this culture is its ritual pottery, which assimilated the most representative sacred icons of the Tiahuanaco cult, and achieved a broad distribution along the modern Peruvian territory between the seventh and ninth centuries of our era (Williams 2001, Table 1). In fact, the distribution of Huari relics is so extensive, that several archaeologists who contributed to the development of the first pan-Peruvian chronology, granted them the quality of "horizon markers" (Bennett and Bird 1949; Kroeber 1944; Menzel 1958; Rowe 1962a; Willey 1945, 1948, 1951). Currently, the Huari culture, together with other small regional traditions that were influenced by it, are representative of a pan-Peruvian cultural period known as the "Middle Horizon" (ca 550-1000 AD) (Isbell 2000, 2001; Knobloch 2000).

---

9 Max Uhle was the first who identified Huari-style ceramics on the Peruvian North Coast during his excavations of the Cerro Blanco site in 1899. Uhle (1913: 113) called these non-local vessels “Tiwanaku-like” because of their affinity with the Bolivian style. In 1948, Peruvian archaeologists Rafael Larco Hoyle proposed that the site of Huari in Ayacucho was the most probable source of these ceramics (2001c[1948]: 34). However, it was not until John Rowe, accompanied by two members of the “Virú Valley Project” – Donald Collier and Gordon R. Willey – made a brief reconnaissance of the ruins of Huari (1950), that this site was finally acknowledged as the diffusion center of the foreign ceramics. Before this visit, Huari ceramic materials on the North Coast were designated with different terms, including “Epigonal”, “Tiahuanaco”, of “Coastal Tiahuanaco” (Bennett 1939; Bennett and Bird 1949; Ford 1949; Kroeber 1925a, 1926, 1930, 1944; Willey 1945, 1948).
Dorothy Menzel (1958, 1964) divided this period into four epochs (the first two containing two further subdivisions) based on stylistic and stratigraphic criteria.

Ever since the first Huari ceramic fragments were discovered on the Peruvian North Coast (Uhle 1913), the favored argument used to explain their presence has been a "military invasion" (Bennett and Bird 1949; Kroeber 1930, 1944; Lanning 1967; Larco Hoyle 2001c[1948]; Lumbreras 1974, 1980; Menzel 1964, 1977; Schaedel 1951a, 1966, 1978). There are two reasons that might help us understand this propensity: a) a strong tendency attested to during the formative stages of Peruvian archaeology to explain major cultural changes in terms of "invasions", and b) a historically-known pre-Hispanic conquest event (in this case, conducted by the Inca), which also resulted in the presence of highland materials (especially ceramics) in the North Coast region. The invasionist argument remained speculative until the members of the Viru Valley Project (1946) began publishing the results of their research. These results seemed to confirm the alleged conquest. In fact, abrupt ceramic and settlement pattern changes were attested to in the Viru Valley sequence by the end of the Moche phase. The abruptness of these changes even led some authors to suggest that the conquest resulted in a total population replacement (Ford 1949: 67, see also Collier 1955, Strong and Evans 1952, Willey 1948, 1951, 1953) 10.

Advocates of the Huari-induced Moche collapse theory based their arguments on two major lines of evidence that found physical manifestation in several North Coast settings. These lines of evidence include: a) changes in local patterns of political,

---

10 Later on, Dorothy Menzel (1964) tried to reconstruct the scope of the Huari expansion by tracing the spatial distribution of dated Huari ceramic traits. In her opinion, the Huari expanded in two waves, one taking place during Epoch 1A, and the other during Epoch 2B. It was the second expansive movement the one which ended up encompassing the southern Moche territories (Menzel 1964: 70).
economic, and ritual behavior, and b) the sudden introduction of new sets of archeological features and materials. In their opinion, these major changes marked a clear break with previous Moche cultural patterns, confirming the strong impact that the alleged invasion had on virtually every aspect of organized community life. The first line of evidence is represented by four major cultural innovations:

1. A clear trend toward secularization, as evidenced by a marked decline in the construction of pyramidal structures, and the disappearance of ceramic types with strictly funerary function (Ford 1949: 68, Schaedel 1966: 342, Willey 1953: 397).

2. The beginnings of urbanism, as evidenced by the introduction of a new type of site, which Schaedel (1951b: 232) called the "urban lay center". The "urban lay center" is an extensive settlement that includes a series of monumental buildings with specialized economic, administrative, defensive, and religious functions. This site type evidences a change in the organizational strategies of the local state (Proulx 1973: 50, Schaedel 1966: 340, 1978: 40, 1985b).

3. A change in burial patterns, manifested by the introduction of flexed interments (which replaced the traditional Moche extended burials) (Donnan and Mackey 1978: 213, Menzel 1977: 44).

4. A significant change in farming strategies, marked by the use of "field systems" instead of the former, less extensive "plot systems". This change responded to a clear imperial policy of maximizing agricultural production in the annexed territories (Proulx 1973: 50; Schaedel 1985a: 450, 1985b: 164, 1993: 240).
The second line of evidence includes a list of new objects and cultural features brought in by the conquest:

1. A new type of monumental building, called by Willey (1953: 353), "Rectangular Enclosure Compound." This structure is a large rectangular building enclosed by a high wall, that includes an internal symmetrical arrangement of rooms, corridors, and courtyards. A larger variant of this type has no internal constructions (Collier 1955: 137, Willey 1953: 350).

2. A change in construction materials, with stone structures replacing the traditional adobe brick structures (Schaedel 1951b: 241, 1966: 343).

3. New types of ceramic vessels and a new religious iconography, which was not only depicted on pottery, but also on murals and other objects (Collier 1955, Donnan 1972, Ford 1949, Schaedel 1985b: 160).


Proponents of the invasionist theory suggested two possible routes for the Huari territorial expansion. A first route ran south to north along the Peruvian coast, starting in the valleys now occupied by the city of Lima (Proulx 1973: 56, Schaedel 1993: 234). This invasion would have been responsible for the fall of the southern territories of the "Southern Moche State" and the strategic retreat of the surviving Moche populations to the northern valleys (Schreiber 1992: 273). A second route would have proceeded east to west from the heights of Cajamarca down into the coastal plains (Schaedel 1985a: 451, 1993: 234; Shimada 1994a: 251). Cajamarca is the northernmost highland region where administrative centers built with the typical Huari layout have been uncovered (Williams
and Pineda 1985). This region has also offered a large collection of pottery and other emblematic artifacts of the imperial power (Watanabe 2001). The second invasion route would have favored the eradication of the last remaining northern Moche refuges.

The theory of the Huari invasion and the forced disappearance of the Moche power centers remained unchallenged until the end of the 1970s. By that time, members of a new valley-wide archaeological program (the “Chanchan-Moche Valley Project”) and other archaeologists began publishing new data and interpretations on North Coast archaeology. Many of these researchers (Bawden 1977, 1982a, 1983; Brennan 1980, 1982; Donnan and Mackey 1978; Mackey 1982; Shimada 1976) pointed out that several of the alleged innovations brought in by the Huari had, in reality, a long history of local development. At the same time, a better understanding of Huari culture, generated through decades of research, helped to demonstrate that many of the odd cultural patterns manifested by many North Coast Middle Horizon traditions actually had a non-Huari origin.

At this point, I would like to recount the objections raised by the detractors of the Huari invasion theory, not only because they help to clarify the issue of the Moche collapse, but also because these arguments will serve to support further ideas that will be presented later on in this dissertation. The review will follow the same order of presentation of the pro-invasion arguments presented above.

The theory of the secularization process brought in by the Huari invasion loses ground if we consider three objections: a) not every North Coast religious building would have necessarily had vertical dimensions, b) the construction of pyramid temples on the North Coast did not decline nor conclude after the time of the alleged invasion, and c)
there is no evidence to support the idea that only Huari ceramics served a dual secular/ritual role on the North Coast. The first point will be touched here very briefly because it will be developed later. For now, it is enough to say that early ethno-historic information gathered in the Marcahuamachuco area confirmed that some Huari-like rectangular enclosures actually served religious functions (Anónimo 1992[1561]: 11).

Second, although the construction of adobe huacas apparently ceased south of the Chicama Valley during the Middle Horizon, the same pattern did not hold true in other northern territories. Pacatnamú (Jequetepeque Valley), one of the new sites allegedly introduced by the invasion (Lanning 1967: 139; Lumbreras1974: 166; Schaedel 1951b: 235) has a large sector filled up with pyramids (Donnan and Cock 1986a, 1997). We have already seen that the large Moche power center of Pampa Grande (Lambayeque Valley), which was entirely built early during the Middle Horizon, includes one of the largest adobe pyramids of the North Coast (Haas 1985, Shimada 1994a). In fact, after the demise of Pampa Grande the inhabitants of the Lambayeque area maintained the tradition of building large adobe pyramids almost until the end of the pre-Hispanic sequence (Shimada and Cavalaro 1985). Finally, in the Chicama Valley cultural sequence, the largest investments in adobe pyramid construction were made during the post-Moche Middle Horizon (Leonard and Russell 1996).

Regarding the impact of the alleged secularization process on ceramic production which generated a new emphasis in the manufacture of vessels with both ritual and secular functions (Ford 1949: 68), it is necessary to note that this same behavior occurred during Moche times. The same ceramic vessels that the Moche dedicated to their burials have also been found in structures with assumed administrative functions (Bawden 1977:
90, Bourget 2003, Shimada 1994a: 171). Finally, in curious opposition to this argument, all examples of Huari polychrome pottery that have been found on the North Coast come from ritual contexts (see below).

The argument that proposed that urbanism on the North Coast began with the Huari intrusion has also been matter of debate. Curtiss Brennan (1980, 1982), who investigated the Salinar site of Cerro Arena in the Moche Valley, suggested that this 2 km² settlement represented the most direct antecedent of North Coast urbanism. From this site onwards, there is an unbroken sequence of great population centers in the nuclear territories of the southern Moche, which include the Gallinazo sites of Cerro Orejas and Gallinazo, the Moche sites of Cerro Blanco and Galindo, and, finally, the great Chimú imperial capital of Chanchan (Bawden 1982a: 318, 1983: 218, Mackey 1982: 322-323). Galindo, the 6 km² settlement, houses several monumental buildings that obviously served specialized administrative, religious, habitation, and defensive roles. This site, however, has not yielded any sign of Huari influence (Bawden 1977: 397-98, 1983: 218). The same holds true for the Late Moche urban center of Pampa Grande, located in the Lambayeque Valley (Shimada 1994a: 10).

With respect to the changes in burial customs, it is true that the Huari introduced new funerary practices in the valleys they occupied, especially on the Southern and Central Coasts (Menzel 1964: 70, 1977: 44). While there are cases of flexed burials during the Moche era (Alva and Donnan 1993: 53, Strong 1947: 479, Uhle 1913: 107), these inhumations represent true exceptions, often relating to sacrificed individuals who were included as peripheral offerings in large tombs. The traditional Moche burial pattern includes an extended body position, with an individual being buried in a long cane coffin
or in a simple elongated grave (Donnan 1995, Donnan and Mackey 1978, Donnan and McClelland 1997). The sitting position becomes popular in the southern Moche territories by the end of the Middle Horizon, being generally associated to the Early Chimú Tradition (Donnan and Mackey 1978:241; Franco and Galvez 2005). It is possible to admit, then, that the flexed position was introduced in the North Coast by the beginning of the Middle Horizon. The question we must ask is whether this introduction truly represents an undisputable sign of imperial conquest.

I agree with Carol Mackey (1982: 329) that the change of body position represents, at most, evidence of the arrival of new ideas about the afterlife. This change, in itself, has no political connotations, nor is it sufficient to prove the subjugation to an imperial sovereignty. On the contrary, this innovation seems to give support to the theory that states that the Middle Horizon was a time during which cultural borders were opened, allowing an unrestricted flow of goods and ideas between different Central Andean cultural formations (Shady 1982, 1989). On the other hand, the new burial practice is not sufficient to prove the presence of possible Huari administrators on the North Coast. The seated position was the only component of the standard coastal Huari burial pattern – which also includes peculiarities in the type of body wrappings, grave form, type of offerings, and cemetery organization – that was diffused to the North Coast. For example, the large mummy bales crowned with false heads – which are common in Huari-related interments of the southern and Central Coast (Kaulicke 1997, figs. 16-23, 32.33; 2000, figs 1-6; Menzel 1964: 47, 1977: 30) – are absent in the North Coast11.

11 At the site of “Castillo de Huarmey”, Heiko Prümers (2000:34) refers to having found fiber crowns very similar to the ones that decorate the false heads of mummy bundles of the Huari-related Central Coast graveyards of “Chimu Capac”, “Ancón” and “Pachacámac”. Besides polychrome Huari ceramics, these crowns represent the only highly diagnostic Huari funerary trait found on the North Coast. It should be
Finally, the low value of body position as a reliable indicator of Huari influence is attested to at the Late Moche cemetery of San José de Moro, where Huari and Huari-like ceramics were included in burials containing only individuals buried in the extended position (Rucabado and Castillo 2003: 18).

With regard to agricultural practices, Donnan and Mackey (1978: 213) have observed that there is no change in irrigation technology nor water management strategies in the North Coast coinciding with the Middle Horizon. Rather, the evidence shows an image of continuity, with the same strategies used by the Moche being employed on a more extensive scale by the Chimú several hundred years later. We can expect, then, that the Moche built several "field systems", but that they now lie buried under the more extensive Chimú systems.

The list of features and artifacts introduced by the supposed invasion has also been subjected to detailed scrutiny. Again, opinions abound that assert that these traits were forged locally (before the Middle Horizon), or that they are not diagnostic of a condition of political subjugation to a foreign power. These objections can be summarized as follows:

1. Rectangular Enclosure Compounds. Willey (1953: 345, 397) admits that this architectural form has a Salinar antecedent in the Virú Valley. On the other hand, rectangular enclosures (i.e. "Cercaduras") are common at the Late Moche sites of Galindo and Pampa Grande, which, as has been stated, show no evidence of Huari influence (Bawden 1977: 399; Shimada 1976: 529). It is possible that these Late Moche

---

noted, however, that the crown are spatially restricted to the southernmost territory of the Moche sphere of influence (Huarmey Valley), and that the only decorated crowns bear Moche iconography (Prümers 2000, Fig. 26). At the site of “El Brujo”, Franco and Gálvez (2005) uncovered many mummy bales with false heads. In that case, the interments belong to the post-Huari, Middle Sicán (Lambayeque) Period (Franco and Gálvez 2005: 103).
architectural forms derived from local Middle Moche antecedents, like the walled rectangular plazas that spread in front of adobe pyramids (Bawden 1977: 396-97; Franco et al 2001, fig. 4; Willey 1953: 350).

2. **Stone architecture.** The North Coast cultural sequence testifies to an expedient use of construction materials. While it is true that the adobe brick was the most favored material during the Early Intermediate Period, sites that were erected in the highest parts of dry ravines or hills, further away from water sources, testify to a prolific use of stone for building purposes. In the North Coast, the use of stone as a construction material for monumental buildings dates back to the Initial (2,500-1800 B.C.) and Formative (1,800-200 B.C.) Periods (Alva 1986a, Pozorski 1982). This tendency did not die out with the passing of time. The Salinar center of Cerro Arena, which is located on the crest of a hill, is made entirely of stone (Brennan 1980, 1982). The same applies to other Salinar sites located in the Viru and Santa valleys (Willey 1953: 345, Wilson 1988: 145). During the Gallinazo Period, the Viru Valley Tomaval and Saraque "castles", which were built on top of rocky prominences, have massive stone foundations. Finally, in the great power centers of Galindo and Pampa Grande, the buildings that occupy the deepest parts of the ravines are often built of stone (Anders 1977: 245, Bawden 1977: 289, Shimada 1994a: 145).

3. **New iconography and ceramic shapes.** At the beginning of the Middle Horizon, new Huari-related ceramic forms and design elements were introduced into the North Coast. Even a few Huari polychrome ceramic pieces were imported to this region (Castillo 2000, Fig. 15; Dissenhoff 1957, Fig. 3; Donnan 1968; Kroeber 1925a, Plate 63 b-d). These innovations appear in Late Moche and post-Moche contexts, and have been
taken as indicators of a military conquest. It is safe to ask, however, if these innovations really represent indisputable evidence of the imposition of a new imperial power ideology. Luis Jaime Castillo (1993), for example, suggested that the assimilation of Huari cult elements was a voluntary act performed by Moche elites who wanted to revitalize their decadent power ideology (see below). In fact, in the North Coast the Huari influences were synthesized in a new hybrid style, called by Larco Hoyle (2001c[1948]:35) Mochica-Huari. This style found physical manifestation both in pottery and mural decoration (Donnan 1972). While the Moche borrowed several stylistic and iconographic elements from their southern peers – such as ceramic forms, polychrome decoration, organization of the design field, and some subsidiary icons – it is necessary to stress that they never represented the central deities of the Huari pantheon such as the "Staffed God "or the "Mythical Angels". To the contrary, the Moche used the new decorative techniques for representing the mythological beings of their traditional pantheon (McClelland and Donnan 1999: 159; see also Castillo 2000, figs. 27 and 28; Disselhoff 1957, fig. 1; Donnan 1972; Rowe 1942; Stumer 1958, fig 5).

4. Arsenical bronze. It is necessary to stress that this metallurgical technology was developed by the Moche (Lechtman 1979: 12, Shimada and Merkel 1991: 81). If, in any case, the Huari knew this technology it is because it was diffused to the Ayacucho area from the North Coast. On the North Coast, the use of arsenical copper becomes popular not during the Middle Horizon, but during the subsequent Middle Sicán Period (900-1100 AD) (Shimada 1985b: 370, Shimada and Griffin 1994: 60; Shimada and Merkel 1991: 81).
By all accounts, it is becoming increasingly difficult to find a clear connection between the Moche collapse and a possible foreign invasion. In other words, it is not possible to verify the imposition of a Huari power ideology on Moche populations, nor the replacement of traditional Moche elites by new foreign managers. Perhaps the most significant obstacle faced by the "invasionist" argument is the absence of planned Huari administrative centers, which may represent the clearest manifestation of a foreign presence on the North Coast. Such centers are common on the Peruvian highlands, being distributed from Cajamarca in the North to Cuzco, and the heights of Moquegua in the South (Williams and Pineda 1985, Schreiber 1992). All these sites share a distinctive architectural style, which Isbell (1991) called "orthogonal cellular architecture". This style includes, among other features, large rectangular enclosures divided into several "patio-group cells". The latter consists of a series of elongated stone galleries (some of them sustaining two or more floors) with low frontal benches surrounding a quadrangular courtyard (Isbell 1991: 294). This kind of architecture has not been documented on the North Coast (see, however, this dissertation).

A second major hindrance to the invasionist proposal refers to the fact that all Huari materials that have been found on the North Coast come from ritual contexts (isolated offerings or burial goods) (Castillo 2000, Donnan 1968, Prümers 2000, Uhle 1913). Even the site of "Castillo de Huarmey", which has yielded the largest quantity of pristine-style Huari and Tiahuanaco artifacts, has been interpreted by the most recent researcher as a "funerary platform" (Prümers 2000: 294). If the new Huari influences in some way affected the prevailing Moche ideology, the impact was limited to the funerary-ritual field (Mackey 1982). Therefore, given the minimal amount of foreign
elements introduced, their physical manifestation in only one aspect of the local program of materialization of ideology (funerary ceremonies), and the continuity of patterns of Moche domination, it is easier to interpret this evidence as a voluntary assimilation of selected elements of the Huari cult, rather than as a forcible imposition of a foreign power ideology on Moche elites.

Authors who still proclaim the idea of a Huari conquest of the North Coast (Isbell 1991; Schreiber 1992, 2001) do not find, in the above mentioned evidence, a clear opposition to their arguments. In their view, the limited presence of highly-diagnostic Huari material elements in the northern territories may be the result of a strategy of indirect (formal) rule (Doyle 1986: 38). In other words, when an expansionist power assimilates, by mutual agreement, a complex society, there is no need to build either new military installations or administrative compounds in the incorporated territories. It is more efficient to use the existing infrastructure to exploit the natural and human resources of the locality. Imperial leaders can even recruit local nobles to serve as administrators of the annexed territory. In fact, ethno-historic documents prove that the Inca applied this strategy to subjugate the local Chimú populations (Hayashida 2003: 305, Hyslop 1990: 249-251). During Inca times, several North Coast polities had to send their tribute to an imperial center located in what is now the city of Cajamarca (Ramirez 1990: 524, 1996: 7).

The theory that the Moche end was brought forward by a strategy of indirect rule can be discredited on two grounds. First, as was mentioned in Chapter II, as long as this strategy allowed local leaders to remain in place and conduct their traditional ideological practices, it is not possible to speak of political collapse. Second, even though the Inca
conquest of the North Coast left a varied record of new ceramic shapes, hybrid styles, and even a few imported highland vessels, these pieces not only figure prominently in funerary contexts, but also in administrative structures (Conrad 1977, Hayashida 2003, Mackey 2003, Sandweiss and Narvaez 1995: 194).

**The fall of Pampa Grande**

So far, I have reviewed the general factors that some authors think were involved in the Moche demise. I would like to turn now to more specific collapse scenarios that have been proposed for different regions. The Late Moche demise has been studied in detail in three North Coast valleys: Lambayeque, Moche, and Jequetepeque. The arguments put forward to explain the regional demises go far beyond simple generalizing schemes, placing instead more emphasis on the specific political, economic, and ideological conditions that were unique to each setting.

I want to start the exposition with the case of the Lambayeque Valley, given that this area housed what some authors believe was the last Moche capital (Pampa Grande). The broader Lambayeque area encompassed three neighboring lower valleys that were interconnected by major irrigation works in antiquity: the La Leche, the Lambayeque, and the Saña valleys (Shimada 1976: 24). In this vast region, which contains the largest expanse of agricultural land of the entire Peruvian coast, the Late Moche occupation was rather sparse. Local settlements included the mega-population center of Pampa Grande, which would have housed between 10,000 and 15,000 inhabitants, and a score of smaller sites scattered in the middle and upper portions of the three lower valleys (Shimada 1994a: 167; fig. 3.15).
The most important event that occurred in this region during the Late Moche Phase was the creation of Pampa Grande. Starting as a small village located in an arid ravine, Pampa Grande grew to become one of the largest urban centers in the Central Andes during the Late Moche Phase (Shimada 1994a: 127). The traditional view on the Moche culture states that this site was the result of a massive human immigration from the southern Moche territories (Moseley 1978a: 531, Shimada 1976: 518). However, the density of Late Moche settlements in the Lambayeque area is too low to admit the theory of an outside-induced growth\(^\text{12}\). One can conclude, then, that Pampa Grande is the product of demographic processes that were internal to this macro-region. The site acquired its colossal dimensions when the leaders of different local parcialidades decided to move, along with their subjects, to a local zone that offered many advantages for the practice of irrigation agriculture. This zone was the “neck” of the Lambayeque Valley. As was stated at the beginning of this chapter, the reason behind this internal population relocation would have been the high climatic instability that hit the North Coast during the sixth century of our Era (Shimada 1994a: 128, Shimada et al 1991: 263).

During the years 1973 to 1975 the site of Pampa Grande was intensively investigated by members of the Royal Ontario Museum Pampa Grande Project, under the direction of Kent C. Day. One of the participants of the project, Izumi Shimada, conducted additional excavations at the site in 1978. The research carried out at Pampa Grande demonstrated that this 6 km\(^2\) site is well planned, comprising up to 14 sectors in

\(^{12}\) David Wilson (1988: 221) calculated a total Moche IV Santa Valley population of around 22,000 people. Richard Schaedel (1978: 38) offered an estimate of 19,350 people for the Virú Valley. If we assume similar population numbers for the Moche and Chicama valleys – half of whom would have turned into migrants – and ultra-conservative estimates of 5,000 inhabitants for each of the smaller Chao, Nepeña, Casma and Huarney territories – which, along with the Santa and Virú valleys, would have been totally deserted – we arrive at a total gross estimate of 80,000 displaced Moche IV individuals. This estimate is simply too high to be reflected in the sparse settlement system of the Lambayeque area, even considering the absurd assumption that this area lacked a Moche occupation at the time of the alleged immigration.
which different specialized (administrative, religious, industrial, storage, habitation, transport) activities were developed (Shimada 1994a: 142-145). The spatial distribution of these sectors is determined by a longitudinal axis created by the layout of "Huaca Fortaleza", a huge truncated adobe pyramid of about 1,300,000 m$^3$ of volume that occupies a central position within the site. In addition to Huaca Fortaleza, Pampa Grande houses a second great adobe pyramid (La Huaca Menor) with a 380,000 m$^3$ of volume, as well as 20 smaller mounds distributed throughout the settlement.

Besides the adobe huacas, a type of structure that figures prominently in Pampa Grande is the "Rectangular Compound". The Rectangular Compound is a rectangular enclosure surrounded by a high wall, which usually contains several internal subdivisions and a few rooms. Shimada identified 40 of these structures at Pampa Grande, which he classified in 4 different categories (Shimada 1994a: 148). The largest compounds are usually associated with adobe huacas, while the structures that comprise the fourth category tend to be isolated (ibid.). The latter buildings are interesting because they have been interpreted as residences of middle-level administrators (Shimada 1976: 461, 1994a: 177). These residences tend to follow the same architectural plan. Their internal space is subdivided into three to four sections, which contain wide, open spaces, a rather chaotic arrangement of rooms, and a unique "hierarchical terrace". The latter are elevated structures composed of several low terraces arranged in a step-wise manner. The “hierarchical terraces” have been interpreted as the locus where administrators carried out their specialized functions (Shimada 1994a: 144). We will see later that these structures also figured prominently in the Late Moche sites of the Jequetepeque Valley.
The abandonment of Pampa Grande occurred between AD 700 and 750 (Shimada 1994a: XI). Shimada has found evidence that proves that this desertion was not entirely peaceful. The vast majority of the religious and administrative structures located in the central sectors of the settlement – the structures associated with the "Rectangular Compounds" used by the highest levels of Moche aristocracy – show obvious signs of destruction by fire (Shimada 1994a: 47). Shimada (1994a: 253) favors the theory of collapse by popular rebellion. As explained in Chapter II, however, a "violent uprising" is just one manifestation that popular disaffection can take. The rebellion, in itself, can not be considered a cause of collapse, but rather, as the response to a detonating factor that reached destructive dimensions when combined with predisposing factors of collapse. It is important to evaluate the presence of these factors in the case of the Pampa Grande demise.

The interpretation of the Pampa Grande data is not simple, given that Shimada did not address in detail the information required by the five-point research scheme proposed in this study. In any event, he seems to suggest that physical coercion may have been the detonating factor that exceeded the tolerance of the people. The evidence of coercion is manifested in the strict surveillance measures that the elites implemented to control the popular mass. Pampa Grande’s lower class inhabitants were concentrated on the "Southern Pediment", a wide esplanade that projected south of the site. This esplanade is separated from the central manufacturing and administrative sectors of the city by a deep ravine. The only form of communication between both areas is a narrow artificial pass that was rigidly guarded by administrative architecture (Shimada 1994a: 171-172). Shimada (1994a: 171) believes that one element that made this strict control more
humiliating was the different ethnic origin of commoners and elites. The ethnic differences might have generated attitudes of mutual distrust, warranting the use of extraordinary measures of social control.

Two important (predisposing collapse) factors that would have drained the energy reserves of the commoners, leading to a deterioration of their quality of life were: a) the negative effects of droughts, and b) the high labor investments that the elites demanded to sustain their ideological programs and the requirements of an urban lifestyle. As Shimada (1976: 521) explained in his doctoral dissertation:

“If there was large-scale environmental deterioration or, alternatively, encroachment of Huari forces from the South, we would expect that agricultural output would decrease significantly. Population nucleation does not resolve the problem. The only apparent solution would be heavier taxation and/or improvement of agricultural techniques. The former solution may well have been the major internal force that undermined the superstructure of the Moche V polity. […] It is easy to see the path to revolt or other forms of resistance to the Moche V superstructure”.

The productive force of the "Southern Pediment" would have had to meet various labor obligations in order to satisfy the political economy of local elites. These obligations included the transportation of raw materials and finished goods to and from the industrial sectors, preparation and transportation of food in these and other sectors (Shimada 1994a: 174), agricultural activities in elite lands, and, most importantly, participation in construction projects. The latter activity would have been extremely labor demanding. As explained by Shimada (1994a: 249)

---

13 Shimada (1994a: 171) inferred that most occupants of the “Southern Pediment” were of Gallinazo origin based on the recurrent presence of a specific type of Gallinazo-style domestic vessel in this sector. This type refers to face-neck jars in which the facial features were depicted with simple incisions and clay appliqués. It should be noted, however, that Early Moche and Gallinazo domestic ceramics are basically the same (Bawden 1995, Moseley 1978a: 523). Many decorative traits of Early Moche ceramics did survive until the final phases of the Moche cultural sequence.
“Construction [of gigantic Huaca Fortaleza] necessitated not only a
tremendous investment of material resources but also on-site permanence
of a labor force and the establishment of new administrative norms and
institutions. This effort to establish the new capital and to maintain and
legitimize the organizational byproducts that it spawned required constant
high-level mobilization of resources. Much of this burden must have been
borne by the masses”.

While Huaca Fortaleza would have been completed, the presence of unfinished
corporate architecture in the site’s periphery (Shimada et al 1991: 251), and the recurrent
evidence of architectural remodeling of the central sectors ("urban renewal programs" in
Shimada’s [1994a: 167] words), meant that strong investments in construction continued
unstopped until the abandonment of the site.

In conclusion, Pampa Grande seems to be a case of a "good strategy gone wrong".
Initially, the creation of this large settlement seemed to be a good solution for the water
scarcity problem that affected several farming parcialidades of the Lambayeque macro-
region. Once the population relocation was accomplished, the elites began sponsoring
highly expensive programs of materialization of ideology (as expressed in the production
of prestige objects and, above all, monumental architecture) that severely impacted the
work capacity of the commoners. To contain the growing discontent of a largely non-
Moche population base, the elites were forced to introduce coercive means of
subjugation. The implementation of these aggressive measures, coupled with the food
scarcity brought on by new droughts, would have exceeded the tolerance capacity of the
commoners, leading to a violent response.
Galindo and the ideological reorganization

Galindo is the southernmost Late Moche power center known. The traditional view of the Moche culture suggested that this center was erected in the same valley that housed the Cerro Blanco capital after the demise of the Southern Moche State, as an outpost meant to defend the remaining Late Moche northern refuges from a foreign menace moving up from the South (Bawden 1977: 407). New chronometric evidence, however, demonstrates that Galindo was built at the same time that the occupation of the old state capital was fading (Chapdelaine 2000). Galindo represents, then, an ideal setting in which the reorganization of southern Moche political, economic, and ritual strategies can be investigated.

The site of Galindo was intensively investigated by Garth Bawden as part of “Chanchan - Moche Valley Project” between the years 1970 and 1973. The site has recently been re-excavated by Gregory Lockard (2005). The site spreads over a vast alluvial plain formed by the detritus carried out by two neighboring dry ravines: Quebrada del Norte and Quebrada Caballo Muerto. This plain opens up to the northern sector of the Moche Valley, just below the “valley neck” area, and only 11.3 linear km northeast of the former capital of Cerro Blanco. As is the case of Pampa Grande, the site also shows clear evidence of careful planning. Unlike its northern counterpart, the internal layout of Galindo differs markedly from the traditional organizational plan of most Moche power centers.

First, the site’s center is not occupied by a large huaca (or group of huacas), as is the Moche custom. A few adobe huacas are present, but they are abnormally small and located in a peripheral position. The organizational focus of the site is shaped by three
"Rectangular Compounds" – called "Cercaduras" by Bawden – which command a central location within the site. It is clear that these structures served administrative functions, since two of them controlled the access to two vast areas of corporate storage – another novelty of the site – located deep inside Quebrada del Norte y Quebrada Caballo Muerto. It is also clear that the elites of the site oversaw the storage and distribution of foodstuffs, given that the only examples of elite residences documented at Galindo occur within a short distance and in close structural connection with "Cercadura B" (Bawden 1977, 1982a).

The change in settlement organization was accompanied by innovations in the style of prestige objects. While Galindo has reported several examples of Late Moche fine line vessels, their decoration denotes a total exclusion of the central themes and motifs of the classic Moche "complex scenes" (Bawden 1983: 232, 2001: 296). The vessels are decorated with simple geometric designs, which formerly fulfilled only peripheral decorative roles. The Galindo potters even adopted ceramic forms and decorative techniques that were typical of Central Coast Middle Horizon traditions (Bawden 1994: 220, 1996: 312). Despite these dramatic changes, it should be noted that even the new vessel forms decorated with foreign techniques always bore Moche designs.

Bawden (1990: 169, 1994, 1995, 1996: 277, 2001, 2004) interprets these innovations as evidence of a process of ideological renewal. Galindo would have housed a dissident faction of the Moche elite, which rejected the exacerbated pomp and individualistic tendencies of the old Moche ideology. In Galindo, the great pyramidal mound, sometimes decorated with multicolored murals and friezes, no longer represented
the axis of articulation between rulers and commoners. The Galindo leaders also abandoned the traditional symbolic communication system that ancient leaders employed to portray themselves as gods. It is also interesting to note that the famous Moche IV "Portrait vessels", which epitomized the individualistic tendencies of the old political order, were also totally disregarded by the Galindo elites (Bawden 2001: 296; 2005: 22). The Galindo elites seem to have opted for an ideological model with strong egalitarian overtones, which possibly assimilated concepts that were dominant in other Andean areas. Despite the great efforts invested in projecting a new image, architectural evidence suggests that this change of attitude was not welcomed by ordinary people.

At Galindo, a huge monumental wall encircles one of the largest pockets of low status habitation, separating it from the central activity areas of the site. This feature accentuates the marginal social position of the less privileged, subjecting them to clear disadvantages in terms to access to water, access to farmland, and access to the site’s productive facilities (Bawden 1977: 280, 1982a: 313, 1982b: 179). Bawden rightly interprets this architectural feature as an element of coercion created by the rulers to control a discontent popular substratum (Bawden 1995: 267, 1996: 304). The wall would have represented a transgression of Andean practices of rightful government, which impinge on reciprocity, redistribution, and the search for the common good (Ramirez 1996). In this sense, the wall was both the cause and the effect of the social tensions that affected the relationships between rulers and ruled. Interestingly, the Galindo commoners would not have missed the opportunity to express tacitly their

14 Theresa Topic (1991: 238-49) interprets the great wall of Galindo, which runs along the western base of a hill, as a defensive work. It should be noted, however, that the great wall has a limited length, separating only two zones that attest to high occupation density. The wall leaves the southern and eastern slopes of the hill totally unprotected. In the case of an attack, this feature would not have prevented the intruders from conducting an effective rear approach to the unsuspecting hill dwellers.
protest. They adopted funerary customs that differed from the standards accepted by the elites (Bawden 2001: 302, 2005: 29). Galindo has offered, then, a unique opportunity to unveil the "hidden transcript" (sensu Scott 1990) of the commoners.

What circumstances would have triggered the collapse of the last Moche redoubt of the southern territories? Bawden finds a cause in the failure of new elite ideology, which was possibly exacerbated by the severe deprivations suffered by the popular mass in the new urban environment (2001: 298):

“Thus, it seems that leaders attempted to combine the broadly legitimizing authority of a modified traditional discourse with the new pan-Andean features, in order to construct an effective ideological system to replace its discredited predecessor. This attempt failed, probably as a consequence of the extreme social alienation inflicted upon the non-elite population by the dramatic transformation to urban life with its enhanced social stratification and economic deprivation”.

There are reasons to believe that a series of external factors were undermining the productivity of the domestic economies of Galindo’s commoner households, exacerbating the popular discontent. We have already seen, for instance, that the site of Galindo was hit by three El Niño deluges of great severity, each requiring heavy labor investments in reconstruction activities (Moseley et al 1981). During the Late Moche phase, the lower section of the Moche valley was also being threatened by the expansion of neighboring highland groups. This threat demanded the construction of a series of fortifications in the chaupiyunga section of the Moche Valley, which also required the use of corveé labor (J. Topic and Topic 1987: 53)\(^{15}\). Finally, we can not forget the negative effects generated by the late seventh century drought (Bawden 1996: 274). Like Pampa Grande, Galindo was founded on the “neck” of the Moche Valley, an area with privileged access to water,

\(^{15}\) As was stated in Chapter III, John and Theresa Topic (1987: 55) state that the conflict with the chaupiyunga intruders would have represented a main causal factor in the local Moche demise.
farmland, and easy control of the intakes of major irrigation canals. It is interesting to note that Galindo was erected just three kilometers away from the ancient Formative center of "Caballo Muerto". According to Thomas Pozorski, who excavated this complex during the years 1973 and 1974, the location of this power responded to the need to ensure their residents non-laborious conditions to exercise their recently-developed agricultural technologies:

“The shift to the valley neck was made largely because the gradient at this point is sufficiently steep so that only short leadoff canals are needed in order to water relatively large tracts of land. Attempting to build canals near the river mouth would require canals of much greater length than at the neck since the gradient is much less. Granting this labor-saving mechanism, it is easy to see why the Caballo Muerto complex is situated near the neck (T. Pozorski 1982: 228)” (emphasis mine).

I can add that, under drought conditions, a valley neck location would have also ensured access to river water. In the Galindo case, additional evidence that suggests that a drought was threatening agricultural production as indicated by the introduction of two large areas of corporate storage – another new feature among the southern Moche sites – which were closely controlled by the elites.

In conclusion, a number of factors (El Niño floods, droughts, internecine war) were adversely affecting the energy reserves of the residents of the Moche Valley towards the end of the Moche sequence. Given that the occupation of the large power center of Cerro Blanco extended until the end of Moche V Phase, it is very likely that these factors may have been responsible for the eclipse of this great political center (Bawden 1996: 273-74). When the old Moche political order showed obvious signs of decline, a dissident faction of the Moche elite, following a strategy that could be described as a coupe d'état (Chapter II), took control and undertook an economic,
administrative and ideological reorganization of the polity in order to avoid total collapse. First, these leaders erected the new population center in an area that favored less laborious agricultural practices and safe access to water. Second, these leaders implemented measures to ensure a tight control of agricultural production, and possibly achieve a more efficient redistribution. Finally, the new leaders implemented an ideological reorganization that tried to create distance from the exacerbated pomp of the old order. In other words, the new leaders sought to minimize the negative effects generated by the old strategy of "conspicuous consumption".

Despite the implementation of these energy-saving mechanisms, the collapse was inevitable. The ideological reorganization was never properly understood by the masses. Apparently, the factors that had prompted a crisis in the old order were not totally suppressed, and the new leaders were forced to apply coercive measures to contain popular discontent. In the Galindo case, the popular disaffection apparently followed an unexpectedly peaceful course. The settlers, tired of sustaining an inefficient political structure, simply decided to break up and revert to self-sustaining systems of organization.

**Conflict in the Jequetepeque Valley**

We finally arrive at the Jequetepeque Valley, which is precisely the region that will be addressed in this study. Local Late Moche developments present two distinctive features that are not replicated in other North Coast areas. First, local communities manifest a strange openness to foreign influences. The Lower Jequetepeque Valley has been appropriately called the "crossroads of cultures and empires" (Kosok 1965: 115), in
the sense that this valley has a rich history of interaction between coastal and highland groups. The Jequetepeque River played a decisive role in intercultural contacts, since it constitutes a direct connection route between the political and cultural center of Cajamarca and the neighboring coast. Second, unlike other Moche territories reviewed thus far, the Jequetepeque Valley was not dominated by a single power center during Late Moche times. On the contrary, the local Late Moche population was dispersed into several nucleated settlements of equal size and political rank. The Jequetepeque Valley offers a political scenario that comes close to the image of different independent farming parcialidades separately pursuing their livelihood through the exclusive use of irrigation canals (Netherly 1977, 1984, 1990). These two special features give the Late Moche developments of the Jequetepeque Valley a unique character, which undoubtedly resulted in a singular collapse trajectory.

The Late Moche collapse in the Jequetepeque Valley has been approached by two researchers based on different perspectives. On the one hand, Peruvian archaeologist Luis Jaime Castillo (1993, 2000, 2003) has provided a collapse model that derives from his investigation of Late Moche funerary ritual, conducted at the site that possibly represented the most important ritual center in the region (the Late Moche elite cemetery of San José de Moro). On the other hand, American archaeologist Tom Dillehay (2001) offered an explanation that derived from his study of local Late Moche settlement patterns. Theses two approaches have yielded contrasting proposals that, nevertheless, could be combined in a coherent explanation (Chapter X).

San José de Moro is a ceremonial center located at the edge of the San Gregorio (or Chaman) River, which is a small waterway that runs parallel to the Jequetepeque
River through the northern sector of the lower valley. The site was constructed on top of a 20 ha barren terrace that rises three meters above the surrounding agricultural land. At first glance, the site looks rather inconspicuous. The prevailing horizontal landscape is broken only by a small central adobe pyramid and a few peripheral habitation mounds. In fact, the site’s conformation suggests that it housed only a small permanent population throughout the Moche sequence. The real transcendence of this site is manifested by the presence of an unusual concentration of Late Moche elite burials. The absence of these contexts elsewhere in the region led Castillo (2000: 148) to propose that San José de Moro functioned as a regional center for funerary activities. Even though sparsely populated, the site would have received hundreds of pilgrims on special occasions, who congregated from distant valley sectors to honor an important deceased leader. In fact, excavations carried out at San José de Moro since 1991 have exposed vast areas apparently dedicated to massive feasts, which lay directly on top of the burial ground (ibid).

Excavations at San José de Moro have unveiled the pomp of the Late Moche burial custom. The most opulent tombs are large underground adobe chambers in which the main individual was centrally placed, usually encased in a cane coffin adorned with metal ornaments. The main individual was not buried alone, but was commonly surrounded by a minimum of two (sacrificed?) human companions, as well as dozens of additional offerings, including pottery vessels, backed clay architectural models, metal ornaments, and sacrificed llamas. Two excellent examples of these lavish interments are the tombs of the "Moro priestesses", which were excavated during 1991 and 1992. Donnan and Castillo (1992) propose a close connection between these tombs and a well-
known Late Moche "complex scene" that is typical to the Jequetpeque area – "The Burial Scene". This scene depicts the possible sacrifice and subsequent burial of a high ranking female deity of the Late Moche pantheon, whose ritual insignia and distinctive attire is replicated in the offerings dedicated to the buried “priestesses” (Donnan and Castillo 1992, 1994; Donnan and McClelland 1979). For Donnan and Castillo (1992, 1994), these tombs prove that the Moche leaders actually impersonated their deities in life. In addition to the adobe chamber tombs, San José de Moro has offered a large number of simpler vertical-shaft-and-lateral-chamber burials, dedicated to less important individuals.

One aspect that distinguishes the funerary equipment of the Late Moche burials of San José de Moro is the presence of foreign goods, especially involving Huari or Huari-related pottery vessels. In fact, San José de Moro may be the coastal site that has reported the largest number of Huari vessels and copies thereof in the whole Andean area (Castillo 2000: 150). According to Castillo, the mere presence of these vessels can not be regarded as evidence of subjugation to a foreign power. The Huari vessels always represent a minimum component of the funerary goods, and the burials that contain them always respect the Moche burial pattern (Castillo 2003: 104). The inclusion of foreign elements seems to point to a case of voluntary assimilation. Castillo (1993: 75) argues that this assimilation process began when the ideology professed by local Moche elites fell into disrepute. To avoid falling into an "ideological vacuum", local leaders decided to adopt the precepts of a foreign cult that was enjoying wide acceptance in the Andean area at the time. Despite having conducted an efficient ideological reorganization, the assimilation process went out of control, leading to the ruin of the local political order.
How did this ideological revitalization process result in political collapse? Castillo argues that collapse ensued when the indiscriminate assimilation of exogenous symbols led the Moche elites to lose their identity. The demise process started when the upper echelons of the local elite, who had exclusive rights for the importation of Huari prestige objects, could not amass sufficient foreign objects to meet their redistributive obligations with low rank elites. The paramount rulers decided to solve this scarcity issue through the massive production of local copies, saturating the local "market" of prestige objects with replicas. In the end, the new production line displaced the manufacture of traditional Moche forms, and the local elites "disappeared from the iconographic record" (Castillo 1993: 76, 2003: 111).

Castillo’s theory, although highly suggestive, does not satisfy the requirements of the research scheme presented in this study. First, his collapse model does not fulfill the two requirements that are essential to identify archaeological collapse cases (Chapter II). As long as local elites remained in place, it would be more appropriate to speak of "ideological renovation" instead of collapse. Moreover, Castillo places too much attention on the transformation suffered by only one category of Moche material culture – the production of prestige objects. As long as the other material aspects of the Moche cult (the construction of monumental structures, funerary ritual) would have continued unchanged, it would be difficult to sustain the theory of a total ideological replacement.

Second, Castillo’s theory does not anticipate the intervention of destabilizing factors that could have undermined the living conditions of the commoners, nor the

---

16 It is necessary to emphasize, however, that some Huari-related ceramic pieces that Castillo interprets as local copies – especially the vases decorated with the “Chakipampa serpent” (Castillo 2000, Fig. 29) – are very much alike the “Chakipampa derivative” fancy vessels that were being produced in the Marcahuamachuco area.
possible solutions that the elites could have implemented to counteract their negative effects. In fact, Castillo totally ignores the popular substrate in his collapse explanation. The examination of the detonating factors of collapse is also unclear. Castillo (2003: 110), on the one hand, mentions that the climatic disturbances of the sixth century would have damaged the veracity of the traditional Moche belief system. He did not clarify, however, why and how the new ideology based on foreign ideas was immune to the same disturbances. In an earlier publication, Castillo (1993: 75) also suggested that the elites, immersed in a competition for prestige objects, would have neglected their redistributive duties and the organization of hydraulic agriculture. Unfortunately, he never sought an archaeological proof for this interesting conjecture.

The ideological profile of Castillo’s collapse model is understandable based on the type of site he is excavating (elite cemetery) and the type of evidence he is analyzing (funerary goods). It is obvious that, confronting other types of evidence, we will end up identifying other factors that could have affected the continuity of local Moche political institutions. This evidence has been provided by the American archaeologist Tom Dillehay (2001) who, along with Alan Kolata, undertook a study of pre-Hispanic settlement patterns in the Lower Jequetepeque Valley in 1997. Dillehay and his colleagues found out that the Late Moche settlement pattern was totally fragmented, with the local population living in a few scattered intermediate-size (ca.20 -40 ha) settlements, as well as in smaller villages and hamlets. The largest centers are generally located on the slopes of barren hills, and are commonly walled. The smaller sites are found within walking distance of the latter, or in the immediate proximity of hilltop fortifications.
Large expanses of unoccupied land reveal the existence of buffer zones between population centers (Dillehay 2001).

In general, the local Late Moche settlement pattern projects an image of political factionalism and widespread conflict. The political independence of different communities was later confirmed by Edward Swenson (2004, 2006), who detected significant differences in the architectural design of ceremonial structures in a sample of 10 intermediate Late Moche settlements (called by him "hinterland ceremonial sites") scattered throughout the valley. Dillehay (2001: 271) suggests that this apparent condition of internecine conflict may have had a direct influence in the disappearance of the Late Moche political orders of the valley:

“Based on the presence of numerous forts in both valleys [Jequetepeque and Saña], which appear to date primarily to the late Moche period, most likely Moche V, we can suggest that periodic conflict, if not organized warfare, was a crucial element in the culmination, maintenance, and demise of late Moche society”.

Dillehay (2001: 275) thinks that perhaps the main reason that prompted the hostilities between local communities was "conflict over choice land". In fact, the Jequetepeque area presents plentiful evidence of environmental perturbations – ENSO events that carried massive quantities of sediment and a desertification process that triggered inland sand dune advances – affecting the human occupation of the lower valley during the Middle Horizon (Dillehay and Kolata 2004: 4326, Eling 1987: 459). These disruptions would have significantly raised the value of agricultural land less likely to suffer the brunt of climatic instability, and promoted competition among local groups of farmers (Dillehay 2001: 269).
The conflict scenario presented to us by Dillehay (2001), is not a collapse model
*per se* (actually, it was never intended as such). At best, it highlights one of the
predisposing factors of collapse (internecine war) that would have undermined the
economic foundations of local communities. Considering the gaps that affect the
proposals that have been advanced to explain the Moche collapse in the Jequetепeque
Valley, we can conclude that this phenomenon remains poorly understood.

**Conclusions**

In this chapter, I have reviewed a number of general collapse factors that some
authors think were involved in the Moche demise. I also conducted a detailed
examination of three cases of regional collapse, highlighting the circumstances that
would have prompted the popular rejection of the Moche regimes in each regional
setting. Regarding the first factors, it is clear that the importance of some external demise
agents (Huari invasion) has been overstated. Other factors – ENSO events – would have
constituted important forces of deterioration only under specific circumstances. Finally,
the great drought of the late seventh century represented a real threat that would have put
to test the response capacity of local leaders.

The review of regional collapse cases leads us to one inescapable conclusion: the
Moche did not follow a single, but multiple collapse trajectories. In order to avoid
collapse, it is clear that local elites implemented different strategies by to reverse
situations of internal tension (e.g. population relocation, ideological revitalization). The
solutions implemented were based on a careful assessment of the environmental,
economic, political, ideological and historical conditions that prevailed in their specific
territories. In the end, the rescue efforts proved insufficient, and the Moche political orders disappeared from the cultural arena of the North Coast. The most important arguments presented in this chapter can be summarized as follows:

1. The precipitation records of the Quelccaya sequence indicate the existence of three periods of generalized aridity during the decades of AD 540-560 (+/-20), 570-610 (+/-20) and 650-730 (+/-20). These episodes were interrupted by two periods of above-normal atmospheric humidity during AD 610-650 (+/-20) and 760-1040 (+/-20). Of the three recorded droughts, the one that occurred by the end of the sixth century was the most severe of the entire sequence. Despite its severity, it is clear that this episode did not induce the collapse of any of the Moche political orders reviewed. What is clear is that this episode tested the leadership capacity of regional elites, forcing them to implement major organizational changes. In regions that manifested an adequate level of political integration – possibly expressed in a dual-hierarchical integration of local authorities (Netherly 1977, 1984, 1990) – the elites were able to mobilize the whole valley population in a single, collective enterprise serving the common good (population relocation into the best agricultural zone of the region). In the valley that reflected a poor level of organization (Jequetepeque), local leaders responded to the contingency by reaffirming the autonomy of their communities and by conducting a closed defense of their respective productive niches. The political orders that survived the second great drought disappeared during, or shortly after, the third desiccation period. During that time, the ruling classes and commoner populations of the various regional polities were experiencing the negative cumulative effects of the solutions previously implemented (population overcrowding, physical coercion, internecine war). The third major period of
climatic deterioration, rather than representing a direct collapse cause, may have aggravated deterioration process that was already affecting the regional occupations.

2. Opinions are divided regarding the destructive potential of severe paleo-ENSO events. Some authors think that these events were a driving force of collapse, while others believe that they may have allowed the continuity of strong political orders. In this work, I am inclined to accept the continuity thesis. Authors that highlight the devastation brought forward by El Niño-induced inundations tend to overlook the fact that these events also offer many opportunities for rapid agricultural recovery. El Niño floods tend to replenish the nutrients of exhausted agricultural soils. Thanks to the formation of groundwater pockets and the slow evacuation of rainwater accumulated in sandy hills, marginal land can maintain adequate levels of moisture long enough to raise a harvest. El Niño rains also nourish grasslands and forests, and recharge the water table. Besides, when an ENSO event sets in, not every coastal region is necessary affected in the same way. While some areas may end up being literally washed away by a cataclysmic tropical storm, others only receive a few scattered showers. Residents of a devastated area always have the recourse of appealing to friends and neighbors of an adjoining region for economic support (Huertas Vallejos 1987).

The parcialidades of fishermen would have confronted a very different situation. The alterations of the marine biomass tend to be uniform in all areas affected by advance of warm water currents. Moreover, the traditional fishing technology of North coast communities was not suited to exploit tropical fish species. Finally, once a severe El Niño event recedes, the Peruvian sea ecosystem may take several years to recover its normal productivity levels. It is hard to see how fishermen parcialidades would have been able
to maintain their integrity when facing this contingency. Their survival depended, ultimately, on the reciprocity bonds established with inland farming communities.

In accordance with Moseley’s (1997, 1999) postulates, in this study I propose that the devastation potential of an ENSO event will depend not only on the event’s magnitude, but also on the economic strength of the affected polity. An event of great magnitude that hits a group with poor energy reserves may make the command structure fall apart. This effect was felt on the North Coast in 1578, when a severe El Niño event brought to an end the last traditional power institution remaining on the North Coast.

When the 1578 rains hit the North Coast, local curakas did not have enough subjects or sufficient authority to undertake the repair of damaged irrigation canals (Huertas Vallejos 1987, Ramirez 1996). Having failed in the execution of their most basic duties, the curakas became mere decorative figures in the new power structure of the Spanish colonial system.

3. It is becoming increasingly difficult to find empirical support for the theory that states that the Moche collapse was caused by a Huari invasion. Several authors have convincingly proven that many of the traits and organizational patterns that the alleged invasion introduced into the North Coast had, in reality, a long history of local development, or were wrongly assigned to the Ayacucho tradition. The only innovative features that made their appearance in Moche territories by the end of the Moche sequence are a change in burial position, and new Huari-related ceramic forms and decorative patterns. These changes do not represent sufficient evidence, however, to suggest that a replacement of rulers had taken place, or that a new power ideology had been established. Four basic reasons deny this possibility: a) the changes only allude to
new trends in funerary practices, b) even in this case, a funerary context that replicates most aspects of the complex coastal Huari burial tradition has yet to be found, c) the number of imported vessels and local copies is very low, and when contextual information is available, it is clear that these offerings were included in graves that respect the traditional Moche burial pattern, and d) the Ayacucho jars and local copies have never been recovered from administrative contexts.

Rejecting the subjugation of North Coast polities to a Huari power does not deny the existence of a Huari Empire. In other Andean regions, clear evidence of a Huari imperial presence is demonstrated by the existence of planned administrative centers built following the official architectural canons of the central power (Williams and Pineda 1985). Many of these centers were connected with the imperial capital through an elaborate network of roads (Schreiber 1984: 89). The imperial intervention is more palpable in those regions that experienced an economic reorganization after the construction of the Huari center (Schreiber 1992, 2000; Williams 2001, Williams and Nash 2002). In some cases, it is clear that the Huari territorial expansion found resistance, forcing the invaders to implement rigorous defensive measures (McEwan 1989: 60-61, Williams 2001: 81, Williams and Nash 2002: 256). It is precisely these clear indicators of imperial domination which are absent on the North Coast.

4. The region-specific Late Moche collapse explanations that have been offered this far manifest three commonalities: a) they postulate that each regional Late Moche occupation manifested a distinct administrative organization, b) they agree that each regional elite faction conducted an ill-conceived ideological program, and c) they
conclude that a set of region-specific historical, economic, and political circumstances generated a unique trajectory towards collapse.

Pampa Grande was obviously created as a response to the condition of climatic instability that hit the North Coast of Peru at the beginning of the sixth century. The leaders of various Lambayeque Valley parcialidades relocated their communities to a valley zone that offered the best conditions for the development of irrigation agriculture. In fact, the large number and variety of administrative buildings attested to at the site evidence the presence of a vast array of political authorities. Due to the relocation, Pampa Grande grew to become the largest focus of human occupation ever attested to in the pre-Hispanic history of the Lambayeque Valley. Local elites responded to the need to regulate civilized life of this great population mass by creating a gigantic apparatus of ideological control. Paradoxically, the maintenance of this apparatus drained the energy reserves of the population at the same time that a new episode of climatic deterioration set in. Local leaders saw it as necessary to implement repressive mechanisms of social control to contain the growing popular discontent. The labor force reacted violently against these forcible measures, laying aside the ruling authorities and their representative ideology.

Galindo offers a contrasting case because the site originated as a reaction against traditional forms of Moche government that were still present at Pampa Grande. Like the great northern center, Galindo was the product of a process of population relocation in one of the most favorable areas of the Moche Valley. Unlike its northern counterpart, Galindo was erected in a region that had experienced the failure of an ambitious project of ideological integration. The new elites of Galindo made strenuous efforts to create
distances from the exacerbated pomp of the previous program. In order to achieve this end, they modified the repertoire of power symbols, being careful to eliminate the elements that reflected strong individualistic tendencies. They opted to adopt prestige icons that had widespread acceptance in other Andean regions. These ideological changes were insufficient to convince the population that a more equitable order was being established. Social discontent was apparently being fueled by a series of pejorative events (El Niño floods, drought, foreign incursions) that exerted a negative strain on the economies of peasant households. To suppress seditious tendencies, the leaders saw it necessary to relegate a large segment of the people behind the infamous "Galindo Wall". Collapse ensued despite the fact that local elites took effective measures to improve their redistributive functions, and minimize the costs of maintenance of the administrative institutions.

Finally, the Jequetepeque Valley presents the most diverging trends. Local farming parcialidades reacted to the water scarcity problem that affected the entire region by reaffirming their autonomy. They delimitated their own exploitation territories and defended them avidly. Despite the hostilities, they maintained a common meeting ground at the ceremonial center of San José de Moro, where they participated in collective funerary rituals. This new “conciliation” center manifested the inclusion of important power symbols that were emblematic of highland ethnic groups – Cajamarca, Huamachuco, Huari. In fact, the Jequetepeque Valley was the only Moche territory that admitted this kind of intrusion.

The picture of the Late Moche collapse in the Lower Jequetepeque Valley is far from complete. While two proposals have been advanced, they focus on different cultural
processes and remain, for the time being, irreconcilable. I believe, however, that the different Moche organizational patterns that have been highlighted in these explanations – political factionalism, internal conflict, and filtration of exogenous symbols – respond to a single process. They can, therefore, be integrated into a coherent collapse model. In order to build this model, it is necessary to follow the directives of the five-point research scheme outlined in this dissertation. It is also important to include the information obtained from the excavation of Cerro Chepén, which provides, for the first time, the possibility of finding a common ground for the tenets of "conflict" and "symbolic renewal." The rest of this dissertation is dedicated to addressing these important issues.
CHAPTER V

THE MOCHE IN THE JEQUETEPEQUE VALLEY

The Jequetepeque is one of the 14 North Coast valleys that show evidence of a Moche occupation. In previous chapters, I demonstrated that the uniqueness of the local Moche developments was determined to a high degree by the geographical location of this valley. First, the Jequetepeque Valley is the southernmost territory of the northern Moche sphere. The valley is separated from its nearest southern Moche neighbor by the arid Pampas of Paiján, a 35 km wide desert expanse that offers no opportunities for human occupation. Many authors (Castillo and Donnan 1994b, Donnan and Cock 1986b, Kaulicke 1992a, Kroeber 1930; Shimada 1994b) agree that these arid plains constituted an obstacle for cultural integration. In fact, during the Moche era, different cultural manifestations evolved on either side of the pampas, and the highly emblematic Moche IV ceramic style of the south never did transgress the desert frontier. The Jequetepeque Valley is also the most direct communication route between the Cajamarca political center and the adjacent coast. During the Middle Horizon, small independent political formations with close ties with another large northern highlands power center – Marcahuamachuco – occupied the upper parts of the western foothills of the Andes immediately south of the Jequetepeque River.

The special geographical location of this valley was not the only factor that determined a distinct cultural sequence. The physical characteristics of the local

---

1 A few imported pieces of this emblematic style have been reported, however, in a limited number of funerary contexts of the Jequetepeque region (see below).
environment also played a major role in shaping a unique evolutionary trajectory for the local Moche populations. This chapter is dedicated to presenting a detailed description of the Moche cultural developments in the Jequetepeque area, which were largely determined by the special features of the natural environment. This exposition is organized in four main topics. First, I present a description of the geography of the lower valley, highlighting the inland resource niches that were essential for sustaining human populations and for fueling the evolution of complex organized orders. Then, I present an overview of the most important archaeological investigations that have been carried out in this region, and which have shaped our understanding of the local Moche phenomenon. I will make a critical review of the cultural sequences that have been proposed for the Moche occupation, and present an alternative scheme that better fits the available evidence. In my opinion, the available evidence only supports the definition of two Moche cultural phases: an Early and a Late Moche phase. Finally, I will reorganize the available information on Moche settlement patterns based on this revised sequence, in order to identify the most important organizational changes evidenced by the local Moche communities through time.

**The Jequetepeque Valley: natural environment**

There are three geophysical factors that took on special importance in shaping the cultural developments that occurred in this region: hydrography, topography, and types of resource niches. A thorough understanding of the evolutionary trajectory of the local Moche communities, which eventually resulted in collapse, is impossible without
considering this information. In the following pages, I will describe the special characteristics of these geophysical factors in the Jequetepeque area.

**Hydrography**

First, it must be stressed that the Jequetepeque River presents one of the highest mean discharge values of the 17 rivers of the North Coast watershed. Even though the Jequetepeque River has a relatively short and abrupt course (it descends from an altitude of 3,950 meters down to sea level in only 155 km [Eling 1987: 83] ), it has a vast catchment basin, calculated at approximately 4000 km² (Shimada 1994a, Table 3B). This basin encompasses more than 30 tributaries, some of them stable water courses, which contribute their waters to the central stream (ONERN 1988: 13). The high river discharge of the Jequetepeque represented a great incentive for the development of irrigation agriculture in the lower valley.

In figure 5.1 we can see that, thanks to the contribution of its many tributaries, the Jequetepeque River is rated among the five North Coast rivers under Moche control with the highest discharge values (holding a relative third position). The other north coast rivers that make up this group are the Santa, Chicama, Lambayeque, and Piura rivers. It should be stressed, however, that the productive potential of the Jequetepeque valley was higher than that of the Santa or Piura valleys. The Santa River, although evidencing abnormally high discharge values, has a narrow lower valley. This fact determines that around 93% of its annual discharge is lost to the sea (Wilson 1988: 27). During pre-Hispanic times, its local inhabitants could cultivate a land extension comparable to an
eighth of the land exploited by the Jequetpeque farmers\(^2\). The Piura River, on the other hand, although encompassing large tracts of fertile land along its lower, middle, and upper courses, presents the disadvantage of losing its surface flow during the coastal winter months (Delavaud 1984: 42). Given these circumstances, there were only three Moche territories that combined both an adequate supply of water and an extension of fertile land that was high enough to accommodate large populations. One of these territories was the Lower Jequetpeque Valley.

Another feature that the Jequetpeque River shares with other North Coast water streams is the irregularity of its annual flow rate. In general, 80\% of the Jequetpeque’s total annual runoff flows during the 100 days of the coastal summer, with March being the month that commonly reports the highest discharge values (Ravines 1982: 11, Delavaud 1984, Table 7). There is also a high level of inter-annual variability, expressed in both peak season and low season discharge statistics. Records gathered over a period of 56 years (1943 to 1999) offer variations of peak season total runoff that goes from a top value of 2346.5 million cubic meters(mcm) in 1998 (the year of the last mega-El Niño) to a minimum value of 74.8 mcm in 1980, with an average value of 673.8 mcm. The same irregularity is also manifested during the dry season. The highest recorded dry season discharge value was of 361.2 mcm (1982), while the minimum value was of 13.1 mcm (1980), with an average of 142.7 mcm ([www.minag.gob.pe/hidro_hidro_ana.shtml](www.minag.gob.pe/hidro_hidro_ana.shtml)).

The hydrological flow of the Jequetpeque River may well be characterized as "unstable". In general, 6 years of excessive moisture, 15 years of water shortage, and 35

\(^2\) David Wilson (1988, Table 2) estimated that there were 11,307 ha of land under cultivation in the Lower Santa Valley during pre-Hispanic times. Herbert Eling (1987: 107), on the other hand, thinks that the Lower Jequetpeque Valley would have sustained 88,000 ha of cultivated land during Chimú times.
Figure 5.1. Mean annual discharges (in millions of cubic meters) of major north coast rivers.
normal years were recorded during the surveillance period mentioned above. This condition of high hydrological instability would have had serious implications for the pre-Hispanic irrigation communities of the valley. As noticed by Herbert Eling (1987: 105), during dry years, the Jequetepeque low season flow can reach bottom-level values in the range of 0.265 m³/sec, and this value is lower than the flow capacity of any of the five major trunk irrigation canals that would have been in simultaneous operation during Late Moche times (Eling 1987: 105). If these canals were controlled by independent parcialidades, it is logical to assume that access to river water would have been subjected to intensive negotiations, which eventually could have turned aggressive.

A hydrological feature that is unique to the Lower Jequetepeque Valley refers to the presence of an additional natural watercourse. This is the San Gregorio or Chaman River, which crosses the lower valley 14 km north of the Jequetepeque in a parallel course. The San Gregorio River is much shorter than the Jequetepeque (74 km), and is powered by only five tributaries of unstable flow (ONERN 1988: 14). This means a much restricted water discharge. In fact, the San Gregorio River enters the lower valley as a small stream, which is hardly noticeable in wet years during the summer months. The river disappears under the cultivated fields of the central part of the lower valley, and re-emerges about 5 kilometers before colliding with the chain of hills of Huaca Blanca-San Ildefonso, which run in a North-South direction blocking its passage. Here, the river flow is recharged by seepage from irrigation canals derived from the Jequetepeque River (Fig. 5.2). The San Gregorio River eventually borders the hilly blockade, making a sharp 90° turn at its northern end to follow a straight course toward the sea. In this last stretch, the river presents a slow and charged flow, running through a shallow canyon.
It is interesting to note that, although the Jequetepeque River was the main water source for irrigation during pre-Hispanic times, the San Gregorio River, despite its restricted flow, did support an independent system of canals. Irrigation activities around the San Gregorio were only possible, however, along the final kilometers of its down-valley course (Eling 1987: 297). The San Gregorio River would have also proved profitable for the communities located in the highest parts of the lower valley despite not presenting a surface flow in this area. First, the river nourishes numerous pockets of underground water that are currently exploited by local farmers for human consumption (vertical wells) and for irrigation (pumping stations). Second, despite presenting a dry channel during most part of the year, the riverbed presents enough moisture to sustain up to two annual harvests within its limits.

**Topography**

The advantages that the Jequetepeque offers for agriculture are not restricted to the relative abundance of water. The Lower Jequetepeque Valley also offers a broad expanse of arable land. Herbert Eling (1987: 452), for example, calculated that the Jequetepeque Valley encompassed 88,000 ha of cultivated land during Chimú times. The Lower Jequetepeque Valley is the third largest Moche territory in terms of extension of arable land (Shimada 1994a, Table 3A). It is only surpassed by the circumscribed territories of the Lambayeque-La Leche, and the Chicama lower valleys. In addition to the alluvial plain, two types of local topographical features were used by native inhabitants to promote the development of extensive agriculture: chains of hills, and
peripheral desert plains. In this section, I will describe the characteristics of these three features and highlight the advantages that they offered for human adaptation.

a) Alluvial valley

The Lower Jequetpeque Valley has its highest point in the vicinity of the modern town of “Ventanillas”, at an altitude of 280 meters above sea level and 40 km inland from the sea (Eling 1987: 81). In this sector, the lower valley has a strange configuration. It begins as a narrow, 2 km wide and 12 km long strip of land, still encased by the last buttresses of the Andean Cordillera (Fig. 5.2). This first section, while insignificant in terms of agricultural production, it is extremely important for the organization of the irrigation systems of the region. In this sector, the river not only flows through a superficial channel, but it is also high and steep enough to accommodate the intakes of the irrigation canals that will reach the most remote areas of the lower valley.

At the downstream end of this section, we find a second "valley neck", formed by a close approach of the Talambo (North) and Tira Larga (South) hills. Having passed this narrow pass, the river enters the broad coastal plain. This plain is formed of the detritus carried by massive water flows that came down the Andean heights during the Quaternary Period. Geologists identify a succession of three large geological terraces in the alluvial plain. The oldest and more widespread terrace is made up of river boulders consolidated in a very hard, plaster-like layer. This terrace is exposed only in the coastline section of the valley, forming cliffs that rise 22 meters above the sea (Delavaud 1984: 238). The large Moche ceremonial center of Pacatnamú was erected on top of this terrace, just north of the mouth of the Jequetpeque River.
The large alluvial cone of the Jequetepeque Valley has a forked appearance, with three separate irrigable land extensions, or valley branches, extending down into the sea (Fig. 5.2). These valley branches were formed by ancient and modern courses of the Jequetepeque River (central and southern branches), as well as by the flow of the San Gregorio River (northern branch). They currently maintain natural vegetation pockets and planting areas thanks to the presence of irrigation canals and underground water flows. The Jequetepeque River itself now runs through the central valley branch. When entering the alluvial cone (about 26 km from the sea), the Jequetepeque River maintains its superficial course until reaching the area of Cerro Calera (8 km downstream). Here, it begins to excavate the ancient alluvial terraces. From this point onwards, it is impossible to extend irrigation canals to reach the southern or northern confines of the lower valley. New channels can be drawn, however, within the limits of the central valley branch almost down into the sea shore.

A final point that I want to stress is that there is a marked disparity in the distribution of agricultural land between the three valley branches. The central valley branch, from its origins at the height of the town of “Ventanillas” down into the river mouth, concentrates only 26% of the lower valley’s farmland. The small southern branch, on the other hand, has only 13.5% of the total irrigable land. The highest concentration of agricultural land in the lower valley occurs in the northern branch, with approximately 60.5% of the total. As we shall see later, this strong concentration of irrigable land in the north had a direct impact on the pattern of population distribution during the Late Moche Phase.
b) The hills

In addition to the westward projections of the Andean Cordillera, which border the coastal plains to the east, the Lower Jequetepeque Valley contains a series of discrete hills and small hill chains that look like arid islands when contrasted with the green landscape of the alluvial plain. The hills of the Lower Jequetepeque Valley tend to be rather low, rarely surpassing 500 masl. They also manifest a remarkable aridity. These elevations offered, however, two big advantages for the complex societies that evolved in the valley.

First, some hill chains acted as effective barriers that protected the planted surfaces from the strong coastal winds. The Peruvian North Coast is hit by strong wind currents that generally blow in a SSW to NNE direction during most months of the year. When combined with the sea breeze, these winds can pick up speeds in the range of 20 to 50 km/hour especially during afternoon hours (Delavaud 1984: 23). These winds not only represent a strong erosion factor, but sometimes tend to foster sand dunes advances that can reach locations up to 50 km inland from the sea. During Late Moche times, a sand dune advance affected the southern arm of the valley, threatening local Moche settlements and the agricultural system of “Pampas de Mojuape”.

The main advantage that the natural wind barriers offered to agricultural activities was to block out the sand dune advances that were threatening agricultural canals and associated productive fields. Thanks to the abundance of wind-blocking hills, the Lower Jequetepeque Valley contains the largest area of agricultural land protected from sand and wind action among all Moche territories (Eling 1987: 104). I must emphasize, however, that sometimes these arid hills also prevented the implementation of
agricultural reclamation projects, as was the case of the attempt to irrigate the plains north of Pacatnamú (Eling 1987: 328).

The second advantage that the barren hills offered to human adaptation refers to the provision of habitation areas. Most North Coast pre-Hispanic societies chose to locate their settlements in the arid slopes of the valley hills to avoid wasting valuable agricultural land. These locations not only allowed easy access to arable land, but also an elevated ground from which the planted surfaces and neighboring areas could be seen. These elevated locations also guaranteed protection against El Niño-induced flooding and flash-floods. Some ridges also offered ideal settings for the installation of defensive constructions. Given the harshness of the local topography, sometimes it was only necessary to erect a few walls to create an impenetrable stronghold. In many cases, it is very difficult to determine whether a hill-slope emplacement was created in response to agricultural or defensive requirements. In the case of Jequetepeque Valley, the second interpretation can be favored when the settlement is surrounded by bastions, or when its location shows no logical connection with agricultural land. As will be shown below, both conditions were met by the Late Moche center of “Catalina”, positioned in a marginal desert location north of the central arm 3 km away from the nearest water source.

Eling (1987: 108) detected 10 windbreak hill systems within the scope of the Lower Jequetepeque Valley. Only five of them, however, bore special importance for the Late Moche settlement pattern (Fig. 5.2). One hill system, which comprises the Cañoncillo, Espinal, Prieto, Yugo and Santote hills, skirts the southern margin of the middle section of the central branch of the lower valley. These hills, which blocked a
strong dune advance that moved up from the South, had a major Late Moche population center in their vicinity (Hecker and Hecker 1987: 47, Ubbelohde-Doering 1960). Two short hill chains, Faclo-Murciélago-Charcape, and Huaca Blanca-San Ildefonso-Santa Rosa, border the western margin of the northern branch. These two systems housed the largest concentration of Late Moche sites in the entire region (Swenson 2004: 415). Finally, two additional hill systems are found within the confines of the northern valley branch. One of them is the isolated “island hill” of Cerro Calera, which presents an extensive Late Moche settlement along its southern base. The other is the Cerros de Chepén hill chain, which housed the large Late Moche fortified center treated in this dissertation.

c) Pampas

The pampas are vast expanses of flat desert land that surround the green valley and its interior hill systems. Like the valley itself, the pampas are part of the ancient coastal plain, but are distinguished by their relatively high position which hinders their irrigation through natural (river overflows) or artificial means. There are two uses that the ancient inhabitants of Jequetepeque Valley gave to the pampas that surround the region: a) grounds for tracing road networks, and b) potential areas for the expansion of the agricultural frontier.

Since immemorial times, the pampas surrounding the Lower Jequetepeque Valley were used for laying out communication routes, especially relating to North-South connections. The wide field of vision they offer, and the absence of major natural obstacles, allowed ancient engineers to trace straight roads over long distances. These
straight roads helped travelers save energy on long journeys. Wolfgang and Giesela Hecker (1990) detected up to 15 different pre-Hispanic roads in the Lower Jequetepeque and its environs, all dating to late cultural periods (Sicán and Chimú). The presence of one elevated causeway in a barren area east of Cerro Chepén suggests that part of this road network was already in operation during Late Moche times (see next chapter).

On some occasions, the pampas were also used for agriculture. The Jequetepeque Valley contains two exemplary cases of large-scale pre-Hispanic agricultural reclamation projects in desert pampas that, due to their state of preservation, extension and/or technological organization, are famous in north coast archaeology. These two cases comprise the pampas of Cerro Colorado, and the pampas of Mojucape (also called pampas of Jatanca).

The agricultural system of Cerro Colorado is located on the desert plains that surround a hill located on the northern fringes of the northern branch of the valley. The system comprises between 8 km² and 10 km² of abandoned cultivation plots and attendant canals, all displaying an amazing state of preservation (Ravines 1982: 19). The agricultural infrastructure is post-Moche, belonging to the Sicán and/or Chimú Periods. The cultivation of the pampas was made possible thanks to the construction of three large irrigation canals (Talambo, Moro and Pacanga) which brought water from the Jequetepeque River down into this remote arid sector after traversing distances of up to 60 km (Eling 1978: 403). The best preserved agricultural fields, showing intact furrowed surfaces, are located north of Cerro Colorado. This zone is protected by 2530-meter-long elevated aqueduct that may be the longest of its kind in the whole Andean area (Eling 1987: 289, Kosok 1965: 137). This aqueduct follows a perfectly straight course heading
north to the neighboring Saña Valley. In fact, the implied original function of this aqueduct was to transport water of the Jequetepeque River into the southern desert fringes of the Saña Valley. This project was, however, aborted 4900 meters before reaching its destination (Eling 1987: 289).

The second famous case of desert plains irrigation differs from the former in being much older, and in having being planned for yielding harvests for many years after its first establishment. This 3000 ha system spreads on top of the pampas of Mojucape, an elongated desert peninsula that intrudes into the central arm of the Lower Valley from the south. Before being used for agriculture, these plains bore sandy soils that were unsuitable for cultivation. The ancient farmers of the Jequeteppeque decided to create a fertile soil over the pampas, irrigating them with silt-laden river water. Late during the Moche era, the silt layer reached up to 150 cm in thickness. At a deposition rate of 1 cm of silt per year, this layer would have been the product of 150 years of continuous irrigation (Eling 1987: 127). What is most interesting about this agricultural system is that the enormous effort invested in its initial implementation – which involved, among other things, digging large canals from the Jequetepeque River, leveling the sandy pampas to create small planting basins, implementing a network of internal distribution canals – would not have been paid off with an immediate energy return. If we consider that crops like maize obtain nutrients from the top 10 cm of agricultural soil, and that the first harvest was raised in flat flooded basins, the system would not have yielded its first harvest until at least 10 years after being established. According to Eling (1986: 140, 1987: 127), this irrigation system is a Moche invention. The presence of Formative
monumental architecture on the southern desert fringes of the pampas (Ubbelohde-Doering 1960: 177) may suggest, however, an earlier beginning.

**Ecological zones and natural resources**

The Lower Jequetepueque Valley, despite its general arid conditions, the unbalanced hydrological regime of its central river, and the presence of broad desert plains, presents a wide range of natural resources that concentrate in distinct ecological zones. These resources proved essential for the survival of the first human settlers that occupied the valley more than 10,000 years ago, and were also eagerly exploited by the complex societies that evolved in the area during the later part of the pre-Hispanic sequence. In addition to the marine ecosystem – which may represent the most productive natural ecosystem of the entire Peruvian coast – the Jequetepueque Valley presents up to seven different inland ecological zones that offered specific natural resources. These seven natural zones include: a) coastal wetlands, b) riparian forest c) dry coastal forest, d) freshwater lagoons, e) barren hills, f) desert pampas, and g) the chaupiyunga. In this section, I will describe these ecological settings and the wealth of edible and industrial resources that they offered to the local populations.

a) Coastal wetlands

Virtually all coastal valleys that sustain inland irrigation systems present problems of soil salinization in the terrains that lie adjacent to the coast. Salt-laden water seepages from up-valley irrigation activities concentrate on this low lying ground, forming
marshes, small lagoons, and natural canals. These pools of brackish water are commonly called "humedales" in Peruvian popular jargon.

The coastal wetland areas bear a very limited agricultural potential (see, however, Moore 1988, Parsons and Psuty 1975, Pozorski et al 1983). However, these areas were highly valued in antiquity for sustaining a wide variety of natural resources. The coastal lagoons maintain a dense growth of two species of reeds – "totora" (Scirpus californicus) and "enea" (Typha angustifolia) – which have a wide variety of industrial applications. During pre-Hispanic times, these plants were used to create all sorts of basketry, including a wide variety of containers, sleeping mats, covers for windows and doors, reed boats ("caballitos de totora"), and even thin ropes and cordage that were especially useful in roof construction. Ethno-historic documents suggest that the coastal reed growths were controlled by fishing communities (Netherly 1977: 69, Rostworowski 1981: 26-27).

The coastal wetlands also concentrate an important reserve of wild animal protein. First, coastal lagoons are the preferred meeting ground for a wide variety of waterfowl, both migratory and endemic, whose meat and eggs were highly appreciated in antiquity (Rostworowski 1981: 27). Second, during the dry season, the clear and still waters of the Jequetepeque and San Gregorio river mouths concentrate dense schools of mullet fingerlings (Mugil cephalus), which can be caught on a large-scale with dragnets of simple design pulled by two persons.

Finally, the coastal wetlands also see an abundant growth of "grama salada" (Distichlis spicata and Sporobolus virginicus), which are salt-resistant grasses that invade all dry moors and sand dunes of these marshy areas. According to Netherly (1977: 60)
these grasses could have been used as fodder for llamas. If true, the low-lying areas of the Jequetepeque Valley would have hosted a large food reserve for local llama herds.

b) Riparian forest

The banks of all north coast rivers sustain a dense plant growth, including some wild species that are useful for humans. The prevalent tree species in this ecosystem is the willow (*Salix chilensis*) which was commonly used for firewood. The plant taxa that were valued for construction activities are two types of wild canes, the "caña brava" (*Gynerium sagitatum*) and the "carrizo" (*Phragmatis comunis*). These plants grow only along running fresh-water streams found in inland sectors of the valley (Delavaud 1984: 35). The stems of these canes are not only straight and resilient, but also reach significant heights (up to 2.5 m and 5 m for carrizo and caña brava, respectively). These stems were commonly used as roofing materials and to build the famous "quincha" walls of the houses of ordinary people. During Moche times, they were also employed in the manufacture of coffins for the dead (Donnan and Barreto 1997). The cane stalks can also be sectioned into strips to make mats, baskets, shrimp traps, and other containers.

The Jequetepeque River also offers an abundant edible aquatic fauna. The most important edible specimens are two fresh water crustaceans: shrimp (*Chrypiops caementarius*) and river crab (*Hypollobocera sp.*). These species have been identified, although in small numbers, in the archaeological site of Cerro Chepén. Currently, these crustaceans are caught with a static, basket-like type of trap – locally called "nasa" – which is also described in ethno-historic documents (Rostworowski 1981: 112). Another fresh water specimen that was highly valued as a food source is the "life"
(Trichomycterus dispar) (Fig. 5.3). The life is a small fresh-water catfish that figures prominently in Moche mythology, being commonly portrayed in mural decoration (Fig. 3.4). These animals are abundant in the coastal section of the Jequetepeque River, and their natural habitat is the muddy bottom of the local streams.

![Figure 5.3. Photograph of a “Life” fish captured in the Jequetepeque River in 2003.](image)

c) Coastal dry forest

The coastal dry forest is an ecosystem that is typical to the arid coast of Peru, and is widely represented in the Lower Jequetepeque Valley. Within this region, natural dry forest patches stretch along the upper river terraces of the middle sections of the lower valley, showing a particular concentration in the San Pedro de Lloc and Cañoncillo areas. Here we find a 660 ha relic forest that currently holds the status of protected area. Dry
forest growths also populate the narrow dry ravines that extend south of the southern branch of the valley into the sea (Fig. 5.2). The dry forest ecosystem comprises a series of deep root tree species that attract subsoil moisture.

The most abundant and important tree type of this community is the mezquite (*Prosopis juriflora*), locally known as *algarrobo*. The algarrobo tree has a significant height (20 meters), a thick and twisted trunk, and deep roots that can reach subsurface water sources up to 18 meters deep. Its wood, hard and resistant to pests, was highly appreciated in pre-Columbian Peru. It was used to manufacture bulky artifacts and devices, such as coffins (Alva and Donnan 1993: 57), chests and litter shafts (Shimada 1995: 95), long scepters (Strong 1947: 480), and sculptures (Franco et al, 2003, fig. 19.4; Kubler 1948, fig. 24; Ravines 1980: 92, Verano 1986, fig. 26). Algarrobo trees have a dark inner core of extreme hardness, very difficult to cut even with modern equipment. This dark wood was especially valued for the manufacture small artifacts that had to endure a harsh treatment, such as atlatl and mace hafts, darts, spoons and spindles.

The main use of the algarrobo wood was as construction material. Tree trunks and thick branches were used to make roof beams, posts, and lintels for doors, windows and niches. In the Jequetepeque Valley, and in the pre-Hispanic Peruvian coast in general, constructive elements of algarrobo wood were subjected to an intensive recycling. The repeated utilization of used wooden elements can be explained on two grounds. First, we must consider the difficulties inherent in cutting these hard-wood logs with stone axes. For coastal builders, it was always easier to reuse an old beam that to cut down a new tree. Second, it should be noted that few algarrobo trees have branches that are straight.

---

3 The inner dark wood core of coastal algarrobo trees is so hard that not even iron axes can cut it. When modern Jequetepeque Valley peasants want to cut down an algarrobo tree, they must first expose this inner core with metal tools, and then set the core on fire.
enough to hold constructive applications. Even in the case of vast forests, few trees would have provided usable beams. The need to recycle wooden constructive elements explains the notorious absence of beams and posts at the site of Cerro Chepén (Chapter VII).

The coastal dry forest also provided food resources. The algarrobo tree produces an edible pod that was appreciated by coastal dwellers. According to María Rostworowski (1981: 60), these pods were commonly ground up to produce "flour, a kind of bread, and a tasty porridge called yupisin". The mesquite forests also provided refuge to animal species that were valued as a food source. One of these animals is the gray deer (Odocoileus virginianus), which is commonly depicted in Moche iconography being hunted by high status individuals in a forest environment (Donnan 1982, Larco 2001a, Fig. 405). The other species are two herbivorous reptiles: the "cañan" (Dicrodon sp.) and the iguana (Iguana iguana), also amply illustrated in Moche iconography.

d) Freshwater lagoons

The Lower Jequetepeque Valley has a particular feature, unusual among North Coast territories – isolated systems of freshwater lagoons in areas far away from the river courses. These systems were apparently formed when tectonic uplifts and/or sand dunes advances blocked the course of dry water channels, which ended up trapping El Niño floods in their interior. These water bodies did not dry up with the passage of time thanks to the contribution of underground water flows (Eling 1987: 143-44). Unfortunately, current agricultural practices are leading to the gradual exhaustion of these systems.

One of these systems, composed by the "El Muerto" and "El Hornito" ponds, is located north of the southern arm of the Jequetepeque Valley, 4 km east of the modern
Port of Pacasmayo. The other system, which comprises the "Cañoncillo" and "Sonda" lagoons, is located south of the middle section of the central valley branch, at the foot of Cerro Santote 16 km from the sea. The importance that these fresh water sources bore for human occupation is manifested by the presence of pre-Hispanic settlements – some of them Late Moche – in their immediate surroundings (Hecker and Hecker 1987: 47, 1990; Swenson 2004: 656-667). While the first system maintains a dense growth of reeds and the second an algarrobo forest, the main benefit that these water sources offered to local communities was related to their use as reservoirs for irrigation activities. Eling (1987: 141), for example, estimated that the "El Muerto-El Hornito" system in its full capacity would have provided enough water to irrigate 1200 ha of land. The "Cañoncillo" lagoon, which currently hosts only two small ponds, would have been much larger in antiquity, forming a small lake of 6,500,000 m³ (Eling 1986: 144). This lake would have fulfilled an important role in maintaining the agricultural system of Pampas de Mojucape, which had an extension of 3000 ha (Eling 1987: 146).

e) Barren hills

The internal hill chains of the Jequetepeque Valley, besides providing protection against sand dune advances and ideal locations for human settlements, also offered a set of natural resources that were valued by man. On the leeward side of these hills grow various kinds of cacti, the most common being the "gigantón" (*Neoraimondia macrostibas*) and various species of the *Borzicactus* genus. The "gigantón" is a columnar cactus of great size (up to 4 meters high), which has an internal wood-like structure that,
when dried, can be used as fuel (Pozzi-Escot 2001: 298). Some Borzicactus species produce an edible fruit that has a very pleasant flavor.

Some rocky hills of the Lower Jequepeque Valley, especially those under the influence of winter fogs, accumulated enough cloud moisture to host the growth of isolated *loma* patches of the “líquenes y brotes pequeños” type (Engel 1973: 271). These singular hilltop vegetation formations are the feeding ground of a special type of edible land snail (*Scutalus proteus*), which constituted a highly valued food source for north coast inhabitants since the Preceramic Period (Gálvez et al 1991; Pozorski 1979, Table 1). Land snails were also eaten during Moche times, and southern Moche iconography commonly depicts large expeditions organized for the sole purpose of capturing these gastropods (Donnan 1985b: 53, 66-67; Hocquenghem 1989, fig 178). We found several empty shells of these specimens in the archaeological deposits of Cerro Chepén, and were able to capture a living specimen at the site during the year 2006 (Fig. 5.4).

f) The desert pampas

In the Jequepeque Valley, the desert pampas are definitely the most hostile environment for human habitation. We have seen that the ancient valley inhabitants used these barren land extensions as transit zones, although some pampas that could have been reached by irrigation canals were also used for agricultural projects. The pampas are the natural environment of two softwood shrubs – "sapote" (Capparis angulata) and "vichayo" (Capparis ovalifolia) – which sometimes invade the dry forest and barren hills ecosystems (Delavaud 1984: 30, 31). These two species are currently harvested by poor farmers for fuel, a practice that definitively had pre-Hispanic origins. It must be stressed,
however, that during unusual pluvial events, the arid pampas ecosystems sustain a dense herbaceous growth, which provides fodder for livestock (Delavaud 1984: 33). During these events, the pampas may accumulate enough moisture to raise a crop (Huertas Vallejos 1987).

Figure 5.4. Photograph of a “loma snail” captured in Cerro Chepén in 2006

g) Chaupiyunga

The "chaupiyunga" zone, although falling outside the limits of the lower valley, might have been a territory exploited by the Moche. In a previous chapter, I referred to the "chaupiyunga" as a valley bottom zone that extends between 300 and 1800 meters above sea level, sandwiched between high Andean buttresses. This area is not affected by the coastal winter fogs, and therefore has a high rate of solar radiation and a stable warm
climate throughout the year (Netherly 1988: 264). Given that this zone is located below the seasonal rainfall limits, local agricultural activities must rely on the use of irrigation canals.

The chaupiyunga offers an ideal climate for the growth of a series of crops that were highly valued by both coastal and highland people in antiquity. These crops include coca leaves (*Erythroxylon sp.*), and chili peppers (*Capsicum sp.*) (Netherly 1988: 264). The chaupiyunga was also the natural growing ground of several fruit trees, including avocado (*Persea americana*), “lucuma” (*Lucuma obovata*), cherimoya (*Annona muricata*), guava (*Psydium guayava*), and “ciruelo del monje” (*Bunchosia armeniaca*) (Delavaud 1984:31). The chaupiyunga also hosts the growth of “molle” trees (*Schinus molle*), a highly-adaptable wild tree (its natural growth range goes from 300 to 2900 masl), which produces a small spherical red fruit that was formerly used for the production of *chicha* beer (Netherly 1977: 74; ONERN 1988, table 48).

The chaupiyunga zone, which runs deeply encased in the Andean Cordillera, was an important source of other types of resources that were also desired by coastal dwellers: metal ores and minerals. The Middle Jequetpeque Valley is home to the "Paredones" mine, the most important source of metallic ores in the whole Jequetpeque watershed. In Colonial times, this mine was famous for its silver deposits, although it also produced lead, zinc and copper ores (ONERN 1988: 49). The “Paredones” mine is located in the vicinity of the modern town of Chileté, located at 850 masl next to the Jequetpeque River and approximately 100 km inland from the sea. Ethno-historic documents state that this mine operated during Inca times and possibly earlier. In the year 1540, 700 corveé laborers of the seven *parcialidades* of Cajamarca exploited its silver deposits under the
tutelage of the Spanish *encomendero* Melchor Verdugo (Espinoza Soriano 1967: 18). According to Ramirez (1996: 51), some of these miners were of coastal origin. It is still not clear whether the exploitation of the Paredones ores dates back to Moche times. Possible confirmatory evidence is represented by the numerous metal objects that adorned the sarcophagi of the "priestesses" of San José de Moro. All these ornaments were made of a silver-copper alloy (Donnan and Castillo 1994: 420). In addition to the Paredones source, Lechtman (1991: 48) reported the existence of vast deposits of arsenopyrite throughout the Middle Jequetepeque Valley, all of them easily accessible. This material was required for the production of arsenical bronze, which saw an initial development during Moche times but achieved its greatest expansion during the Middle Sicán era (Lechtman 1991: 46).

**The Moche occupation of the Jequetepeque Valley**

Even though more than 100 years have passed since the first Moche site was scientifically excavated – Max Uhle’s 1899 research at the site of Cerro Blanco (Uhle 1913) – we still know very little about the Moche occupation of the Jequetepeque Valley. A wide range of factors is responsible for this situation, including the relatively few investigations that have been carried out in the valley thus far, the scarcity of reliable contextual associations that these investigations have uncovered, the lack of publications, the continual destruction of archaeological sites by modern (agricultural, industrial, and urban) enterprises, and, especially, the uniqueness of the local cultural developments, which have challenged the interpretative capacities of archaeologists for decades. To this list we can also add the questionable research methodologies that some archaeologists
have applied to unveil the characteristics of the local Moche phenomenon – such as the tendency to interpret the Jequetepeque data based on ceramic sequences developed in other North Coast regions – which unfortunately have resulted in unreliable cultural reconstructions.

In this section, I will try to reconstruct the evolutionary sequence of the Moche political formations of the valley based on the limited information that is available to date. This reconstruction will not only cover topics relating to the local cultural sequence, but also to the evolution of settlement patterns and the transformation of political territories. My analysis is based on the premise that the Moche developments of the Jequetepeque Valley were absolutely unique, and therefore must be studied in themselves. It is necessary to avoid extrapolating data from best-known regions for filling up the gaps that remain in the local sequence. The statements that I will present below must be taken as preliminary, given that they largely based on information that remains fragmented and incomplete. These statements are therefore subject of future revision. The cultural reconstruction that I will present below must be preceded by a review of the history of investigations of Moche sites in the valley. Our current understanding of the local Moche developments has been shaped by the virtues and defects of these investigations.

**History of investigations**

Three different types of archaeological investigations have contributed to our knowledge of the Moche developments in the Lower Jequetepeque Valley: a) brief site-reconnaissance tours, b) excavation of archaeological sites, and c) valley-wide surveys.
The site-reconnaissance tours were especially common during a time that could be called "the discovery period of north coast archeology". In the case of the Jequeteppeque, this stage took place from the 1920s thru the 1960s. The site-reconnaissance tours were conducted by prominent archaeologists funded by serious institutions. These investigators toured several north coast valleys, visiting their most prominent sites and recording their observations. Of all north coast regions visited, the Jequeteppeque commonly received the most noteworthy comments due to the abundance and monumentality of its archaeological sites. These site-reconnaissance tours led to three major types of publications:

1. Broad spectrum articles, which touched upon a general issue related to the complexity of the cultural developments that took place on the north coast (Schaedel 1951a, 1951b).

2. Popular books of the "travel anecdotes" sort, in which the author recounted the adventures experienced during their archaeological expeditions to Peru (Kosok 1965, Ubbelohde-Doering 1966).

3. More serious scientific volumes, which present detailed descriptions and updated information on a range of archaeological sites (Horkheimer 1944, 1965, Ishida et al 1960; Kroeber 1930, 1944).

The publications that resulted from the brief site-reconnaissance tours are of little use to modern archaeological research. Commonly, very few sites were visited and the observations recorded by the original investigators tended to be too general and easily replicable by any modern observer. The visits take on archaeological importance when including information about a site feature that, given the passage of time and/or the
destructive action of man, is now totally lost. This would be the case, for example, of the remark made by Paul Kosok (1965: 126) about San José de Moro, who was surprised by the abundance of pottery sherds of highland styles on the surface of the site. Today, the site’s repertoire of foreign pottery can only be uncovered through excavation.

a) Excavation of archaeological sites

Our limited knowledge about the Moche evolutionary sequence in the Jequetepeque Valley is also due to the scarcity of archaeological excavations. The gravity of this situation is illustrated by the following historical fact. Until the 1970s, only two Moche sites of the whole northern Moche sphere had been subjected to archaeological excavations. These two sites are Pacatnamú and San José de Moro, which coincidentally lie in the Jequetepeque Valley (Disselhoff 1958a, 1958b; Hecker and Hecker 1984, 1985; Ubbelohde-Doering 1957, 1959, 1960, 1966, 1983). This situation changed slightly in 1975, when members of the Royal Ontario Museum began excavating Pampa Grande in the Lambayeque Valley (Shimada 1976: 84; 1994a: 32). The condition of scientific abandonment that affected the territories of the northern Moche sphere contrasts sharply with the extensive development that Moche archaeology was experiencing in the southern territories. The latter cultural area saw a premature development of Moche field archeology in 1899 (Uhle 1913), hosted one of the best regional settlement patterns studies ever developed in Peru in 1946 (Collier 1955; Ford 1949; Strong and Evans 1952; Willey 1946, 1953), and was the research laboratory of the Peruvian investigator who made the most significant contributions to our understanding of Moche culture between the decades 1930 and 1960 (Rafael Larco Hoyle).
Unfortunately, the relative scientific abandonment of the Jequetepeque area did not change significantly with the passage of time. Suffice it to say that, well into the 1990s, San José de Moro and Pacatnamú continued to be the only sites with Moche occupation that had hosted major excavation projects (Castillo 1993; Castillo and Donnan 1994a; Chodoff 1979; Donnan and Castillo 1992, 1994, Donnan and Cock 1986a, 1997; Keatinge 1986)\(^4\). The limited development of Moche archeology in the Jequetepeque region should therefore not surprise us.

The first archaeological excavation of a Moche site in the Jequetepeque Valley was conducted by Heinrich Ubbelohde-Doering, director of the Museum of Ethnology in Munich, between the years 1937 and 1938. Ubbelohde-Doering excavated at Pacatnamú, perhaps the most spectacular archaeological site of the region. The site spreads on top of a triangular projection of the valley's oldest alluvial terrace, located right in front of the mouth of the Jequetepeque River (Fig. 5.5). This terrace overlooks the sea and rises 22 meters above it, forming cliffs that make the site invulnerable on two of its three fronts.

On this triangular plateau of roughly 1 km\(^2\) stands the so-called "City of Temples", which is made up of 53 adobe pyramids. The pyramids do not stand alone, but are part of sacred compounds that include, besides the central pyramidal structure, a lateral platform, a palatial complex, and, occasionally, a small cemetery.

A great 1530 meter long adobe wall, complemented by a dry frontal moat, runs across the plateau closing the only vulnerable front of the “City of Temples”. On the opposite side of the wall extends an occupation area known as "The Suburb". This area, which includes habitation structures, additional cemeteries, and smaller examples of

\(^4\) Minor excavations, of very little scientific significance, had been developed in the Moche sites of Huaca Cotón (Silva and Silva 1984) and Jatanca (Ubbelohde-Doering 1957, 1960).
Figure 5.5. Site plan of the “City of the Temples” of Pacatnamú (redrawn from Hecker and Hecker 1985, Plano NR. II).
religious architecture, is similar in size to the "City of Temples". While the city of Pacatnamú reports a Moche occupation, it must be stressed that most of its visible architecture belongs to late pre-Hispanic periods (Donnan 1986a, 1997; Hecker and Hecker 1985).

Ubbelohde-Doering started his excavations in a huaca that holds a central position within the "City of Temples" (the so-called “Huaca 31”). The structure is a rather inconspicuous low adobe platform with a central ramp, which had been severely affected by previous excavations conducted by grave robbers. Ubbelohde-Doering’s most important discovery was a small pre-Hispanic cemetery located on a small esplanade in front of the huaca. This cemetery yielded a total of 63 graves, at least 37 of whom were of Moche affiliation. The vast majority of funerary contexts were simple pit burials, which included a single individual buried with one or two pots in a two meter deep rectangular pit. Three additional burials – designated with the codes E-I, M-XI, M-XII – stood out for having a special conformation and for being multiple burials. These burials were of the vertical shaft and later chamber type, with the bottom of the chamber 4 meters below ground. In each case, the chamber’s entrance was sealed with a stack of unmortared adobe bricks that leaned against a series of algarrobo posts nailed vertically in front of the chamber’s entrance (Fig. 5.6). The seal was planned for easy dismantling, making possible several reuses of the grave. In fact, burials M-M-XI and XII contained 2 and 3 adult bodies, who might have not been necessarily buried at the same time. Burial E-I, on the other hand, was crowded with 8 stacked cane coffins showing an amazing state of preservation.
More extraordinary than the cemetery itself, or the three multiple burials it contained, were the ceramic offerings of the Moche contexts. These vases show an interesting mix of styles, which has generated a lot of discussion and disagreements among archaeologists for more than six decades. Given that the stylistic associations of the burials are of vital importance for understanding the Moche evolutionary sequence of the Jequetepeque valley, I consider it necessary to dedicate a few paragraphs to the description of the stylistic conformation of the Moche ceramic sample of the Huaca 31’s graveyard.

The ceramic offerings of the Moche contexts from Huaca 31 include more than 120 whole pieces that can be organized into two major groups: a) domestic pottery, and
b) fine-polished ceramics. The group of domestic pottery, which represents approximately 68% of the sample, is dominated by simple jars with spherical bodies and vertical or out-slanting necks. Ubbelohde-Doering noted that the vast majority of these vessels were decorated with a simple technique, which consisted of sketching facial features on the necks of the vases with shallow incisions, clay appliqués, and finger pressure (Fig. 5.7). Given that this decorative technique is typical to the Gallinazo tradition (ca. 200 BC- AD 100) of the southern valleys, Ubbelohde-Doering (1957, 1959, 1960) did not hesitate in assigning this ceramic material to this cultural formation. By association, he ended up concluding that not only Huaca 31, but also the whole western half of the city of Pacatnamú, were erected during Gallinazo times.

Within the group of fine ceramics, we can distinguish four main variants, all related to the Moche style. The most common variant (12 cases), which is present in both the simple and multiple burials, is made up of stirrup-spout bottles with a strange lentil-shaped body. The vast majority of these vessels have a gray paste, and their decoration usually consists of mold-pressed three-dimensional figures. A single red paste specimen – identified with the code E-I, 46 – was found decorated with a naturalistic representation of a bird painted on both sides of the vessel’s body with an unusual purple color (Ubbelohde-Doering 1983, fig. 24.4).

---

5 Throughout his three field campaigns at Pacatnamú (1937/38, 1953 and 1962/63), Ubbelohde-Doering believed that the western half of the “City of Temples” was older than the eastern half. He based this assumption on the poorer state of preservation manifested by the structures that occupied the seaside flank of the city (Ubbelohde-Doering 1959: 9-10; 1960: 154). Other authors that developed later investigations at the site have stated that the severe erosion manifested by the western edifices is due to the destructive action of the strong southwestern afternoon winds (Donnan and Cock 1985: 57, Hecker and Hecker 1985: 26).
Figure 5.7. Examples of “Gallinazo” face-neck jars excavated by Ubbelohde-Doering at Pacatanamu in 1939. Redrawn from Ubbelohde-Doering 1983, Figs. 54.8 (a), 54.2 (b), 50.8 (c), 21.4 (d), and 63.5 (e).
These bottles – that I will from now on call "stirrup-pout bottles with flat bodies" (or SSB w/FB) – are reminiscent of the Moche style in both the form of the spout and in their iconography (Fig. 5.8). The presence of a flattened body and the unusual abundance of gray ware specimens, however, are stylistic features alien to the southern Moche tradition. When Ubbelohde-Doering analyzed these bottles, he observed decorative attributes that were typical of the much older Cupisnique tradition (Ubbelohde-Doering 1957: 5)6 (Fig. 5.9). Ubbelohde-Doering ended up suggesting the coexistence of the Gallinazo and Cupisnique cultural traditions in Pacatnamú7.

The remaining stylistic variants of the group of fine ceramics relate to classic types of Moche stirrup-spout bottles that are common in southern territories, and that can be therefore classified according to Larco’s (1948) five-phase sequence. Five bottles of clear Moche IV southern style were found inside M-XII burial (Ubbelohde-Doering 1983, Figs. 55.1-3, 56.1 and 57.2). To date, these bottles represent the only Moche IV vessels with contextual associations found in the Jequetepeque Valley. The same burial also yielded three examples of SSB w/ FB. The multiple burials M-XI and M-XII contained each a Moche V bottle painted with fine line designs (Ubbelohde-Doering 1983, Figs. 49 and 56.3). Finally, two beautiful Moche I bottles, with their bodies sculpted in the shape of an owl, were found in simple pit burial V-VII, and in multiple burial E-I (Ubbelohde-Doering 1983, Figs. 24.1 and 63.1) (Fig. 5.10). Curiously enough,

6 The Cupisnique Tradition is the most distinctive cultural formation of the Formative Period in the North Coast of Perú. According to Burger (1995: 230), this tradition has a temporal span that goes from 1400 to 600 B.C.
7 Ubbelohde-Doering (1951: 225, 1957: 5) mistook a classic Moche representation of the “Decapitator God”, present in up to three different SSB w/ FB of Pacatnamú, for a Cupisnique design. We now know that the stylistic proximity between the Cupisnique and Moche designs is due to the fact that Moche elites adopted several iconographic themes of old North Coast traditions in order to underwrite the transcendence of their ideological program (see Chapter III). In defense of Ubbelohde-Doering, it is fair to admit that most of the SSB w/ FB of Pacatnamú have an unusual archaic outlook (see Fig. 5.9).
Figure 5.8. Examples of “stirrup-spout bottles with flat bodies” (SSB w/ FB) excavated by Ubbelohde-Doering at Pacatnamú in 1939. Redrawn from Ubbelohde-Doering 1983, Figs. 24.4 (a), 40.3 (b), 56.4 (c), and 7.6 (d).
Figure 5.9. Comparison between a Cupisnique bottle excavated at Puemape, Jequetepeque Valley (left), and a Moche bottle with archaic decoration excavated at Pacatnamu (right). Redrawn from Elera 1997, Fig. 11, and Ubbelohde-Doering 1966, Fig. 3.
Figure 5.10. Examples of Early Moche owl effigy bottles: a) Pacatnamu, b) La Mina, and c) Piura Valley. Redrawn from Ubbelohde-Doering 1983, Fig. 63.1 (a); Narváez 1994, Lámina II.3 (b); and Makowski et al 1994, Fig. 402 (c).
Ubbelohde-Doering simply chose to call this material "Moche" with no regard to its phase assignation. He made this decision despite knowing Larco’s chronology, which was widely known at the time that Ubbelohde-Doering began publishing the results of his 1937/38 excavations (see Ubbelohde-Doering 1951, 1957, 1959, 1960, 1966).

In conclusion, the ceramic material of Huaca 31’s cemetery vividly illustrates the complex stylistic patterns manifested by the Moche ceramic materials of the Jequetepeque Valley. When interpreting the ceramic sample of the graveyard, Ubbelohde-Doering proposed the coexistence of three cultural formations that we now know spread over 1000 years of the north coast cultural sequence – the end of Cupisnique (600 BC) until the onset of the Late Moche phase (AD 550). The explanation for this apparent temporal inconsistency, however, is much simpler, and does not require forcing the parameters of the north coast chronology. I will come back to this point when discussing the Moche chronological sequence of the Lower Jequetepeque Valley.

Ubbelohde-Doering developed two additional field projects at Pacatnamú during the years 1953 and 1962/62. These excavation projects were, however, not as successful as his first campaign. Perhaps the most significant contribution made by Ubbelohde-Doering during these campaigns was the acquisition of the first three radiocarbon dates documented for any Moche context of the northern sphere. These three dates were taken from charcoal samples collected from a deep occupation level in the northwest corner of Huaca 31, and offered a consistent trend of AD 485 +/- 100 (Ubbelohde-Doering 1966: 22). According Ubbelohde-Doering, these dates corresponded to the time when the cemetery in front of Huaca 31 was being used (Gallinazo-Moche Period) (ibid).
In the year 1953, the most important archaeological event in the Jequetepeque Valley was not Ubbelohde-Doering’s second campaign at Pacatnamú, but the initial excavation of San José de Moro by the Dr. Hans Dietrich Disselhoff. Dr. Disselhoff was curator of the Museum of Ethnology in Berlin and had accompanied Ubbelohde-Doering during his first successful expedition to Pacatnamú. This time, Dr. Disselhoff decided not to follow his colleague but to embark on his own excavation program. The reason that motivated Disselhoff to investigate San José de Moro was the large amount of highland (Cajamarca) pottery that could be found on the site’s surface (Disselhooff 1958a: 364).

San José de Moro is a curious site whose general appearance has nothing to do with its archaeological significance. The site is located on the northern branch of the Jequetepeque Valley, in the midst of the alluvial plain, just a few meters away from the dry bed of the San Gregorio River. The site spreads on top of a 20 ha sandy plateau that rises 2 to 3 meters above the surrounding agricultural fields. On this plateau we find only one solid adobe huaca – the so-called “Huaca La Capilla” – which dates to the Late Moche phase. This structure is rather small – 70 X 70 meters at its base – and does not surpass 9 meters in height. Surrounding Huaca La Capilla we find up to seven low habitation mounds, which hosted an impressively dense superposition of construction levels and occupation floors (Fig. 5.11). Today, these mounds are totally amorphous, having been severely affected by illegal excavations of pot hunters. When Kosok and Schaedel visited the site in 1948, however, they indicated having seen adobe walls and structures on top of the mounds (Kosok 1965: 126). Despite the presence of the Huaca La Capilla and its peripheral mounds, San José de Moro is dominated by a horizontal landscape.
Figure 5.11. Site plan of the archaeological site and modern settlement of San José de Moro (based on Hoja del Catastro Rural N° 17-670-9205. Scale 1:10,000).
Disselhoff located 10 excavation areas in different sectors of the site. Only two of them yielded pre-Hispanic burials. Disselhoff uncovered a total of four burials in a stratigraphic succession. The two most superficial graves belonged to widely known Sicán and Chimú cultural traditions. The two deepest burials, however, presented a hard-to-interpret mixture of earlier ceramic styles, which included some local variant of foreign pottery. The most complex burial, for example, yielded an imported Cajamarca kaolin bowl, four additional bowls that looked like local imitations of Cajamarca pots, an effigy-neck jar of Moche style, a two-spouted bottle of Sicán style, and three gray ware jars reminiscent of the "Tiahuanacoid" style (Disselhoff 1958a: 365, 1958b: 186,189).

Disselhoff identified in the excavation’s back dirt, further Moche, Gallinazo, "Tiahuanacoid", and Cajamarca pottery fragments, as well as a possible "Nasca B" sherd, the latter apparently imported from the South Coast (1958a: 365-66). Disselhoff’s discoveries demonstrated not only the great complexity of San José de Moro’s archaeological contexts, but also that the original inhabitants of the site maintained close contacts with groups from distant regions.

The next large archaeological expedition to the Jequetepeque Valley took place in 1983, when Christopher Donnan and his research team decided to dig back at Pacatnamú. For over five years, these researchers excavated different structures of the city, focusing especially on the late pre-Hispanic architecture (particularly in the monumental complex of Huaca 1) (Donnan and Cock 1985, 1986a, 1986b). They also made important discoveries relating to the Moche occupation, three of which are quite remarkable: a) the discovery of a new group of burials, and b) the acquisition of a new set of radiocarbon
dates, and c) the first significant observations on the character of the local sequence of Moche domestic pottery.

Donnan and his team discovered a total of 84 Moche burials in Pacatnamú, 67 of which were concentrated in a single cemetery (Donnan and McClelland 1997). In general, these contexts were simple pit burials, and their ceramic associations were very similar to the ones of the Moche graves uncovered by Ubbelohde-Doering in front of Huaca 31. These burials also contained numerous face-neck jars with facial features outlined with shallow incisions, clay appliqués, and finger pressure. Donnan and his colleagues also recovered two gray paste stirrup-spout bottles and other fine vases painted with the singular purple color. Donnan did not find, however, intact lateral chamber burials similar to the E-I, M-XI, or M-XII tombs. Neither did he uncover stirrup-spout bottles that could be assigned to the Moche IV and V phases of Larco’s chronology. A stylistic analysis of the ceramic corpus of the 84 burials led Donnan to conclude that they could be related to the Moche III Phase of the South (Donnan and McClelland 1997: 36-37). In fact, Donnan (1997: 12) proposed that during this phase the site of Pacatnamú reached its first phase of cultural splendor. During this time, Huaca 31, as well as an older version of Huaca 1, were the most significant ceremonial structures of the site.

Pacatnamú also hosted a Late Moche presence which, however, was much more restricted in spatial terms than the former Moche III occupation (Donnan 1997: 12). The Late Moche did not leave any burials, but remodeled the old ceremonial structures and created some new habitation areas (D. McClelland 1986). In fact, the Late Moche left

---

8 Castillo and Donnan (1994b) later proposed to call this phase “Middle Moche” in order to distinguish it from Larco’s Moche III Phase, which represents southern Moche developments.
large quantities of broken domestic pieces in stratified deposits. It was through the study of these stratified samples that Donnan and his colleagues were able to detect an important change in the production of Late Moche wares. Even though domestic ceramics tend to change very little through time, Donnan noted that two new highly distinctive domestic forms were introduced by the end of the Moche sequence. One is a type of cooking pot with an elaborate neck silhouette, characterized by the presence of an external platform ("platform-rim ollas") (Fig. 5.12). The other is a large face-neck jar, with the neck molded in the shape of a dignitary’s head. This individual wears high status insignia like a crown and circular ear adornments, and presents a small mustache that is only visible on top of the mouth’s ends (Donnan 1986a: 22, 1997: 13; Donnan Cock and 1986b: 27). Ubbelohde-Doering (1966: 24) detected this same ceramic type at Pacatnamú many years ago, calling it "king of Assyria”. Donnan, for his part, chose the more appropriate term of "New King" (Donnan and McClelland 1997: 37). While these typological observations may seem trivial, they proved vital for solving the occupational sequence of other Moche sites in the valley. Donnan and his team had provided the first "fossile directeurs" of common occurrence on the surface of archaeological sites that could be used to detect Late Moche occupations.

Finally, one last great contribution of the 1983-1987 Pacatnamú Project was the generation of a new set of radiocarbon dates. When excavating the site’s major structures, Donnan found evidence of a strong pluvial event – evidently a mega El Niño – marking the transition between the local Moche and Chimú occupations. An AMS date obtained from dried seedlings associated to this flood showed a central tendency of AD 1050 (Donnan 1986a: 22, 1997: 13, Donnan and Cock 1986b: 29). The validity of this date,
Figure 5.12. Some rim sherd of Platform-neck jars from Pacatnamú. Redrawn from Donnan and Cock 1986b, Fig. 4; and Donnan 1997, Fig. 5.
however, has been questioned by Izumi Shimada (1994a: 254) for being too late for the Late Moche phase. Donnan and his colleagues also dated organic samples collected from three different Moche III burials. These dates show central tendencies of AD 510, 600 and 750\(^9\) (Donnan and McClelland 1997: 37). The authors do not validate the last date, considering it more representative of a Moche Late phase. It is necessary to note, however, that the two former dates are statistically consistent with the dates obtained by Ubbelohde-Doering at Huaca 31.

The next important Moche-related archaeological find in the Jequetepeque Valley had an accidental character. In May 1989, archaeologists of the regional Trujillo branch of the National Culture Institute were briefed on the looting of an important Moche tomb in the Lower Jequetepeque Valley. They organized a reconnaissance team led by archaeologist Alfredo Narváez to register the site and rescue any evidence that might have been left behind by the huaqueros (Narváez 1994: 59). The site, which came to be known as “La Mina”, was an elaborate funerary chamber excavated on the slopes of a sandy hill that lay 2 km south of the river and just 5 km inland from the sea.

The funerary chamber was a rectangular adobe brick room with its interior walls decorated with splendid colorful murals. In order to build this subterranean tomb, the Moche were forced to excavate a 3 meters long, 2 meters wide, and 5 meters deep pit on the slopes of the hill. The structure was originally roofed with a solid seal that involved successive layers of adobe bricks, clay, sand, and rocks, which rested on a framework of transversal algarrobo beams (Narváez 1994).

The contents of the tomb had been completely obliterated by grave robbers. Archaeologists were able to rescue, nevertheless, 16 ceramic pots from the looted

\(^9\) Calibrated dates calculated with two-sigma intervals of around +/- 80 years.
context. The majority of these vessels (14) formed part of a small cache located on the eastern wall of the funerary chamber, which escaped detection by the huaqueros. Eight of the recovered pieces are of exceptional quality, and are clearly assignable to the Moche I style. Two of these vessels are particularly important. One is a small jar with large circular protrusions on the body, which were painted with a singular purple color (Narváez 1994, Layer II, 5). The other is a sculptural stirrup-spout bottle representing an owl, which is virtually identical to a vessel uncovered by Ubbelohde-Doering at Burial V-VII from the Huaca 31 cemetery (Narváez 1994, Layer II, 3; compare with Ubbelohde-Doering 1983, Fig. 63.1) (Fig. 5.10). The La Mina find, although not representing a formal archaeological excavation, went down to history for representing the first pure Moche I context detected by archaeologists in the Jequetepeque Valley. This site also allowed us to establish the first clear connections between two Moche sites in the valley (La Mina-Pacatnamú). Unfortunately, no radiocarbon dates were taken of this important place of discovery.

The year 1991 saw the beginning of the San José de Moro Archaeological Project in the Jequetepeque Valley. This is the longest long-term project ever developed in this region, and continues even up to this day. The San José de Moro Project was launched as a joint venture between Christopher Donnan, UCLA professor of archeology, and Luis Jaime Castillo, who was a UCLA graduate student at the time. Two major research objectives led both researchers to resume the excavation of the site: a) to verify the

---

10 This type of decoration is comparable to the one of the red-paste SSB w/ FB of Pacatnamú. Narváez (1994: 79) has rightly correlated this vase with ceramic offerings that accompanied the burial of the “Old Lord of Sipán” in the Lambayeque Valley (compare with Alva 1990: 4-5).

11 During the years 1975 and 1976, David Chodoff, an anthropology graduate student at Columbia University, conducted limited excavations at San José de Moro. From his only surviving article (Chodoff 1979) and annual reports submitted to the INC, we know that he opened three excavation areas and recovered around 75,000 ceramic sherds. Chodoff, however, never completed his investigation.
provenience contexts of the fine Late Moche ceramics that were invading the local antiques market, and that allegedly came from this place, and b) to build the first chronological sequence for the region based on an analysis of stratified samples of domestic pottery from the habitation mounds.

As was the case with Ubbelohde-Doering’s first excavation season at Pacatnamú, the first two years of the San José de Moro Project were unusually successful. During these field campaigns (1991-1992) Donnan and Castillo discovered a group of Late Moche elite tombs at the foot of "Huaca La Capilla". The most important funerary contexts were the tombs of the two "Moro priestesses" which, as described in a previous chapter, included the bodies of two main individuals equipped with the attire and utensils that characterized a popular feminine deity of the Moche pantheon (Holmquist 1992). These tombs yielded abundant metal, backed clay, and ceramic offerings. The latter included a few vessels imported from distant regions (Donnan and Castillo 1992, 1994).

The 1992 excavations produced another remarkable find. Two simple burials, this time of the vertical shaft and lateral chamber type, were found below the occupation levels that contained the Late Moche interments. Each burial contained a single individual buried with a stirrup-spout bottle. The bottles were of the SSB w/ FB kind, very similar to the ones found at the Huaca 31 cemetery of Pacatnamú. One of these bottles was even a red-paste piece painted with the odd purple color (Castillo and Donnan 1994a: 121; Fig. 3.29). Castillo and Donnan (1994a, 1994b) interpreted the stratigraphic position of these burials as confirmatory evidence for the Middle Moche phase designation of their pottery. During the following archaeological seasons more than 70 interments have been added to the sample of Middle Moche burials of San José de Moro
(Ruiz 2008: 382). In every case, the burial ground was located below Late Moche occupation levels. The stylistic connections with the Pacatnamú materials have been enhanced by the discovery of gray ware pieces that were apparently made with the same mold (Castillo 2003: 87).

The stratigraphic excavations of the habitation mounds took place during two field seasons: 1991 and 1995. These excavations marked my entry into the archeology of the Lower Jequetepeque Valley. During those years, I excavated four large stratigraphic cuts in two habitation mounds of San José de Moro, the "Huaca Suroeste" (3 cuts) and the "Huaca Chodoff" (1 cut) (Rosas 1995). In most of the cuts, I was able to identify a succession of up to 4 different cultural occupations (Moche-“Transitional”-Sicán-Chimú), which made up stratigraphic sequences that reached 5.5 meters in depth. Each occupation was differentiated on the base of changes in the repertoire of domestic ceramic types. The assignation of the identified occupations to a known cultural tradition of the North Coast was established on the presence of stylistically-diagnostic fine ware ceramic fragments. One interesting aspect manifested by the Moche ceramic corpus was the high degree of continuity of domestic ceramic types. In the stratigraphic excavations, I was able to verify, however, the late position of the "New King" and “platform-rim ollas" types detected by Donnan (1986a: 22) at Pacatnamú. All other domestic ceramic types remained unchanged along the stratigraphic sequence. This pattern hold true even though it was evident that some stratigraphic cuts reached “Middle Moche” occupation levels in their deepest sections.

The San José de Moro Archaeological Project has seen many field campaigns during the past 16 years. Throughout this time, not only more than 150 Moche burials
have been excavated (Castillo 2003: 90), but also a similar number of contexts belonging to the “Transitional” and Sicán Periods. These excavations have uncovered the most illustrious examples of Late Moche elite pottery decorated with thin line designs (Castillo 2003, Fig. 18.17). In fact, the absence of similar ceramic pieces in other Late Moche cemeteries of the valley has led Castillo (2000: 148) to propose that San José de Moro was a high status regional funerary center. It is noteworthy that this important regional meeting ground has not yielded a single example of the distinctive Moche IV funerary pieces of the southern territories. This site has evidenced, on the other hand, pottery vessels typical of cultural traditions that developed in distant Peruvian coastal and highland areas (Castillo 2000; Rucabado and Castillo 2003). These pots represent material evidence of the complex inter-cultural relations that occurred on this part of the Andean territory during the Middle Horizon. It is a pity, therefore, that San José de Moro’s funerary evidence has not seen a proper publication. Few radiocarbon dates have been taken for the site, making the already painstaking task of assembling a reliable cultural sequence for the Lower Jequetepeque Valley even more difficult.

The final major excavation project of a Moche site in the Jequetepeque Valley took place between the years 1994 and 2001. Christopher Donnan, who abandoned the co-direction of the San José de Moro Project late in 1992, began his own excavation program of the largest Early Moche site in the region: The pyramid of “Dos Cabezas”. The ceremonial and residential complex of Dos Cabezas is located close to the final run of the Jequetepeque River, less than 700 meters away from the sea and about 2 km south of Pacatnamú. The complex extends over an area of approximately 1 km² and includes a series of huacas, a large residential area in its western flank, and the great adobe pyramid
of Dos Cabezas. Huaca Dos Cabezas is a perfectly-shaped truncated pyramid with a 90 X 90 meter base and a maximum height of 30 meters (Donnan 2007:10). The huaca was built on the southwest corner of a large rectangular adobe platform of 230 X 170 meters that rose 6 meters above the surrounding plain (Donnan 2003, fig. 2.3; Kroeber 1930: 87). The Dos Cabezas pyramid is the largest adobe construction in the Jequetepeque Valley (Donnan 2003: 43). It is also the largest Early Moche ceremonial structure known.

During the 1997, 1998 and 1999 field seasons, Donnan and his team discovered three intact chamber tombs in the southwest corner of the pyramid. The graves belonged to high-elite young men, and contained numerous metal offerings, as well as the most spectacular examples of the elite Moche I sculptural ceramics known (Donnan 2001, 2003). These pots are stylistically identical to the ones recovered at "La Mina" burial, and confirm the Early Moche date of the latter structure.

The investigations developed at Dos Cabezas offered two other important contributions. First, they revealed the curious style of the domestic pottery used by Early Moche ordinary people. During the first seasons of the project, Donnan and his colleagues excavated an extensive habitation area west of the great pyramid that they called “fisherfolk barrio” (Cordy-Collins 2001). This area encompassed a series of rectangular houses of which only their adobe bases survived. Although badly damaged, the houses kept in their interiors, large quantities of domestic pots and other household implements. Notorious among them were a series of face-neck jars of clear Gallinazo style, with facial features portrayed by simple incisions and clay appliqués. The discovery of fine Moche I pottery vessels in the habitation areas (Cordy-Collins, 2001, fig. 2.3), and of Gallinazo-style utilitarian jars in the elite burials (Donnan 2007, fig. 5.118), confirmed
the temporal association of the two styles. This discovery supported Bawden’s theory 
(1995) that stated that what we usually call "Moche" is nothing else than an elite ideology 
adopted by people of a Gallinazo cultural background.

Finally, the last great contribution of the “Dos Cabezas Archaeological Project” 
was a new series of radiocarbon dates, which have helped to shape a new vision about 
Moche culture (Chapter III). Two of these dates were obtained from one of the elite 
burials located in the southwest corner of the pyramid. These dates yielded two-sigma 
calibrated results of AD 410-465 and 390-600. Three additional samples collected from 
two older chamber burials that were excavated in the fill of the large platform that 
supported the adobe pyramid yielded two-sigma calibrated results of AD 410-580, 320-
450, and 420-635 (Donnan 2007: 197). As stated in a previous chapter, the surprising fact 
about these dates is that they confirm that the Moche I occupation of the Jequetepeque 
Valley was contemporary with the Moche IV southern Moche state (Donnan 2003: 76). This evidence forces us to rethink old theories that proposed the political and 
evolutionary unity of the Moche phenomenon.

b) Valley-wide archaeological surveys

A final type of study that has contributed to our understanding of the Moche 
occupation of the Jequetepeque area has been systematic superficial examinations of sites 
– sometimes complemented by limited excavations – developed within the framework of 
valley-wide surveys. This far, four major archaeological site surveys have been 
conducted in the lower section of the Jequetepeque Valley:

• Explorations by Herbert Eling (1975-78).
• Explorations by Tom Dillehay and Alan Kolata (1997-99).

The validity of the results achieved by these explorations depended to a large degree on the quality of the ceramic sequences that the project directors used to determine the occupation period of the surveyed sites. Considering that the uniqueness of the local cultural developments has never been properly addressed, most studies have failed in attaining reliable cultural identifications. None of these explorations has resulted in a detailed reconstruction of local settlement patterns. It would be unfair, however, to say that no project made any significant contribution. Some explorations have offered valuable information about the location of sites, canals, irrigated land, and roads that allow other researchers to draw their own interpretations regarding the spatial organization of past cultures. Before attempting to reveal the evolution of the Moche settlement pattern in the region, I would like to review the main contributions made by different projects.

German engineer Wolfgang Hecker and his wife, architect Giesela Hecker, arrived for the first time in the Jequetepeque accompanying Heinrich Ubbelohde-Doering during his third scientific expedition to Pacatnamú (1962-63). There, they were given the responsibility of assembling the first general architectural map of the site. They were also assigned the excavation of Pacatnamú’s Huaca 16 (Hecker and Hecker 1985: 11). During their stay of 16 months, the Heckers took the time to start exploring other valley sites, recording their observations. The Heckers completed their valley-wide survey during two
subsequent field seasons (1977-78 and 1980-81), this time conducted with their own funding (Hecker and Hecker 1990: 4).

The results of the Hecker’s explorations have been published in the form of a "site inventory" by the Regional Culture Institute of Trujillo (1990). This is a very valuable document, since it represents the most extensive record of Lower Jequetepeque archaeological sites that has been published to date. In general, the Heckers located and described 313 archaeological sites, 15 segments of pre-Hispanic roads, and 9 ancient trunk irrigation canals. The only problem manifested by this work relates to the temporal adscription of sites. The identified sites were dated according to the periods of the Andean master chronology of “horizons and intermediate periods” originally proposed by John Rowe (1962a, 1962b) (Fig. 3.5). The broad temporal categories of this chronological scheme are of little use to differentiate between particular cultural traditions, or to disclose possible temporal inconsistencies in the occupation of allegedly contemporary sites.

The next valley-wide survey took place at the same time that the Heckers were conducting their explorations. During the years 1974 and 1977, Richard Keatinge, sponsored by Columbia University, developed an extensive reconnaissance of archaeological sites in the lower and even middle Jequetepeque valleys (Keatinge 1977, 1980; Keatinge and Conrad 1983: 265; Keatinge et al. 1975). Keatinge's interest was focused on the late pre-Hispanic occupation of the valley, and his research goal centered on revealing the strategies of imperial domination that the Chimú implemented in the Jequetepeque territory (Keatinge 1982). Even though Keatinge composed general site maps of Pacatnamú (Keatinge 1982, fig. 9.2) and Farfán (Keatinge and Conrad 1983;
figs. 8 and 9), and developed limited excavations at these sites, as well as of the Chimú tertiary administrative center of Talambo (Keatinge 1986, Keatinge and Conrad 1983), his untimely resignation from Columbia University curtailed his intention to carry his analysis of Chimú settlement patterns to fruition. The results of Keatinge’s valley-wide archaeological survey have never been published.

The decade of the 1970s witnessed another important valley-wide survey, this time conducted by Herbert Eling, a graduate student at the University of Texas at Austin. Between the years 1975 and 1978, Eling developed a detailed survey of all extant traces of pre-Hispanic irrigation systems in the region, which ultimately resulted in the most complete record of ancient canals for any Peruvian coastal valley (Eling 1978, 1986 1987). Eling decided to develop this study to recover as much information as possible of irrigation works that were at risk of disappearing under the advance of modern land reclamation projects. In the end, Eling identified 7 independent irrigation systems in the southern side of the valley (Ventanillas, Tolón, Tecapa, San Pedro, Infernillo of Chafan, Ñampol and Jequetepeque) and 6 in the northern sector (Arenita, Talambo, Chepén, Guadalupe, Chafan, and Santa Rosa). Eling noted that the vast majority of pre-Hispanic canals were still being used at the time of his survey.

Eling complemented his descriptive work with interpretations about the evolution of irrigation agriculture in the region. For that purpose, he tried to find spatial matches between ancient irrigation works and archaeological sites of known age. Eling’s (1987: 360-63) evolutionary study started from the premise that the development of large scale irrigation projects in the Jequetepeque area occurred after the inception of urbanism in the North Coast (ca AD 500). This notion gave theoretical support to his “major site
methodology”, which suggested that, in order to trace the evolution of irrigation works, it was only needed to find significant spatial associations between canals and pre-Hispanic population centers of large size (Eling 1987: 400). One of the most interesting discoveries of Eling’s study was the detection of 4 to 5 small independent chiefdoms in the valley during Late Moche times (Eling 1987: 454-458).

Even though Eling’s methodology was not unsound, his final reconstruction of the local evolutionary trends in irrigation agriculture was plagued with problems. These problems related mostly to the temporal placement of sites. Eling’s misfortune began when he tried to date the Jequetepeque data according to a seven-period chronology inspired in a pottery seriation developed by Nolan (1980) with Lambayeque Valley materials. This pottery seriation evidenced two major problems when confronted with the Jequetepeque evidence. First, it proved to be unsuitable to capture the unique stylistic developments of the area. This problem apparently led Eling to confuse the Late Moche fortified site of Cerro Chepén with a Late Chimú or Chimú-Inca settlement (1987: 436, 445). Second, Eling’s sequence was particularly inappropriate for differentiating the early complex cultural developments that occurred in the area. All cultural developments that came before the Late Moche era were summed up in a single period (Period 1). Therefore, when Eling (1987: 454) concluded that "all of the canal systems along the river were in place by [Period 1]" he failed in identifying the cultural tradition that started large-scale irrigation programs in the area. Despite these problems, Eling’s (1978, 1986, 1987) work has withstood the test of time, given that his precise register of pre-Hispanic irrigation networks represents a valuable tool that other researchers can use to derive their own interpretations.
Finally, the last large-scale archaeological survey of the Jequetepeque region took place between the years 1997 and 1999, as a joint project led by Tom Dillehay (then a professor at the University of Kentucky) and Alan Kolata (University of Chicago). Both researchers mounted an ambitious research program in the valley that pursued two basic ends: a) understand how the relationships between local rural and urban communities changed through time, and b) disclose the strategies followed by local communities to confront processes and events of environmental degradation (desertification processes, sand dune advances, ENSO events) (Dillehay et al 1998, 1999, 2001; Dillehay and Kolata 2004). The regional study also involved limited excavation of selected archaeological sites and the construction of a paleo-environmental sequence based on geomorphological and paleolimnological evidence. This survey has detected up to 322 Moche sites in the region (Dillehay 2001: 265). This prodigious record responds to the fact that the criterion for site identification has been broadened to encompass faint traces of human occupation like “isolated farmsteads, agricultural plots, and sherd scatters (ibid)” . When the final results of this regional study are published, they will represent, without doubt, the greatest contribution to the regional archeology of the Jequetepeque Valley.

There is a study derived from Dillehay and Kolata’s regional investigation that is of particular significance for my research. Between 2000 and 2001, Edward Swenson, a graduate student at the University of Chicago, made topographic maps of the ceremonial structures present in 25 of the 72 largest Late Moche sites that Dillehay and Kolata located in the Jequetepeque Valley (Swenson 2004, 2006). These sites, called by Swenson "Hinterland Ceremonial Sites", tend to concentrate along the internal hill chains of Faclo-Murciélago-Charcape, and Huaca Blanca-San Ildefonso-Santa Rosa, which
border the northern branch of the valley from the west. Despite Swenson’s designation, these sites present dense concentrations of habitation structures, besides three or more ceremonial structures. The sites are commonly located on the slopes of hills and are often fortified.

The ceremonial structures of these sites are of two basic types. At sites located on hill slopes, we commonly find multi-tiered terraces with ramp approaches. When the site spreads on flat terrain, we commonly see rectilinear compounds and truncated pyramids made of stones (Swenson 2004: 421). Shimada detected the first type of structure in Pampa Grande, calling it "hierarchical terrace" (Shimada 1994a: 177). The "hierarchical terrace" is a low stepped building that comprises a high number of terraces that become less extensive as we move up the structure. A series of ramps – that are usually centrally aligned – connect the lower with the upper construction levels. As noted by Swenson (2004: 231), the ramps often have questionable structural properties, given that the terraces that they interconnect tend to be so low that they can be easily ascended as simple steps. Ramps obviously played a symbolic role, representing distinctive architectural features that gave the structures a special ritual character.

Perhaps the most important contribution of Swenson’s study was his observation on the state of political fragmentation that reigned in the region during Late Moche times. In fact, this find may represent the most significant advance made in the reconstruction of the Moche settlement pattern in the region. Swenson arrived at this conclusion after noting the wide variety of architectural designs and internal circulation patterns manifested by the ceremonial platforms of different sites (Swenson 2004: 810). Swenson (2006: 113) interprets this diversity of designs as physical manifestation of ideological
heterogeneity. This diversity of designs is something that we would not expect to find if a single power center imposed its dominant ideology on a series of dependent peripheral communities.

**The Moche sequence in the Jequetepeque Valley**

The excavations carried out at Moche sites of the Jequetepeque Valley, though scarce, have uncovered a significant number of funerary contexts. These contexts have provided enough information to allow some authors to build the first chronological sequences for the Moche occupation of the region. These sequences have been entirely based on the stylistic changes manifested by funerary ceramics, which are the category of material culture that shows the most evident transformations and that occurs in numbers high enough to allow the recognition of recurrent trends. To date, there are two ceramic sequences for the Moche occupation of the Jequetepeque: the Hecker’s sequence (1984) and the sequence of Castillo and Donnan (1994b).

Wolfgang and Giesela Hecker (1984) built their ceramic sequence with the funerary ceramics excavated by Ubbelohde-Doering (1983) in Pacatnamú. Unfortunately, this material is too site-specific, and is only representative of a limited time-span. This fact has prevented the authors from establishing a chronology with broader temporal and spatial applications. This is why I am going to center the discussion of the Moche sequence of the Jequetepeque on the scheme proposed by Castillo and Donnan (1994b), which is based on evidence collected in more locations and relies on more reliable associations.
Castillo and Donnan (1994b) developed their sequence based on information about burial superposition, stylistic associations within sealed funerary contexts, inter-valley comparisons of funerary pottery, as well as stylistic analyses of ceramic pieces from local private collections. While using Larco’s (1948) chronology as a starting point for their scheme, they rightly recognize the uniqueness of the local Moche developments and suggest an alternative sequence.

Castillo and Donnan (1994b) proposed a sequence composed by three phases: Early, Middle and Late Moche. The Early Moche phase is represented at the sites of Dos Cabezas, La Mina and Tolón. The Early Moche sumptuary ceramics evidence a high development of sculptural art. Most of the finest ceramic pieces are stirrup-spout bottles, and the shape of their handles is reminiscent of Moche I bottles from the south. The closest stylistic parallels of the Jequetepeque materials are found, however, in the Piura region (the northernmost Moche territory). Among the most common representational themes of local Early Moche ceramics we find naturalistic sculptural renditions of local wildlife (felines, sea lions, condors, owls, lizards, hawks, bats) as well as of exotic fauna (macaws and monkeys). Also typical are representations of human characters with a strange mushroom-shaped hairdo, warriors, and depictions of the Moche "Decapitator God".

Another type of manufacturing industry that attained a high degree of development during the Early Moche phase was metallurgy. The impetus for its

---

12 Tolón is the name of an Early Moche cemetery located on the upper fringes of the southern flank of the Lower Jequetepeque Valley, approximately 33 km inland from the sea. The site has produced a significant sample of Early Moche prestige vessels of superb quality. These vessels were not scientifically excavated, but looted by grave robbers during the 1970s (Castillo and Donnan 1994b: 164). Many of the looted pieces were purchased by Oscar Rodriguez Razetto, a private collector from the port of Pacasmayo, who recorded information about their provenience.
development lay in the production of prestige symbols, which generally ended up being interred in the tombs of notable individuals. Such is the case of the tombs of Dos Cabezas (Donnan 2003), La Mina\(^{13}\) (Narváez 1994), and Balsar (Alva 1992). Especially notable for their workmanship and technical quality are objects made of gold, tumbaga and copper sheets, which include personal ornaments (crowns, nose rings, etc), power insignia (batons and non-functional weapons), and ceremonial objects (figurines and trumpets). The amazing development achieved by both ceramic and metallurgical industries during the Early Moche phase, especially in what relates to the production of luxury items, represents an indirect measure of the power wielded by the local Moche elites. Another indicator of this power, this time manifested in the capacity to mobilize large quantities of laborers, is represented by the Dos Cabezas pyramid, which is the largest Early Moche adobe structure known.

The Middle Moche Phase is represented at the sites of Pacatnamú and San José de Moro. In many ways, this phase seems to denote a situation of "cultural regression". This decay is evident, for example, in monumental architecture. At Pacatnamú, only the relatively inconspicuous "Huaca 31", as well as an older version of the Huaca 1, were constructed and used during this phase (Donnan 1997: 12). San José de Moro, on the other hand, bears no huaca assignable to the Middle Moche phase (Castillo and Donnan 1994b: 169). The same decay is evident in the manufacture of prestige objects. During the Middle Moche phase, the finest ceramic pieces are represented by the “stirrup-spout

\(^{13}\) The presence of metallic objects at the looted “La Mina” tomb was inferred based on the imprints that these objects left on the earthen floor of the funerary chamber (Narváez 1994: 66).

\(^{14}\) Balsar is the name of another tomb of the Early Moche phase located on the southern bank of the Jequetepeque River, very close to the sea. The tomb was desecrated by grave robbers in the year 1974 (Alva 1992: 81). Even though archaeologists were never able to pinpoint the exact location of the tomb, they did detect some of its contents that made their way into the international black market of antiquities.
bottles with flat bodies”. As we have seen, these vessels have an “archaic” outlook, and their decoration is very poor. The gray paste specimens, which dominate the repertoire of fine pieces, have a poor surface finish, are commonly decorated with simple relief, and the few examples of sculptural art manifest a very basic figurative treatment. The red-paste specimens, on the other hand, are commonly decorated with thick strokes of paint, the odd purple color being the preferred pigment.

A similar case is attested to in the field of metallurgy. Metal offerings are seldom present at most Middle Moche burials. Only Pacatnamú grave M-XII (Ubbelohde-Doering 1983) and San José de Moro grave M-U1411 (Ruiz 2008) contain a significant amount of metal objects. But even these contexts manifest a significant dearth of gold and silver ornaments. When reviewing the evidence of luxury items included in Middle Moche contexts, one gets the impression that the Middle Moche elites did not count with skilled craftsmen (the contrast with the situation of their Early Moche predecessors is remarkable). It also seems that they had a very restricted access to precious metals deposits. Finally, their power to mobilize laborers, measured in the volume of monumental structures, also seems to have been very limited.

The Late Moche Phase saw the revival of the Moche elite culture in the Jequetepaque Valley. The production of fine ceramics regained its old cultural splendor. There is an unusual development of pictorial art in elite ceramics which manifests two clear trends: a) bi-chrome pottery decorated with dense concentrations of fine-line motifs, and b) polychrome vessels. The iconography of the Late Moche pots announces a major change in elite ideology, manifested by a significant expansion of the range of deities and supernatural beings. The ceramic evidence also shows an unexpected aperture to cultural
influences that lay outside the scope of the North Coast of Peru (Cajamarca, Huari, Nievería). Metallurgy also manifests a revival of old cultural trends. By way of example, the two tombs of the "Moro priestesses" each contain the largest repertoires of metal objects than have been scientifically documented for any pre-Hispanic burial in the region. The objects bear a special significance because they were made of a silver-copper alloy (Donnan and Castillo 1992). Gold objects, however, still remain scarce.

During the Late Moche phase we also see a notable increase in the number of Moche settlements. While San José de Moro may be the only site that evidences a concentration of elite burials, fragments of the finest examples of Late Moche pottery have been found on the surface of other valley settlements like Pacatnamú, Cerro Chepén, Catalina, Portachuelo de Charcape, and San Ildefonso, to name only the largest (McClelland 1997, Rosas 2007, Swenson 2004). All of these sites bear examples of monumental ceremonial architecture. As Swenson (2004, 2006) suggested, the different architectural layouts of these structures suggest the presence of several political entities. During the Late Moche phase, then, the Jequetepeque Valley would have been divided into different political territories governed by independent sets of authorities.

The three-phase ceramic chronology of Castillo and Donnan (1994b) seems to be firmly based on archaeological evidence. However, as is the case with the Hecker’s sequence, it is not supported by radiocarbon dates. When we contrast this sequence with the new C-14 dates that have been collected for Moche sites of the region, the first inconsistencies become evident. Especially illuminating are two late dates that Donnan (2003, 2007) obtained at the Early Moche site of Dos Cabezas. As has been mentioned, these dates show average calibrated results of AD 390-645 (Donnan 2007: 198). The
main problem with these dates is that they are very late, extending up until the onset of
the Late Moche phase in other North Coast territories (Eling 1987: 406; Shimada 1994a,
Table 1). These dates do not provide the breadth of time necessary for the evolution of a
Middle Moche phase in the Jequetepeque Valley (Fig. 5.13).

If, despite the radiocarbon evidence, we insist on proposing the existence of a
Middle Moche phase in the Jequetepeque Valley, we can resort to a series of arguments
to justify our position. We can assert that the tombs discovered by Donnan at Dos
Cabezas do not belong to an early occupation moment of the pyramid (Donnan 2003: 75).
We can also propose that the Late Moche phase would have started relatively late
(perhaps by AD 650) in the Jequetepeque area. Finally, we can also seek refuge in the
wide temporal intervals offered by calibrated dates, calculated with a two sigma margin
of error. However, none of these solutions can help us escape the fact that the Middle
Moche contexts of Pacatnamú and the Dos Cabezas tombs show statistically consistent
C-14 dates.

In my opinion, what the new radiocarbon evidence seems to suggest is that the
Early and Middle Moche components identified by Castillo and Donnan (1994b), do not
refer to different evolutionary stages, but are representative of different social contexts. In
other words, these components comprise material goods associated with people of a
different social category. To illustrate this point, I can draw a parallel with the pattern of
political organization that prevailed on the North Coast at the time of Spanish conquest
(Netherly 1977, 1984). What we understand as Early Moche corresponds to the prestige
symbols of the highest echelons of the dual-hierarchical system of leadership ("caciques"
and "segundas personas"). These individuals were buried with sumptuary objects
Figure 5.13. Sample of uncalibrated C-14 dates from important Moche sites of the Jequetepeque Valley. Based on Donnan 2007: 197-198; Donnan and McClelland 1997: 37; Swenson 2004: Table 6.1; and Kromer 2009, personal communication.
produced by a highly skilled group of "attached specialists ". The high-ranking authorities decided to express their social status through the Early Moche style, which was internationally renowned for its high refinement. Middle Moche material culture, in contrast, encompasses the offerings that were dedicated to lower-category leaders ("principales", "mandones") and even common people. These pieces were produced by less competent artisans. Two additional lines of evidence seem to support the proposed temporal congruity of the two phases:

1. Evidence of contextual and stratigraphic associations. First, even though the stratigraphic superposition of Late Moche burials on Middle Moche interments is well documented (San José de Moro), no valley site has evidenced a similar stratigraphic relationship between Middle Moche and Early Moche contexts (del Carpio 2008: 100). Moreover, no single valley site has reported both occupations. This relationship of mutual exclusion is, however, archaeologically possible. We can assume, for instance, that all Early Moche sites were abandoned and never reoccupied. However, it must be stressed that the only location where both Early Moche and Middle Moche materials appeared in sealed contexts (Huaca 31 cemetery at Pacatnamú) these contexts were part of the same burial horizon (Hecker and Hecker 1984: 172)\textsuperscript{15}.

2. Thematic content. Following the precepts of the theory of materialization of ideology (DeMarrais 1997, see also DeMarrais et al 1996), we can suggest that the materials that make up an archaeological phase (especially in terms of prestige goods) should show a consistent use of a limited array of ideological symbols. Stated in opposite

\textsuperscript{15} Both Castillo and Donnan (1994b: 162), as well as Hecker and Hecker (1984: 172) interpret the presence of Early Moche bottles in the Moche III burials at Pacatamú as an anachronism. These authors think that Middle Moche people rescued these bottles from earlier contexts and later introduced them in their own graves.
terms, two stages of cultural evolution would be clearly distinguishable if the thematic content of their most representative mythological narratives were different. While it is impossible to unveil the thematic content of the Middle Moche and Early Moche cults, we can get a general idea of their most basic tenets by analyzing the iconography of their sacred objects. If we compare the symbols illustrated in fine Early Moche and Middle Moche ceramics, we will find out that the coincidences are greater than the differences.

I have already mentioned that fine Early Moche ceramics made a strong emphasis in the naturalistic representation of local and exotic wildlife. The same holds true for the Middle Moche funerary pottery. There are also coincidences in the representation of human beings and warriors. But the most remarkable convergences are found in the field of supernatural beings (anthropomorphic individuals with animal features, or fantastic animals that do not occur in the real world). Both in the Early Moche and Middle Moche cases, the register of supernatural beings is very restricted. It is virtually confined to three characters:

1. "Decapitator God" in anthropomorph version.

   Early Moche: Cordy-Collins, 2001, fig. 2.4; Donnan 2007, figs. 5.25, 5.26.
   Middle Moche: Castillo 2003, fig. 18.9 (center of upper row), Ubbelohde-Doering 1983, figs. 21.1, 28.2, 57.1.


   Early Moche: Cordy-Collins, 2001, fig. 2.3.
   Middle Moche: Castillo and Donnan 1994b, fig. 344.

3. "Moon animal."

   Early Moche: Donnan 2003, Plate 2.2 a, b, d.
In the corresponding Early Moche and Middle Moche examples, it is not only clear that the same being is been represented, but also that there are remarkable similarities in the details of representation (downward-turning triangular ears and serrated appendages in the case of the "Moon-animal", bi-lobed ears in the case of the Decapitator God). The only differences are manifested in the technical quality of the representation. As I mentioned before, the Early Moche sculptural pottery shows a superb handling of volumes and shapes.

The thematic similarities between both styles become more remarkable when compared with the iconography of the Late Moche funerary vessels. During the Late Moche phase we see a change in the technique of ceramic decoration (vessels decorated with fine line paintings). But the most remarkable innovation refers to the expansion of the range of Moche deities. The Late Moche iconographic repertoire of mythological beings includes, besides depictions of the known "Decapitator God" and the "Moon-animal", illustrations of the Moche paramount deity "Aia-paec" and his faithful companion, the "Anthropomorphic Iguana" (Castillo and Donnan 1992, fig. 45; Castillo and Donnan 1994b, fig. 117; Donnan and McClelland 1979, figs. 1-16), depictions of the "Feminine Deity" (Cordy-Collins 1977; Donnan and McClelland 1979, figs. 23-28, Holmquist 1992); depictions of the "anthropomorphic club" (Donnan and Castillo 1994, Plate XIV, 2), as well as representations of an assortment of marine demons (Donnan and McClelland 1999: 179, McClelland 1997). Without a doubt, this rich iconography tells us that the political leaders of the Jequetepeque Valley transformed their elite ideology
during the Late Moche phase. A similar transformation did not mark the transition between the proposed Early and Middle Moche phases.

If we accept that the Early and Middle Moche phases of Castillo and Donnan’s (1994b) scheme are temporally equivalent, it is no longer necessary to propose the existence of a "cultural regression" halfway through the cultural sequence. The crudely-made funerary objects of the Middle Moche phase were simply the best luxury objects that lower-rank authorities and ordinary people could attain. Only the top leaders would have been able to patronize the specialized teams of skilled workers that produced the finely-crafted prestige symbols that we describe as "Early Moche". These leaders would have also had preferential (and possibly exclusive) access to precious metals ores.

The proposed equivalence of the Early and Middle Moche phases also helps us outline a logical explanation for the curious stylistic associations detected in the cemetery of Huaca 31 at Pacatnamú. First, it is no longer necessary to suggest the coexistence of three cultural traditions (Gallinazo, Moche and Cupisnique) that together spanned more than 1000 years of the North Coast cultural sequence. We have already seen that the close stylistic connections between the SSB w/ FB and Cupisnique vessels derive from the “archaic” character of the former, and from the curious Moche practice of reviving ideological themes of old north coast traditions. The alleged Gallinazo ceramics detected by Ubbelohde-Doering at the site, on the other hand, are simply the same domestic pots.

---

16 Castillo (2003: 97) interprets the sudden appearance of the fine-line decoration style in the Jequetepeque Valley as the product of a northern displacement of craftsmen familiar with the Moche IV style of the southern territories. Considering that the Late Moche cult also adopted a few southern iconographic themes (i.e. “Aia paec” and other characters of the “Sacrifice Scene”), it is possible that this artist displacement was accompanied by a true ideological diffusion.

17 At the southern Late Moche site of Galindo, Bawden (1982b) found a significant association of silver objects and high-status residences. In fact, the presence of silver implements is one of the most reliable indicators of class distinction at this site (Bawden 1982b: 175).
used by the inhabitants of the "fisherfolk barrio" of the ceremonial complex of Dos Cabezas.

Second, the two Early Moche sculptural vases with naturalistic representations of owls found within two burials of the Huaca 31 no longer need to be interpreted as "out-of-context" objects (Hecker and Hecker 1984: 172). These vases belong to the time during which Huaca 31 and its annex cemetery were in use. The question we must ask here is why two prestige symbols of the most powerful elites of the valley ended up in the graves of lower rank individuals. The best explanation that I can offer to this apparent inconsistency is that these two precious objects were given away as "political payments". This type of payment was common among complex societies that conducted a policy of "wealth finance" (D'Altroy and Earle 1985: 188).

Third, the proposed temporal equivalence of the Early and Middle Moche phases also serves to explain the presence of southern Moche IV ceramics inside chamber burial M-XII of Pacatnamú. As suggested by Donnan (2003: 74), the dates obtained for Dos Cabezas are consistent with the Moche IV Phase in the Moche and Chicama valleys. The five Moche IV bottles present in burial M-XII could be therefore interpreted as “foreign” prestige objects that were in vogue at the time. I agree with Castillo and Donnan (1994b: 169) in that the multiple burials of Huaca 31 would have housed the highest-rank elites of Pacatnamú. It is possible, then, that some of these individuals took advantage of their prominent position to establish contacts with peers from southern valleys. These connections would have helped them obtain the foreign goods that ended up being introduced in their final resting places. Finally, the Late Moche bottles detected in two multiple burials were obviously post-factum offerings made to revered ancestors.
In conclusion, while Castillo and Donnan (1994b: 176) hoped to expand their three-phase chronology in the future, my proposal is that we should opt for a reduction. It is not that I deny the existence of three or more cultural phases in the evolutionary course of the Jequetepeque brand of the Moche tradition. What I propose is that, for the moment, the available evidence only supports the existence of two archaeologically definable phases. These phases should be called "Early Moche" and "Late Moche" based on the characteristics of their most representative fine ceramics. Radiocarbon evidence, contextual associations, and even the thematic content of the iconographic corpus suggest that the Early and Middle Moche phases of Castillo and Donnan’s (1994b) chronology are contemporary (Fig. 5.13). The differences manifested by their constituent components relate to political and not temporal factors (these phases encompass the prestige symbols that were dedicated to different echelons of the local power hierarchy).

An issue that remains unsolved is whether we can establish a parallel chronology with the domestic pottery associated to Moche contexts. This will be a complicated task given that, as already explained, the Moche domestic ceramics tend to change very little over time. We can apply, however, two criteria for establishing temporal differences on the Jequetepeque material. Two domestic ceramic types – the “New King” jars and the “platform rim ollas” – characterize the end of the sequence. It should be noted, however, that these two household types were not introduced at the onset of the Late Moche phase, but made their appearance when the distinctive Late Moche fine-line sumptuary pottery was in vogue (Donnan 1986a: 22). The beginning of the sequence, on the other hand, would be characterized by simple jars with Gallinazo features. This temporal marker is

---

18 From here on, I will use italics when referring to my revised Early Moche phase. Given that the Late Moche phase of my proposed scheme does not differ from the one of Castillo and Donnan’s (1994b) chronology, no distinctions are necessary in this case.
not highly reliable, because it is evident that Gallinazo-derived stylistic features survived in late specimens up until the time of the Moche collapse and even beyond (Castillo 2003, fig. 18.16).

**Moche settlement patterns in the Jequetepeque Valley**

Combining the information provided by excavation projects, valley-wide archaeological surveys, and the revised cultural chronology for the local Moche occupation, it is possible to reconstruct the evolution of the Moche settlement pattern in the Lower Jequetepeque Valley. This section is devoted to the description and discussion of this evolution. My purpose is not to present yet another list of sites for the region, but to delineate ancient Moche political territories based on the model of spatial organization of North Coast polities suggested by Patricia Netherly (1977–1984) (see Chapter III). This model proposes an intimate spatial relationship between political territories and major irrigation canals.

To define the ancient Moche political territories, I will follow the method of juxtaposition of archaeological sites and pre-Hispanic irrigation canals proposed by Herbert Eling (1987: 400). This method consists of "identifying and connecting a line of nodes (settlements) along a canal that associate to the macrosystem and then placing these settlements along a dating spectrum" (ibid). In cases where it is not possible to identify a series of nodes along a canal, or when these nodes belong to different cultural periods, the sites located at the end of the irrigation network will be used to date the whole system19. It is precisely at the end of the canal where the targeted lands would have

---

19 Many pre-Hispanic irrigation works on the Peruvian coast were expanded through the “distal extension” of existing canals (Moseley 1978b: 16, 1982: 33). If there is a line of nodes of different antiquity extending
been located, and it is logical to assume that the people who benefited from an irrigation project deployed their settlements in the vicinity of the cultivated areas\(^{20}\). While the Jequetepeque Valley hosts a wide variety of Moche sites (different categories of habitation sites, cemeteries, fortifications, isolated huacas, ceremonial centers, etc.), only the largest habitation and ceremonial sites will be used to establish connections with irrigation canals. These sites would have hosted dense concentrations of permanent settlers who benefited from and were in charge of maintaining irrigation works. These connections are illustrated in two maps included in Appendix C (figures 5.14 and 5.17). These maps are not intended to provide a comprehensive record of all Moche sites detected in the region.

a) Early Moche

*Early Moche* sites are extremely difficult to detect on the ground. This difficulty is partly due to the "warps" and "holes" that affect the scientific register of early archaeological sites in the North Coast (see Moseley 1983a for a clarification of these concepts). Detection problems also arise due to the extreme scarcity of highly diagnostic *Early Moche* sherds on the surface of habitation sites. When we look at the distribution pattern of known *Early Moche* sites in the Lower Jequetepeque (Fig. 5.14), we see a largely unpopulated landscape, filled with vast unoccupied areas. Even though the valley would have hosted low population densities during the *Early Moche* phase, the image

---

\(^{20}\) This logic finds partial support in ethnohistoric evidence. The two mid-sixteenth-century farming *parcialidades* that occupied the northern bank of the Chicama Valley (called “Nuxa” and “Yalpa”) irrigated their lands with different trunk canals (Netherly 1977: 284). Patricia Netherly found out that these lands were not only located far away from the canal intakes, but also that the settlements located in physical proximity to these intakes belonged to different communities (ibid).
projected by the site distribution map may not be a reliable indicator of past population trends. The few sites that have been confidently assigned to this phase have been identified thanks to scientific excavations, grave robber activities, and superficial evidence of construction materials and domestic pottery.

When we look at the site distribution map of the *Early Moche* phase, the first thing that gets our attention is the high population concentration that occurred in the river mouth area of the Jequetepeque. Here we find two large sites with habitation and ceremonial functions: Pacatnamú and Dos Cabezas. During the *Early Moche* phase, Pacatnamú would have experienced its first demographic peak (Donnan 1997: 12). Donnan (1997, fig. 4) estimated that the site’s central habitation area would have reached an extension of nearly 60 ha, being confined to the ground that was later occupied by the "City of Temples". This area housed, however, only two modest ceremonial structures: Huaca 31 and an older version of the Huaca 1. The Moche occupation also spread towards the "Suburb". Numerous dispersed *Early Moche* cemeteries have been found in this sector, including some that lay 2.5 km away from the occupation core of the site (Hecker and Hecker 1984: 192-93, Verano 1997, fig. 1). The river-mouth area also housed the large ceremonial center of Dos Cabezas, possible residence of the highest-rank Moche elite in the region. The Dos Cabezas complex also includes a vast low-status habitation sector – the fisherfolk barrio – located west of the pyramid. Finally, the map also indicates the location of the elite burials of Balsar and La Mina, which are both spatially and temporally related to the Dos Cabezas complex.

The population focus of the river mouth area is directly connected with two irrigation systems recorded by Eling (1987): the Chafan Bajo and Jequetepeque canals.
These two water courses serve the same function. They flank the river course running along the northern and southern margins of the central branch of the valley. Both canals irrigate the alluvial lands that spread along the final kilometers of the valley, reaching down into the coastal wetlands zone. While the canals recorded by Eling were modern works, it is possible that they represent new versions of ancient Early Moche canals that have been totally obliterated by more than 1400 years of continuous irrigation in the lower sector of the central valley branch.

In the highest part of the lower valley we find a similar situation. In the southern margin of the valley lies the Tolón Estate, in whose premises a high number of Early Moche ceramics of exceptional quality were looted during the 1970s (Castillo and Donnan 1994b: 164). If the area also housed a population center – something that can be inferred based on the great distance that separates this site from the Dos Cabezas cemeteries – it is possible that it was served by the Tolón Alto and Tolón Bajo pre-Hispanic canals. These canals have short courses that border the southern fringes of the upper part of the lower valley. Their original function would have been to irrigate the land now occupied by the Tolón Estate (Eling 1987: 204).

In the surroundings of the second "valley neck", we find a possible Early Moche settlement in the area of Calera de Talambo. The site is dominated by a 14-meter-high pyramidal mound that has a large frontal terrace. Besides the pyramid, the site comprises three smaller mounds that repeat the same configuration of the central structure, a small heavily-looted funerary platform, and an extensive habitation area. The whole area was severely affected by the construction of the modern Talambo canal in the 1980s. Herbert Eling (1987: 252-53) visited the site when it was still intact, identifying it simply as
“Mochica huaca complexes”. Two lines of evidence make me conclude that this settlement belongs to the *Early Moche* phase. First, a brief examination of its surface pottery allowed me to detect a few early types, including a fragment of "Gallinazo" face-neck jar, a ceramic fragment decorated with white lines on a red background, and a fragment of a stirrup handle of a gray-paste bottle of the flat body type (Fig. 5.15). Second, the architectural design of the central huaca follows an *Early Moche* pattern, which is also manifested by the Dos Cabezas and Signan pyramids. Also striking is the absence of Late Moche fine-line pottery fragments in the area. Interestingly, this site evidences a direct connection with the Talambo canal, which during *Early Moche* times would have had a course that did not exceed 11 km in length.

*Figure 5.15. A few Early Moche sherds found on the surface of the Calera de Talambo site, Jequetepaque Valley*
In conclusion, during the *Early Moche* phase we see a consistent pattern of short canals irrigating relatively limited land extensions in the immediate vicinity of the Jequetepaque River. There are, however, a few sites located far away from the river course that would suggest the existence of other irrigation strategies. Some of these sites concentrate in the southern branch of the valley.

In 1997, Christopher Donnan halted his excavations at Dos Cabezas to conduct – together with staff of the Regional Culture Institute of Trujillo – a brief archaeological rescue project in a small cemetery that was being looted in the southern branch of the valley. The cemetery lay amidst the small town of Mazanca, located at the southern base of the "hill island" of the same name (Donnan 2006, Donnan et al. 1998). The cemetery had been accidentally discovered when heavy machinery dug trenches along the town’s northern margin to install a new water supply system. Donnan and his team excavated a total of 21 burials, 11 of which were found intact. A significant number of additional interments had been sacked by grave robbers, who had started their activities five months before Donnan’s arrival. All the burials belonged to ordinary people, and their ceramic offerings comprised mainly domestic jars of Gallinazo style. Donnan and his associates (1998: 7) noted the absence of domestic architecture, monumental structures, or garbage dumps in the vicinity of the looted cemetery. It is not possible, however, to rule out the presence of a nearby settlement, which may lie buried under the sediments carried by old El Niño flash-floods that flowed down the hill.

Perhaps the most interesting fact about the Mazanca site is its location far away from water sources. The site lies, however, next to vast expanses of prime agricultural land. If the Mazanca inhabitants lived near the cemetery, the only way through which
they could have survived in this distant location was through the construction of a long irrigation canal. In fact, the San Pedro canal – which is perhaps the most important water course in the southern arm of the valley – passes right in front of the modern Mazanca settlement. This canal has its intake at the height of Cerro Pitura (in the vicinity of the second “valley neck”) and reaches Mazanca after crossing a distance of about 14.8 km.

Still, in the southern arm of the valley, we find evidence of other possible Early Moche settlements that occupy even more remote locations than the Mazanca site. During the years 1953 and 1963, Ubbelohde-Doering (1957, 1960, 1966) found several Gallinazo fragments on the surface of the Jatanca site, and on a nearby hill known as Huaca Colorada (see also Schaedel 1978, cited in Eling 1987: 128). Both sites are located on the southern fringes of the central branch of the valley. Even though the fragments reveal the presence of an Early Moche occupation in the area, the bulk of the ceramic and architectural evidence seem to relate to a much earlier Formative (Cupisnique) Period. The Jatanca site includes several monumental adobe buildings located in the middle of an arid pampa that is being severely affected by a process of sand dune encroachment. Water canals would have been needed to sustain this human attempt to occupy such a hostile arid environment. In fact, the Jatanca site manifests a direct connection with the Mojucape agricultural system, which virtually surrounds its flanks (Eling 1987: 381).

The evidence collected at the Jatanca site suggests that the irrigation of the Mojucape pampas had its beginning during the Formative Period and not during the Late Moche phase, as suggested by Eling (1986: 140, 1987: 129). Three different canals – all of which are secondary branches of the San Pedro trunk canal – could have provided water to the area. Eling believes that the most important water source would have been
the Espinal canal, which runs along the slopes of Cerro Prieto Espinal and enters the pampas from the Southeast. This is precisely the highest topographic area of the pampas (Eling 1986: 136). A small branch of the Espinal canal – called by Eling “Canal E” – runs south of the Jatanca site. This canal would have constituted the most important water source for human consumption (Eling 1986: 138) (Fig. 5.14). Eling (1986: 144, 1987: 231) believes that the discharge of the Espinal canal would have been augmented with small man-made streams that came down from the ancient Cañoncillo Lake. Currently, the small Cañoncillo lagoon is located just 1.3 km north of the old canal. Two other canals that could have fed the Mojucape agricultural system are the Santonte and the Jatanca canals, which allegedly entered the pampa from the Northeast and West, respectively (Eling 1987: 218, 220). These canals would have irrigated limited areas given that they have low topographic approaches. Water running through these canals would have traveled distances of approximately 12 km and 15.4 km to reach the pampa destination. Canal E and its superior connections, on the other hand, would have surpassed a length of 15.9 km.

In the northern branch of the valley only three sites can be confidently assigned to the Early Moche phase. One of the most important sites is Huaca Signan, which stands isolated amidst modern plantations on the southern fringes of the city of Guadalupe. Huaca Signan is a truncated adobe-brick pyramid with a base 75 X 60 meters and a height of 20 meters. While there are no diagnostic pottery sherds on its surface, the huaca can be assigned to the Early Moche phase based on its remarkable resemblance to the Dos Cabezas pyramid. Even the adobe bricks used in both structures are similar.
Huaca Signan is located far away from natural water sources (7.5 km linear distance from the Jequetepeque River). The huaca lies, however, only 600 meters away from the modern Guadalupe canal (which is also known as “Pueblo Nuevo” canal). As is the case with many irrigation canals that are currently used in the Jequetepeque region, the Guadalupe canal may have a pre-Hispanic origin (Eling 1987: 298). The Early Moche version of this canal would have had to travel a distance of 19.1 km to reach the vicinity of Huaca Signan.

The other two Early Moche sites identified in the northern branch of the valley belong to the influence area of the San Gregorio River. One of them is San José de Moro, which apparently sustained a small resident population during this time. As mentioned above, San José de Moro lacked a ceremonial structure during its early occupation period (Castillo and Donnan 1994b: 169). It is hard to believe that the inhabitants of this small settlement would have had enough manpower and organizational capacity to construct and maintain an irrigation canal more than 20 km in length to draw water from the Jequetepeque River. The most likely picture is that the Moro dwellers obtained the agricultural produce that they needed for their survival from small cultivation plots located directly on the riverbed of the San Gregorio River, which passes just south of the settlement (Fig. 5.11). To meet their domestic needs for water, the Moro inhabitants could have dug tubular wells down to the level of the water table. This practice is documented in ethno-historic documents (Netherly 1977: 42-43) and is still used today by the modern Moro residents.

The last Early Moche site of the northern arm of the Jequetepeque Valley is “Huaca Cotón”. Like Huaca Signan, Huaca Cotón rises isolated in the middle of modern
agricultural fields. Huaca Cotón differs, however, in many aspects from its better known *Early Moche* counterpart. First, Huaca Cotón is not a truncated pyramid, but a 9.4 meter high platform with basal dimensions of 50 X 35 meters. The platform has a stepped summit, comprised of several flat construction levels that ascend the structure from Northeast to Southwest.

Second, Huaca Cotón has two distinct construction stages. The first stage was elevated with highly distinctive adobe bricks of prismatic form (Hecker and Hecker 1990: 17, Silva and Silva 1984: 19). Adobes of this type have only been found in a terraced structure of the Jatanca site that Ubbelohde-Doering (1960: 111) called "The Acropolis of Jatanca" (Hecker and Hecker 1990: 18). This constructive coincidence not only serves to establish temporal connections between both sites, but also suggests a possible Formative origin for Huaca Cotón. The second construction stage was lifted with rectangular adobes that resemble those of Dos Cabezas. To this stage belongs a polychrome mural discovered by the Silva Perez brothers in 1981, which represents a typical Gallinazo-Moche "Interlocking" design (see figure 3.4 a). This design closely resembles the decoration of luxury objects found at *Early Moche* sites from the river-mouth area of the Jequetepeque. Such is the case of gold headdresses of Balsar (Alva 1992, figures 49 and 50) and a few fine textiles of Pacatnamú (Donnan and Donnan 1997, figs. 2, 37; Ubbelohde-Doering 1983, fig. 33).

Huaca Cotón is located only 360 meters from the San Gregorio River. It was conveniently built in an area where the river starts picking up surface flow. It was possible, therefore, to use this stream as an independent water source for irrigation canals. In fact, only 1.5 km downstream of the Huaca Cotón’s emplacement lays the intake of the
Santa Rosa canal. Eling (1987: 297) states that this canal was the only artificial water course in the Jequetepeque Valley that drew its waters from the San Gregorio River. Even though the former builders of Huaca Cotón could have used a similar canal, the most probable course of action would have been to place the agricultural fields directly within, or next to, the San Gregorio riverbed. This agricultural strategy is currently practiced by the inhabitants of the neighboring town of Pueblo Nuevo (Fig. 5.16).

![Figure 5.16. Modern planting surfaces in the river bed of the San Gregorio River, outskirts of Pueblo Nuevo, Jequetepeque Valley.](image)

**Early Moche socio-political organization**

What does the evidence of settlement distribution tell us about the socio-political organization of the valley during the *Early Moche* phase? Unfortunately, the site record is too inadequate to allow us to reach reliable conclusions. In the vast majority of cases, the available evidence hardly helps us detect an *Early Moche* presence in some areas. It is
impossible to delineate the extent of occupation areas of ancient population nuclei, a fact that is essential for identifying the presence of possible independent parcialidades. Despite these limitations, we can advance some conclusions regarding the Early Moche settlement pattern in the valley.

First, in the Jequetepeque valley setting there is one Early Moche monumental site that exceeds all others in the volume of its central structure. This site is Dos Cabezas, which also demonstrates a congruent connection with the more exuberant elite burials that have been found in the region. It is possible, then, that Dos Cabezas was ruled by caciques that occupied the uppermost level of the regional leadership hierarchy. It is evident that the leaders of Dos Cabezas also enjoyed a broad popular support, represented by the domestic occupations of the "fisherfolk barrio" and of Pacatnamú. Pacatnamú itself hosted a smaller ceremonial structure (Huaca 31) that contains its own commoner and elite burials. The layout and equipment in these burials, however, is relatively poor when compared with those of the central site. This evidence would suggest that the Pacatnamú leaders were possibly subservient to the political elites of Dos Cabezas. In conclusion, the river mouth area of the Jequetepeque presents the most obvious evidence of a coherently integrated Early Moche political territory in the whole lower valley.

The question we could ask ourselves now is whether the other Early Moche sites that present monumental architecture (Cotón, Signan, Calera de Talambo) or that have yielded examples of the finest pieces of Early Moche funerary art (Tolón) formed part of valley-wide political territory centered at Dos Cabezas. Considering that these sites occupied remote regions of the valley, and apparently managed their own irrigation systems, I am inclined to think of a situation of relative political independence. This does
not mean, however, that these centers would have been totally disconnected from each other. The similarity of the elite vessels of Tolón and Dos Cabezas, and the presence of fine pottery made from the same mold in Pacatnamú and San José de Moro suggest otherwise. Following the model of dual-hierarchical political organization proposed by Netherly (1977, 1984), it is possible – but not conclusive – that these groups were peripheral valley parcialidades that, although politically independent, were compelled to pay services to the leaders of Dos Cabezas on special occasions.

b) Late Moche

The record of Late Moche sites in the Lower Jequetpeque Valley is, fortunately, much more copious than the one of the previous phase. The Jequetpeque Late Moche sites are easily identifiable by the relative abundance of highly distinctive ceramic types on their surface, including fragments of fancy bottles decorated with fine-line designs, and fragments of the "New King" and "platform neck" domestic types. Two publications have provided the most significant information relating to the location of Late Moche sites in the valley. One is an article written by the Heckers (1987) in which they characterize a local ceramic style that they call "Pacanga". The Pacanga style is comprised of large effigy-neck jars of clear Late Moche design (including the famous "New King" jars). The Heckers (1987: 47) identified the presence of this curious style in 16 different valley sites. The other publication is Edward Swenson’s doctoral dissertation (2004), in which he located and described the most important "Hinterland ceremonial centers" of the Late Moche phase in the Jequetpeque area. Swenson extended, in part, the Hecker’s record of Late Moche sites, and provided more precise assessments of the
extent of habitation areas and the characteristics of ceremonial structures. Additional information on local Late Moche sites has been taken from other publications and from my own personal observations.

The Late Moche phase represents the first moment in the local cultural sequence in which it is possible to delineate clear associations between irrigation canals and settlement systems. This improved level of definition is due in part to the recurrent presence of major population centers in the terminal section of irrigation canals. During this phase we also find a few examples of the optimal condition of "lines of nodes" arranged along specific water courses. The clear associations between settlements and irrigation works allowed me to identify up to five different irrigation communities (or parcialidades) in the lower Jequetepeque Valley. One is located in the central branch of the valley, another in the southern branch, and three in the northern branch. In the description that follows below, these communities will be named according to the main canal that brought water for them (in the case of “lines of nodes”) or according to the settlement located at the terminus of the irrigation system.

**The Chafan Bajo community**

The Chafan Bajo community consists of a "line of nodes" that extends along the northern margin of the lower section of the central branch of the Jequetepeque Valley. These nodes border the Chafan Bajo canal in its final approach to the sea. Perhaps the most notable site of this group is Pacatnamú, which hosted a Late Moche occupation that was apparently much more limited in spatial extent than the former Early Moche
occupation of the site (Donnan 1997: 12). Other conspicuous sites that belong to this community are JE-288 and, possibly, the ruins of Pedregal. Both are basically habitation sites built with unusual cobble-stone architecture. Besides housing structures, these sites also include cemeteries and a few ceremonial structures (Hecker and Hecker 1987: 47, 1990: 31; Swenson 2004: 644). All the components of the Chafan Bajo community are located at the edge of the ancient alluvial terrace that dominates the valley, and none of them is fortified.

The Chafan Bajo community also hosted an interesting outlier, represented by the fortified site of Catalina (JE-125). Catalina is a 25 ha habitation site that spreads along the southern slopes of Cerro de Catalina (Swenson 2004: 507). The Pampa de Faclo separates this site from other settlements that make up the same group. In fact, the site is located 3 km away from the nearest water source, and there is no evidence of irrigation canals in its vicinity (Eling 1987: 397). It is evident that defensive considerations determined the special layout and location of the site. Catalina shows an ingenious arrangement of up to five defensive walls protecting the residential and ceremonial core of the site. In some places, piles of sling stones are still visible in the immediate proximity of the defensive walls (Eling 1987: 397; Swenson 2004). Many authors have also called the attention to the unusually high concentration of ceramic fragments of large containers that cover the surface of the habitation terraces (Eling 1987: 397, Hecker and Hecker 1990: 12; Ubbelohde-Doering 1959: 27). In my opinion, these vessels would have been meant to secure a water reserve necessary to withstand prolonged sieges.

---

21 Donna McClelland (1997, Fig. 1) illustrates the area of dispersion of Late Moche fine ceramic fragments at Pacatnamú, which covers approximately 18 ha of the “City of Temples”. It must be stressed, however, that this area does not necessarily reflect the true extent of the Late Moche occupation, since many sherds could have been transported inadvertently to distant positions when the Sicán moved large quantities of earth to fill up their newly created ceremonial structures.
Catalina represents a new type of site of common occurrence in the Jequetepeque Valley during the Late Moche phase. This kind of settlement may be called a "fortified hillside settlement". As the name implies, these settlements ascend the slopes of hills and are surrounded by various sets of defensive walls. In the case of Catalina, the site has a clear strategic location, controlling a natural route that provides a straight connection between Cerro Chepén and Pacatnamú. This route crosses a pass that opens between the Murciélago and Faclo hills (the “Portachuelo de Guadalupe”, see Hecker and Hecker 1990, map 1). It is also possible that the site played the role of an "acropolis", providing refuge to the populations living in the unprotected sites of the Chafan Bajo community.

The Cañoncillo community

The Cañoncillo community is located on the southern fringes of the valley, in the outskirts of the ancient site of Jatanca. As we have seen, this area also hosted an Early Moche and even Formative Period occupations. Hecker and Hecker (1987: 47, 1990) recognize four sites in the area with "Pacanga-style” pottery: Huaca Colorada, Tecapa, the “Potter’s Mound”, and the Pampas of Mojucape. Schaedel (1978) confirmed a Late Moche presence at Huaca Colorada through excavations (Eling 1987:128).

This area would have presented several attractions for human occupation. In its surrounding lies the Cañoncillo lagoon, a vast dry coastal forest and, of course, the agricultural fields of Mojucape. In fact, Eling (1987: 327) suggests that during the Late Moche phase this agricultural system experienced its first phase of expansion. Despite the constant encroachment of sand dunes, the system prospered under the constant care of Late Moche farmers. The Pampas of Mojucape went through a second phase of intensive
use during the Chimú Period. By this time, strong wind erosion had completely erased the ancient planting surface, and the Chimú fields spread on a ground level that lay several meters below the former Moche occupation level (Eling 1987: 130).

The inhabitants of the Cañoncillo community apparently used the same water canals employed by their Early Moche predecessors (in any case, it is not possible to establish temporal differences in the use of these canals). Interestingly, this community is the only one in the Lower Valley that does not have a "fortified hillside settlement".

The Cerro Chepén community

Cerro Chepén is a 40 ha habitation site located on the summit and eastern slopes of a northern projection of the Cerros de Chepén hill-chain (see Chapter VI). The site is not only fortified, but boasts the most elaborate defensive works in the entire region. This site also holds a privileged central position in the northern branch of the lower valley, and stands surrounded by agricultural land.

Two separate canals watered the lands cultivated by the site’s inhabitants. The most important one was the "Serrano" canal. Eling (1987: 256) states that the "Serrano" was the first secondary canal that deviated from the course of the northward-running Talambo trunk canal. The Talambo canal recorded by Eling, however, was a Sicán-Chimú work designed to irrigate the desert plains that surround Cerro Colorado (which lie 17 kms north of Cerro Chepén). It is possible that the Talambo canal had a different configuration during Late Moche times, and that the "Serrano Bajo" canal represented its distal section. The Talambo-Serrano system reached the north-eastern edge of the Cerros de Chepén hill chain, and then turned southwest running along the northern base of the
hills. The composite Talambo-Serrano canal would have reached the terrains that lay in front of the Late Moche power center after traversing a distance of nearly 30.7 km (Eling 1987: 265). The second irrigation system that would have benefited the Cerro Chepén inhabitants was the Chepén canal. This canal has an independent intake in the Jequetepoque River and reached the Cerros de Chepén hill chain from the southwest. A secondary branch of the Chepén Canal, called “Chepén Bajo Canal”, continues 2.7 km to the north after bordering the western edge of the hills. This canal disappears amidst modern agricultural fields. The total length of the Chepén-Chepén Bajo canal was about 23.6 km.

Two other major sites would have formed part of the Cerro Chepén community. Both were located next to the second “valley neck”, in direct association with the Talambo canal. Wolfgang and Giesela Hecker (1987: 47) found fragments of “Pacanga” style vessels on the hillslopes of Calera de Talambo. This area was later occupied by an extensive Chimú Period “fortified hillside settlement” that has obliterated all traces of earlier constructions. A more important site was located in the area of San Mateo de Talambo, barely 3 km upstream from the previous settlement. Aerial photographs show that the site contained several looted cemeteries, huacas, and rectangular enclosures of the "Cercadura" type. In the 1980s, the site was used as a quarry for construction materials for the Gallito Ciego dam. In 1993, I visited the site accompanied by members of San José de Moro Project, finding a few distinctive Late Moche and “Transitional”

---

22 Curiously, Eling (1987: 257) argued that the main function of the “Serrano Bajo Canal” was to provide water for household consumption for the Cerro Chepén inhabitants. I dispute this theory based on two lines of evidence: First, there are vast tracts of agricultural land at the end of this canal, and second, peasants who live at the base of Cerro Chepén use a modern version of the Serrano Bajo Canal to irrigate their lands.

23 Paul Kosok (1965, Fig. XII.14 to the right) published an aerial photograph of the site before its destruction.
ceramic fragments on the bulldozer tracks. Herbert Eling (1978: 403) was able to examine the site before its destruction, confirming the presence of Middle Horizon and Cajamarca style fragments on its surface. In our 1993 visit, we found that Chimú ceramics were dominant at the site.

The San José de Moro problem. During Late Moche times, Cerro Chepén might not have been the most distant site reached by the Talambo Canal. Just 4 km north of Cerro Chepén lies San José de Moro. The site of San José de Moro lies in the path of the Moro Canal, which itself represents another secondary branch of the Talambo trunk canal. This secondary water course departs just 6.4 km north of the intake of the Serrano Bajo Canal, reaching San José de Moro from the east. The connection of San José de Moro with the Talambo Canal may suggest that this site was part of the Cerro Chepén community. However, this proposition is debatable based on the inferred age of the Moro Canal. According to Eling (1987: 259), the Moro Canal provided water to the PC-III irrigation system, which was a Sicán-Chimú work meant to irrigate the plains west of Cerro Colorado (see also Eling 1978: 407). The region of Cerro Colorado does not report a Late Moche occupation.

If the Moro Canal does not belong to the Late Moche phase, there were two alternative water sources that the San José de Moro inhabitants could have exploited for agricultural activities. The first is the Chepén Bajo Canal which, as indicated above, skirted the western margins of the Cerros de Chepén hills and moved north to disappear at about 1.5 km south of San José de Moro. Given that the Chepén canal had an independent intake in the River, this alternative may suggest that San José de Moro had an autonomous farming community during Late Moche times.
The second possibility is that San José de Moro was not served by any irrigation canal. As was the case during the Early Moche phase, the San José de Moro inhabitants could have raised their crops on farmland located right inside the San Gregorio riverbed. During the Late Moche phase, San José de Moro would have still had a low population density. The combined areas of its habitation mounds do not exceed 5 ha, and it is not clear whether these mounds housed permanent living structures. Given that this ceremonial center only received large numbers of visitors on special occasions (Castillo 2000: 148), it is not unreasonable to propose that some of its residential areas would have been devoted to the temporary accommodation of pilgrims. During the Late Moche phase, San José de Moro might have well represented an "empty ceremonial center" that did not require the construction of large irrigation works. This alternative suggests that the Chepén Canal remained under the control of the Cerro Chepén inhabitants.

**Farfan Norte-Farfan Sur community.**

The Farfan Norte-Farfan Sur community would have been the most densely populated *parcialidad* of the region. This community irrigated its lands with water provided by the Farfan Norte and Farfan Sur canals, which in fact constitute a single water course that runs along the eastern flank of the Faclo-Murcielago-Charcape hill chain, reaching up the southern flanks of the Huaca Blanca hill. In other words, this irrigation work ran along the southern half of the enormous northern branch of the Jequetepeque Valley.

The Farfan Norte-Farfan Sur canal does not take water directly from the Jequetepeque River. This canal is fed by the relatively short (ca. 8.9 km) Calera canal,
which itself represents a secondary offshoot of the Guadalupe trunk canal. The Calera canal runs along the northern perimeter of the "hill island" of the same name, south of which lies an extensive unfortified Late Moche habitation site. This site took water from a small southern projection of the Calera Canal (called by Eling [1987: 316] ALC-I Canal). Given that the site of Cerro Calera is indirectly associated with the Guadalupe Canal, it might represent an "outlier" of the great irrigation community of Farfan Norte-Farfan Sur.

The Calera Canal culminates in the eastern slopes of Cerro Faclo, connecting with the Farfan Norte-Farfan Sur canal at a right angle. The Farfan Sur canal runs south of this junction and has a limited length of 5.4 km. This canal ends in the pampas that spread south of Cerro Faclo. In this sector, Eling (1987: 461) recorded a very complex irrigation system that fed a series of farming plots. He dated this work to the Late Moche phase. The temporal adscription of this system was corroborated later by the Heckers (1987: 47, 1990: 25) who described a Late Moche settlement nestled on the southern slopes of the Cerro Faclo hill in close proximity of the agricultural fields.

The Farfan Norte Canal was much more extensive (12.3 km) and served a higher number of settlements. While only two of these sites are indicated in figure 5.17, Swenson (2004: 609) detected a large linear concentration of settlements especially along the foot of the Charcape hill. Many of these sites are not fortified. Others, like JE-102, represent "fortified hillside settlements" that could have provided refuge to residents fleeing from unprotected areas (Swenson 2004: 580). An interesting pattern manifested by the unprotected sites is that they also occupy the slopes of hills. This location is not beneficial to the practice of agriculture, since it implies a long walk to the nearest
cultivated fields (up to 500 meters). While the need to seek refuge on higher ground can be interpreted as a military strategy, it could also represent a measure to protect human occupation areas from the flash-floods generated by heavy El Niño rains.

The Farfan Norte canal culminates near the Late Moche site of Portachuelo de Charcape. In this sector we find a failed attempt to carry irrigation water into the arid pampas that open west of the Huaca Blanca hill chain. This attempt entailed digging a deep canal trench through a shallow rocky pass that lay south of the Huaca Blanca hill. Even though the Late Moche engineers dug deep into the bedrock stratum, the trench did not reach the required depth and the reclamation project was abandoned (Eling 1987: 328). The distal section of the Farfan Norte canal was then redirected into a small reservoir, which was used to push the irrigation water a little further to the north (Eling 1987: 326). Even though the Farfan Norte Canal met an abrupt end, the whole irrigation system attained a considerable extension. The total length of interconnected Farfan Norte-Calera-Guadalupe canal segments would have reached 30.5 km.

**San Ildefonso community**

At the end of Huaca Blanca-San Ildefonso hill chain spreads the huge habitation center of San Ildefonso. With an area of 55 has, San Ildefonso represents the largest Late Moche settlement of the region (Swenson 2004: 442). The most striking feature about this site is that it represents a typical example of a "fortified hillside settlement." The site is protected by a set of four parallel walls that follow the contours of the hill at different heights. Piles of river cobbles (ammunition for slings) are distributed at irregular intervals
along the walls (Swenson 2004: 448, 2008, Fig. 6). In many ways, San Ildefonso repeats the same organizational plan of the site of Catalina.

An important characteristic of this major center is that it sits isolated from other population clusters of the period. The nearest canal that carried water from the Jequetepeque River, the Farfán Norte Canal, was not long enough to reach the agricultural fields that lay in the vicinity of the site (Eling 1987: 326). San Ildefonso apparently managed its own independent irrigation system, which drew water from the neighboring San Gregorio River. Aerial photographs show traces of a 3.6 km long irrigation canal bordering the distal end of the San Ildefonso hills and passing right in front of the site. Between this pre-Hispanic canal and the current course of the San Gregorio River lie 155 ha of cultivable land that are currently being exploited. Another 85 ha of irrigated land spread within a radius of only 1 km from the site.

Fishing communities

As described in Chapter III, early ethno-historic documents confirm the existence of independent fishing communities on the North Coast of Peru. These communities specialized in the exploitation of sea resources, and obtained agricultural products through barter activities established with neighboring farming communities. It is not clear, however, if this economic specialization goes back to Late Moche times. The evidence collected in the Jequetepeque Valley suggests an affirmative answer.

The Lower Jequetepeque Valley could have housed two fishermen communities. One of them would have been located at the site of Pacatnamú. Husbands Giesela and Wolfgang Hecker (1984: 165) opined that the inhabitants of Pacatnamú were heavily
involved in the exploitation of marine resources. They based this conclusion on the high quantities of fishing objects (stone weights for fishing nets, fishing net fragments) disclosed by their excavations at the site. Fishing activities would have been frequent during *Early Moche* times, as evidenced by the presence of similar objects in the funerary equipments of some Huaca 31 burials (Hecker and Hecker 1984: 164-65; Ubbelohde-Doering 1983: 50), and of other funerary contexts of Pacatnamú (Donnan and Donnan 1997: 223). A strong inclination towards the consumption of marine protein has been demonstrated based on stable carbon and nitrogen isotope analyses developed on bone collagen samples from nine *Early Moche* burials from Pacatnamú (Verano 1997: 195, fig. 9). Even though this evidence relates to *Early Moche* contexts, it is also likely that the site housed a fishermen *parcialidad* during Late Moche times. This *parcialidad* would have been politically attached to the Chafan Bajo Community.

A clearer case for a fishing community is represented by the site of Chérrepe. Chérrepe is an isolated settlement located in a sea shore setting in the far northwest corner of the Lower Jequetepeque Valley. The site sits isolated from other population centers by the vast desert pampas of Chérrepe (the nearest site is San Ildefonso, which is 10.5 linear km away). The site is even farther from water sources (the San Gregorio River flows 3.5 km to the south) and no irrigation canal reaches its hinterland.

Interestingly, during early Colonial times Chérrepe was the seat of a local fishermen chiefdom. The site had its own cacique, who ruled assisted by 6 lower-order curakas (Ramirez 1978: 87). In fact, this community was so important that the Spanish Crown appointed a specially-designated *encomendero*, Don Francisco Perez Lezcano, to oversee its population. The strong influence exerted by Cherrepe’s native authorities on
the Spanish Courts is evidenced by their successful appeal to avoid the major relocation program of indigenous populations decreed by the Spanish Viceroy Francisco de Toledo in 1572 (Ramirez 1978: 92).²⁴

Chérrepe currently hosts a small fishing village. Its occupants are devoted full-time to the exploitation of marine resources, and they still employ the traditional technology of "caballitos de totora". Behind this modern village lies the archaeological site, which is a heavily looted, elongated flat hill. The looted area covers approximately 16.5 ha, making it the most extensive pillage event in the valley. This area corresponds to the location of the old colonial town and its annexed cemeteries. This area also includes traces of older occupations, as evidenced by the presence of high concentrations of Chimú domestic pottery on its surface. The Heckers (1987: 47) were able to verify the presence of a few "Pacanga" style fragments on the looted ridge top. I also recognized a few diagnostic rim fragments of Late Moche storage vessels ("paicas") at the site. All this evidence suggests that the occupation of Chérrepe may go back in time to Late Moche times. Despite its marginal location, Chérrepe may present the longest uninterrupted occupation sequence in the whole valley (spanning approximately 1500 years).

Only 2.5 km north of Chérrepe lies a small site with "Pacanga" style ceramics on its surface (Hecker and Hecker 1987: 47). The site is located on the edge of a seaside cliff, and consists of a small huaca (possibly surrounded by habitation areas) and a few outlying looted cemeteries. The site lies even more isolated from water sources than

---

²⁴ Representing a very unusual case, the sixteenth-century Cherrepe fishing community held two small farming enclaves. One was located at an unidentified place called "Nonique", and the other was located at the Spanish town of "Nuestra Señora de Guadalupe" (the modern Guadalupe city). After intensive negotiations with the Spanish inspector Juan de Hoces, the Cherrepe authorities were forced to accept the relocation of Nonique’s inhabitants to the town of Guadalupe. That was the only population relocation that they conceded (Ramirez 1978: 92).
Chérrepe. I visited the site in 1997 and was able to confirm the presence of Late Moche domestic ceramics on its surface. This occupation, which can be tentatively called "Chérrepe Alto", would have been an outlier of a larger Late Moche fishing community. This annex was strategically located amidst a natural route that links the northern coast of the Jequetepeque Valley with the lower section of the neighboring Saña Valley (Fig. 5.17).

**Late Moche socio-political organization**

When the site distribution maps of the *Early* and Late Moche phases are compared, a few notable differences come to light. Perhaps the most outstanding contrast is the absence of a Late Moche “primary site”, that is, a settlement that stands out because of its spatial extension or the volumetric proportions of its huacas. During the Late Moche phase, the population seems to have been uniformly distributed in different valley sectors. The three largest habitation sites of the era – Catalina, Cerro Chepén and San Ildefonso – maintain significant distances from each other, forming the vertices of an almost perfect equilateral triangle. Each of these sites would have belonged to a different irrigation community. A population nucleus of equivalent size, this time distributed among several "nodes", occupied the eastern slopes of the Faclo-Murciélago-Charcape hill chain, the southern margin of the Huaca Blanca hill, and even the Calera “hill island”.

The image of autonomous political territories is reinforced when confirming that each of these population clusters was spatially associated to a major irrigation canal with independent intake in the river. In my opinion, the Late Moche archaeological landscape of Lower Jequetepeque Valley replicates the locational model evidenced by several north
coast communities during the early Colonial Period (Netherly 1977, 1984). The Late Moche macro-community would have been disaggregated into different *parcialidades*, each governed by its own authorities. For the time being, it is impossible to detect the territory of a possible leading *parcialidad*, home of the valley’s cacique, or to establish a hierarchical arrangement of the valley’s *parcialidades*.

During Late Moche times, the Jequetepeque Valley might have housed a fifth irrigation community – Cañoncillo – that occupied the southern margins of the valley. It is still unclear, however, if this community held population density figures similar to the ones of its northern counterparts. The sites that belong to this community have been identified primarily on the grounds of a few surface sherds. The traces of former Late Moche habitation sites have been largely erased by late pre-Hispanic construction activities and by sand dune encroachments. However, it is clear that all these sites were concentrated in a relatively restricted area in a remote southern section of the valley. This area is served by a group of canals that depart from a single source, the San Pedro trunk canal, which has an independent intake in the river. I am inclined, therefore, to think that the Late Moche sites of Cañoncillo make up an independent community. Future excavations should confirm this expectation and reveal the true size of its habitation sites.

Another notable difference that describes the Late Moche occupation of the valley refers to the distribution and characteristics of its monumental architecture. During the *Early Moche* phase, only five valley sites present corporate buildings. During this time, the most common public structure is the truncated pyramid, mostly built with rectangular adobes. During the Late Moche phase, however, almost every large and intermediate-sized settlement encompassed large ceremonial structures, which manifest a widespread
use of different construction materials. The predominant type of public structure is the terraced platform. In settlements located on hill sides, these structures are made of stone and take the form of "hierarchical terraces". Clearly, the wide distribution of corporate structures suggests that in virtually every Late Moche settlement notable characters played important administrative and religious functions that affected the local community. Differences in the architectural design of the monumental structures located on flat terrain (desert pampas, base of the hills) represents confirmatory evidence of the plurality of political ideologies that pervaded in the valley (Swenson 2004, 2006).

Last but not least, the Late Moche phase is also distinguished by the introduction of a new type of settlement: the "fortified hillside settlement." Settlements of this type are present in four irrigation communities north of the river, and the three largest residential sites in the region belong to this type. The abundance of fortified sites in the region led Dillehay (2001: 271) to propose that the Late Moche phase was plagued with sporadic conflict or even internecine war. During the Late Moche phase, even the unprotected settlements were mostly located on hill slopes. While this location may have responded to military criteria, it is also explainable in terms of the need to seek refuge from ENSO deluges. Whatever the case, both the patterns of fortified redoubts and sites located on high ground represent a clear break with past Early Moche trends.

**Conclusions**

The Jequetepeque Valley was the seat of important Late Moche political entities that disappeared around AD 850. In this chapter, I have described the particular geography and ecological niches of this region, highlighting the specific advantages that
the natural setting offered to the development of complex socio-political organizations. I also reviewed our knowledge of the Moche cultural developments in the region. This review led me to propose a revised two-phase cultural sequence for the Moche occupation, which is based on information of contextual associations, radiocarbon dates, and the iconographic content of prestige funerary objects. When I applied this sequence to the available information on Moche settlement patterns, two markedly different locational strategies were disclosed for these two evolutionary stages. The most relevant conclusions presented in this chapter, which are of particular relevance for topics that will be discussed in further chapters, can be summarized as follows:

1. Our knowledge of Moche organizational strategies and evolutionary sequence in the Jequetepeque Valley has been hampered by the scarcity of investigations developed in this region. Suffice it to say that well into the 1990s, only two sites with Moche occupation – Pacatnamú and San José de Moro – had experienced major excavation projects. This situation contrasts markedly with the large number of Moche sites that have been detected in the region, estimated by Dillehay (2001: 265) at 322. Despite the paucity of research, Moche archeology in the Jequetepeque Valley is distinguished by a relatively large sample of scientifically excavated funerary contexts. This record barely surpasses 300 interments. In this regard, the Jequetepeque Valley

---

25 These contexts have been published in the following works: Disselhoff 1958a; del Carpio 2008; Donnan 2003, 2006, 2007; Donnan and Castillo 1992, 1994; Donnan and McClelland 1997; Narváez 1994; Ubbelohde-Doering 1983. Unfortunately, of the more than 150 Moche burials that have been scientifically excavated by the still-ongoing San José de Moro Project, only a few have seen a detailed publication.
represents, together with the Moche Valley\textsuperscript{26}, the territory that has yielded the most extensive record of Moche funerary contexts\textsuperscript{27}.

The current cultural chronology for the Moche occupation of the Jequetepeque Valley was proposed by Castillo and Donnan (1994b). Both authors developed this sequence based precisely on the information provided by the funerary contexts. Castillo and Donnan’s chronology proposes the existence of three phases for the Moche tradition: Early, Middle, and Late Moche. Of these three phases, the Middle Moche contains the most interesting developments, which suggest the occurrence of a "cultural regression" halfway through the sequence. The burials that can be temporally ascribed to this phase are poorly equipped, and even the finest ceramics that were included in these contexts denote a careless manufacture when compared with their counterparts of other phases.

A revision of the available radiocarbon evidence, combined with a careful analysis of contextual associations and comparisons of the thematic content of the iconography reflected in Early and Middle Moche funerary objects, leads me to propose the existence of only two archaeologically-recognizable Moche cultural phases in the Jequetepeque Valley. These two phases should be called Early Moche and Late Moche based on the characteristics of its most distinctive ceramics. Radiocarbon evidence confirms that Castillo and Donnan’s Middle Moche phase was not a distinct evolutionary stage, but was perfectly contemporary with their Early Moche phase. The most distinctive Middle Moche materials can be interpreted, in the light of the intrinsic characteristics of

\textsuperscript{26} Some publications that illustrate Moche funerary contexts in the homonymous valley are: Chauchat and Herrera 2003; Donnan and Mackey 1978; Tello et al 2003; Uhle 1913.

\textsuperscript{27} The Chicama Valley may hold a more extensive record of Moche funerary contexts. In this area, Rafael Larco Hoyle concentrated his excavations, uncovering a vast number of Moche interments. Larco kept a detailed record of his excavations in field notes, field sketches and photographs (Larco Hoyle 2001a, xvi-xvii). These documents are stored in the archives of the Rafael Larco Herrera Archaeological Museum in Lima, and await publication.
the objects, the internal organization of the funerary contexts, and the location of these contexts, as funerary offerings dedicated to low-rank authorities and even ordinary people.

2. When the Moche sites of the valley are temporally arranged according to this new sequence some interesting patterns come to light. During the *Early Moche* phase we find a great power center (Dos Cabezas) located in the river mouth area. This center concentrates the most lavish tombs and the more voluminous monumental architecture of the whole Lower Jequetepeque Valley. Coincidentally, the river mouth area also contained the most extensive human habitation areas of the region, represented by the commoner barrios of Pacatnamú and Dos Cabezas. Minor centers (Tolón-Calera de Talambo) occupied the upper section of the lower valley, still in the immediate proximity of the river. Further centers (Mazanca, Cañoncillo, Signan) were located at some distance from the river course. Their inhabitants apparently used 15 to 20 km long canals to irrigate their fields. The *Early Moche* phase also saw an expansion of the human occupation into the area of the San Gregorio River (San José de Moro-Huaca Cotón). These communities thrived despite the seasonal flow of the river, implementing ingenious cultivation strategies that took advantage of subsurface water sources.

Overall, the *Early Moche* settlement pattern suggests the predominance of a single macro-community settled in the coastal section of the valley. It is likely that the other population centers represented subordinate communities. However, given that these centers apparently managed independent irrigation systems, it is possible to infer a state of (relative) political autonomy. The evidence relating to the *Early Moche* phase
manifests a peaceful coexistence between settlements, with non-fortified sites spreading in easily accessible areas of the valley.

3. The Late Moche phase was a time of significant change. For the first time, the abundance of habitation sites allows us to delineate different population clusters. Given that these clusters were served by independent irrigation canals, it is possible to suggest the existence of self-governing political entities. Some of these canals were significantly longer than the former Early Moche works, ranging between 23 and 31 km in length. The image of political fragmentation is reinforced by the fact that none of these communities was clearly distinguishable in terms of total habitation area or volume of monumental structures. To the contrary, these communities apparently maintained equivalent population densities. Each community erected its own ceremonial structures. Differences in the architectural design of these structures suggest the existence of parallel power ideologies (Swenson 2004, 2006).

The scenario of "political factionalism" that prevailed during the Late Moche phase apparently favored the emergence of internal conflicts (Dillehay 2001). During this phase a new type of site appears in the Lower Jequetepeque Valley: the "fortified hillside settlement". The three largest settlements of the region (Catalina, San Ildefonso and Cerro Chepén) are typical examples of such sites. Smaller versions are also present in other valley communities. As will be shown below, this condition of internal strife would have been directly responsible for the disappearance of the local Late Moche political orders. Different regional power centers played a leading role in the conduction and escalation of hostilities. One of these centers was Cerro Chepén.
Cerro Chepén is a large fortified settlement that surpasses 40 hectares in extension. In many ways, this site represents a typical Late Moche settlement of the region. Cerro Chepén is distinguished from its peers, however, by the colossal scale of its defensive works. The site is also singular for encompassing two clearly distinguishable architectural sectors, which were erected at different times. The latest sector, which spreads along the hill top, is dominated by four monumental buildings of highland architectural design. These buildings seem to suggest that the site fell under the control of foreign elites during the later part of the Late Moche phase. In the following chapters, I will present evidence that supports the foreign origin of the building’s occupants, and a clarification of the role that these intruders might have played in the collapse of the valley’s political orders.
CHAPTER VI

CERRO CHEPEN

During the Late Moche phase, the fortified site of Cerro Chepén constituted not only one of the largest population centers of the valley, but also the nuclear settlement of one of farming parcialidades of the Lower Jequetepeque. This site was the seat of an autonomous community that was represented by a small group of local leaders, who performed their specialized functions in a series of corporate buildings. This chapter is devoted to a detailed description of the site of Cerro Chepén, highlighting its internal organization, functional components, and defensive design. In this chapter, I also describe the research program that I developed at the site, including information on the research problems, the tested models, and the field methodology employed to retrieve meaningful information.

Cerro Chepén: general description

The Cerros de Chepén hill-chain is located within the confines of the northern arm of the Lower Jequetepeque Valley, holding a relatively central position within this sector (Fig. 5.2). Seen from above, this hill chain has the shape of an inverted "T", with the vertical segment of the "T" running in a northeast-southwest direction and the smaller horizontal segment in a northwest-southeast direction. The modern city of Chepén spreads along the southern base of the smaller segment of the “T” (Fig. 6.1). On all other flanks, the hills are surrounded by agricultural fields.
As was mentioned in a previous chapter, the Cerros de Chepén hill-chain is a very ancient geological formation, which was originally formed during the Tertiary Period (Eling 1987: 116). The chain was formed by a combination of lava flows and tectonic uplifts. The type of rock that prevails on the hill is a heavily meteorized pyroclastic rock. This type of rock cannot be cut into predetermined shapes, given that it is crosscut by internal fissures that sometimes tend to form diagonal fracture planes. The intrinsic characteristics of the local stone materials significantly affected the masonry style of construction, which depends on the use of irregular blocks.
The archaeological site of Cerro Chepén spreads essentially on top of the northern half of the hills that form the small horizontal segment of the inverted "T". The site also extends into a small neighboring hill that constitutes the connection link with the hill-chain that forms the vertical segment of the “T”. To facilitate the description, I have decided to call this small hill "Cerro El Gavilán”¹, and the northern half of the horizontal segment of the "T", which holds the greater part of the site, "Chepén Hill" (Fig. 6.2)². Chepén Hill is one of the highest promontories of the whole hill chain, rising 250 meters above the surrounding agricultural plain. A deep ravine, oriented almost perfectly to the North, separates Chepén Hill from "Cerro El Gavilán”, which is approximately 100 meters lower.

The archaeological site of Cerro Chepén has two different occupation sectors delineated by peripheral walls. I have chosen to call these sectors "Cerro Chepén Alto" and "Cerro Chepén Bajo" based on altitudinal differences³. These two sectors can also be interpreted as two different sites that coexisted side by side during the later part of the Late Moche phase, but which were obviously not created at the same time (see below).

The Cerro Chepén Alto sector extends along the uppermost reaches of Chepén Hill (Fig. 6.2.). In strict terms, the site thus represents a "fortified hilltop settlement" that breaks the pattern of hillside fortifications that is typical of large Late Moche settlements of the

¹ I chose to call this hill “Cerro El Gavilan” because it presents a curious rock formation with the shape of a bird of prey with extended wings near its summit. Fate determined that a couple of hawks decided to build their nest on the left shoulder of this natural sculpture.

² I call the hill that occupies the southern half of the horizontal segment of the “T” “Chequén Hill”, according to the name of the modern neighborhood that spreads along its southern base. Currently, several pairs of hawks nest on the most inaccessible outcrops of this hill and of the neighboring “Cerro Serrano”, an isolated conical promontory that stands east of Chequén Hill.

³ In previous works (Rosas 2004, 2005, 2007), I called these sectors “Monumental” and “Low-status habitation” based on the abundance of monumental buildings at Cerro Chepén Alto and small domestic terraces at Cerro Chepén Bajo. I believe that the new nomenclature is more precise than the previous designations, given that both sectors include corporate architecture as well as small residential structures.
Figure 6.2. Cerro Chepén: general site plan.
region, such as Catalina and San Ildefonso. From this preferential placement, the inhabitants of Cerro Chepén Alto not only had a full view of the rest of the settlement, but also commanded an unrestricted view of the extensive northern branch of the Jequetepeque Valley, including the valley necks of the San Gregorio and Jequetepeque rivers.

The Cerro Chepén Alto sector has the shape of a long wedge, 650 meters long and 220 meters wide. This sector is protected by a continuous stone wall that represents the most notable defensive feature of the entire region, and which will be described in detail below. Within this sector we find, in addition to a host of smaller structures, up to nine monumental edifices built on large support terraces. These buildings have been numbered with Roman characters from North to South for easy identification (Fig. 6.2.). An interesting feature about these buildings is that they have been raised with tall free-standing walls, which define different types of architectural spaces. This feature is relatively rare in the monumental architecture of other Late Moche habitation sites of the Lower Jequetepeque Valley.

The four buildings that occupy the most privileged positions within this defensive sector integrate architectural spaces of singular design. These spaces include narrow, elongated galleries that flank or totally surround square patios. Two of these galleries have rows of corbels protruding from the inner faces of their longest walls. These rows of corbels, which rise 2 meters above the level of the interior floor, were meant to hold log supports for a second story. This type of construction is quite unusual in the region. In fact, Chepén Cerro Alto is the only Late Moche site in the entire Lower Jequetepeque Valley that has such structures. In Peruvian archaeology, these spaces are commonly
associated with the Huari architectural tradition of the central highlands (Anders 1986; Brewster-Wray 1983; Isbell 1989, 1991; Schreiber 1992). Two-floor galleries are also typical of cultural traditions that developed on the northern highlands of Peru. We find these structures, for example, in the area of Marcahuamachuco (Topic and Topic 1985). These galleries have also been documented in the area of influence of the Cajamarca Culture, as demonstrated by the sites of Guzmango Viejo (Julien 1988:198), and possibly, Cerro Coyor. Finally, sculptural pottery of the Recuay Culture also illustrates this type of construction (Fig. 6.3). All north highlands cultural formations that used this type of architecture were contemporary and/or older than the Late Moche coastal tradition.

The second occupation sector of Cerro Chepén, called “Cerro Chepén Bajo”, spreads on the northeastern slopes of Chepén Hill, as well as along the summit and northern slopes of the smaller “Cerro El Gavilán” (Fig. 6.2). In this regard, the site conforms to the standard “fortified hillside settlement” layout that is typical of Late Moche sites of the region. This sector has its own defensive wall. This wall starts just south of the Cerro Chepén Alto sector and continues to the northeast, running through the highest reaches of Cerro El Gavilán. Once the wall reaches flat terrain, it makes a sharp turn to the west bordering the northern bases of Cerro El Gavilán and of Chepén Hill (Fig. 6.2).

Cerro Chepén Bajo has a high concentration of small irregular terraces. The abundance of domestic pottery fragments and household refuse on their surfaces suggest that most of these structures were simple habitation units. The sector also includes 12 monumental buildings (designated with capital letters from north to south starting along
Figure 6.3. Recuay pot with a three-dimensional representation of a building with two-floor galleries (Museo del Banco Central de Reserva del Perú collection).
Chepén Hill and then turning east to Cerro El Gavilán) strategically arranged on high ground to allow a full view of the settlement. These buildings replicate the “hierarchical terrace” format that is also present in other Late Moche sites of the region. In these buildings, the spaces outlined by free standing walls are rare.

The Cerro Chepén Alto and Cerro Chepén Bajo sectors cover, as a whole, approximately 40 hectares. Together they constitute the second largest Late Moche habitation site of the region. As stated in a previous chapter, both sectors also compose the nuclear component of the "Cerro Chepén Community", one of the five major autonomous farming parcialidades of the Lower Jequetepeque Valley. The site of Cerro Chepén was, thus, an important element of the local Late Moche political landscape.

**The research program**

The research program developed at the archaeological site of Cerro Chepén was aimed at understanding the socio-political processes that led to the collapse of the Late Moche political formations of the Jequetepeque Valley. Cerro Chepén was selected to investigate this topic for four reasons:

- Cerro Chepén is one of the largest Late Moche settlements of the valley.
- Cerro Chepén houses the most spectacular defensive works in the entire region.
- Cerro Chepén includes numerous examples of monumental architecture.
- The "Cerro Chepén Alto" sector encompasses four monumental buildings that display a non-local architectural style.
These reasons suggested that Cerro Chepén represented an important political center that became involved in the same stressful events – conflict, external influences – that affected other Late Moche sites of the region by the end of the Moche sequence (see Chapter IV).

The research program developed at Cerro Chepén was based on, and sought to build upon, the collapse models that had been proposed for this region. As described in Chapter IV, these explanations suggested that the Moche demise was brought on by internecine war and something that could be called "ideological transformation". To sum up briefly, Tom Dillehay (2001), after analyzing the Late Moche settlement pattern of the region, concluded that a state of political factionalism affected Late Moche community life in the Lower Jequetepeque Valley. The vast majority of large habitation sites was either fortified or located in the immediate proximity of a defensive redoubt. According to Dillehay (2001: 271), a series of Late Moche autonomous communities were involved in sporadic conflict or even organized warfare. This internal tension apparently had a direct impact on the disappearance of the local political orders.

Taking into account Dillehay’s findings, it is possible to conclude that the local Moche collapse was inherently related to a condition of internal conflict. I think it necessary, however, to emphasize that the existence of an atmosphere of overt animosity was clear to me solely from the study of the defensive works of Cerro Chepén (see below). Dillehay’s observations, in any case, have helped me to understand that the atmosphere of hostility encompassed the entire region.

---

4 The same conclusion was reached by Swenson (2004, 2006) after analyzing the architectural style of the monumental structures of 10 Late Moche sites of the region.
The model that proposes that the Late Moche collapse was due to an "ideological transformation" was advanced by Peruvian archaeologist Luis Jaime Castillo (1993, 2003). Luis Jaime Castillo observed that, toward the end of the Moche sequence, the funerary equipment of the elite graves of San José de Moro manifested a slow replacement of typical Late Moche fancy vessels by Huari or Huari-related ceramic pieces. According to Castillo, the assimilation of exogenous influences was in response to an "ideological revitalization program" that was voluntarily undertaken by the Moche elites. This program consisted of adopting the most distinctive power symbols of a highly prestigious political entity in order to boost a decadent ideological program. In the long run, the assimilation process went out of control and the Moche leaders “disappeared from the iconographic record” (Castillo 2003: 111). Castillo’s proposal bears a special importance for my study, given that it proves that some local Moche elites were open to outside influences during this conflictive period.

The research program developed at Cerro Chepén was centered on clarifying the cultural identity of the occupants of the most conspicuous buildings of the "Chepén Cerro Alto" sector. These buildings include architectural spaces of highland design, and are located in the most favorable defensive positions of this sector. Two different collapse models that I propose, have regional implications, are derived from the solutions available for this identification. The first model, which I call "internal collapse", gains support if the Moche origin of the occupants can be proven. This model suggests that the internal strife that affected the region was basically a Moche problem, and that Cerro Chepén was one of the several power centers that participated in the local struggle. In the end, the collapse of the rival communities ensued due to the high costs involved in
sustaining an internecine war (Chapter II). Under this model, the exogenous design of the monumental structures of the “Cerro Chepén Alto” sector can be interpreted as a product of the same process that led to the assimilation of foreign motifs on the Late Moche elite wares. In other words, the process of "ideological revitalization" that affected the production of prestige symbols, also had an impact in the design of monumental constructions.

The second model, that I call “collapse due to external interference”, proposes that Cerro Chepén Alto was an enclave of a foreign highland power. This model suggests that sometime during the Late Moche phase, a group of highlanders moved down into the Lower Jequetepeque Valley and built a fortified redoubt in one of the most favorable positions of its northern branch. The stronghold was located in the immediate vicinity of an existing Moche power center (Cerro Chepén Bajo), and was erected with the voluntary or forced collaboration of its local residents. Although this intrusion might not have started the conflict that eventually spread over the whole region, it probably did aggravate existing tensions. Under this model, the singular architectural style of the monumental constructions that dominate Chepén Cerro Alto can be interpreted as representative of the cultural tradition of the highland intruders.

The research methodology chosen to disclose the cultural origin of Cerro Chepén Alto’s inhabitants consisted in analyzing the products of the processes of materialization of ideology that are typical to complex societies (DeMarrais 1997, De Marrais et al 1996). Two categories of material culture were chosen for the analysis: a) the style of monumental architecture (Chapter VII) and b) the style of prestige objects, with special emphasis on fine ceramics (Chapter VIII). The selection of this research strategy was
based on the assumption that the elites who occupied the central buildings of Cerro Chepén Alto would have made a public display of symbols that were consistent with their "dominant ideology", no matter whether this ideology was the one of their forebearers or if it was adopted from another cultural tradition. These symbols would have found physical expression in the design of the architectural spaces in which these leaders conducted their official activities, as well as in the objects that they used in their ritual celebrations.

In addition to the two major lines of material evidence that guide the process of cultural identification, I also paid attention to other kinds of cultural remains that could have shed some light on the origin of Cerro Chepén Alto’s occupants. This evidence relates to discarded food remains, burial patterns, and other types of ritual behavior (Chapter IX). Also important were a set of seven radiocarbon dates that were obtained from organic samples that were directly associated with occupation floors (Chapter X). The samples were selected to reflect both early and late occupation timeframes of the excavated buildings. The purpose of this selection was to define a temporal framework for the occupation of the buildings of exogenous design, and to verify if this occupation span bore any relation with the known terminal dates of other Late Moche sites of the region.

Finally, while this research methodology seems to obviate climatic disturbances from the analysis, nothing could be farther from the truth. I ascribe, however, to Tainter’s

---

5 In regard to an observation made by Luis Jaime Castillo (2003), in this study I consider objects representative of the Moche power ideology – both the bi-chrome ceramics painted with fine line designs and the local polychrome copies of Huari fancy vessels that were used by the elites interred in the regional cemetery of San José de Moro.

6 Detailed explanations of the theoretical assumptions that govern this research methodology are presented in the opening sections of Chapters VII and VIII.
(1988) view that sees climatic events as mere catalysts of social processes that were already underway. The decisions made by local leaders to adapt to situations of environmental degradation were the sole determinants of institutional recovery or, conversely, political decline. To understand whether environmental variables interfered in any of these decisions, the study of Cerro Chepén takes into consideration the drought records of the Quellcaya sequence, as well as the interpretations that different Moche experts have offered in this respect (see Chapter IV). The likely role played by the environmental variable in the collapse of the organized political systems of the Jequetepeque Valley will be assessed in my final reconstruction of the local Moche collapse in Chapter X.

Field research

Field research at Cerro Chepén took place during four seasons (2000, 2003, 2004 and 2006). One of these seasons was devoted to the creation of a general site map, and the other three were dedicated to excavation. The general site map was created with a Topcon Pb-1000 geodesic total station during the 2000 field season. The collaboration of an archaeologist who specialized in topography, Luis E. Caceres Rey, proved essential for completing this task. During a period of two months, Luis Cáceres and I mapped all visible structures of the Cerro Chepén Alto sector, as well as the perimeter wall, huacas, and the main terraced platforms of Cerro Chepén Bajo. The work was hampered by the extreme irregularity of the local topography, which generated a series of "blind spots" for mapping. The irregular terrain forced us to locate up to 13 different mapping stations along the breadth of the entire site.
The next stage of research, which took place during 2003 and 2004, was devoted to the excavation of a sample of internal spaces of three monumental buildings of the Cerro Chepén Alto sector (Buildings IV, VIII and IX). These structures were selected for excavation because they met three requirements deemed important for the investigation:

- These structures were built on the highest reaches of the hill, and at great distance from the 3 sole accesses present in the perimeter wall. In other words, these structures bore the most advantageous defensive positions within a sector that bore a strict defensive design. The advantageous location of these structures represented an indirect indicator of the relative importance of these buildings and, by association, of the people who occupied them.
- All these structures integrate architectural spaces of exogenous design.
- An overview of the architectural plans of these structures revealed the presence of a high variety of architectural spaces, including units that could have served public functions (e.g., large walled courtyards) and units that could have served private functions (rooms with lateral benches possibly used as sleeping areas). The presence of sleeping areas, and the monumental character of the constructions, suggested that these buildings constituted elite residences (a supposition that was later confirmed by excavation). These buildings represented, therefore, ideal settings for finding the material manifestations of past ideologies that were sought by this investigation.

The excavation of these buildings marked the beginning of the Proyecto Arqueológico Cerro Chepén (abbreviated PROCECHE). This project was partly sponsored by the Pontifícia Universidad Católica del Peru, where I used to work as a
part-time professor. The excavations were conducted with the aid of 7 undergraduate students of the Archaeology Program of that university.

The excavation of the three selected buildings involved a dual strategy that combined horizontal excavation areas and vertical cuts that reached the very foundations of the structures. The horizontal excavations were aimed at exposing the final occupation floor of the three most common types of architectural spaces – or “Architectural Units” (abbreviated as AU) – found within these structures: rooms, galleries, and internal courtyards. In cases where the spaces excavated were relatively small (e.g., rooms, internal subdivisions within galleries), the whole occupation floor was exposed. In cases when the Architectural Unit covered a large area (e.g., internal courtyards, long undivided galleries) only part of its original surface was exposed. The horizontal excavations pursued three specific ends:

- To understand the functional character of the surveyed unit.
- To understand the architectural design and internal organization of the excavated space and of its immediate constructive surroundings.
- To recover all significant cultural materials associated with the occupation floors, identifying the type of cultural deposits that contained them (i.e. distinguish between primary refuse, secondary refuse, de facto refuse, and so on [sensu Schiffer 1972, 1977 1983]).

The vertical excavations were usually located on the corner of the architectural spaces that had been partially or totally exposed by a horizontal excavation. These cuts had a limited size (typically 2 X 2 meters) and commonly reached the rock substratum on
which the structures were erected. The vertical excavations pursued four specific objectives:

- Understand the wall foundation technique.
- Uncover possible buried features (e.g., human burials or refuse pits).
- Recover diagnostic ceramics from deep fill levels in order to elaborate a relative chronological sequence for the structures.
- Uncover possible occupation areas buried under the last occupation floors.

The latter goal proved of vital importance in understanding the occupational history of Cerro Chepén Alto and the construction sequence of its central structures. The vertical excavations proved that the surveyed buildings had been erected on virgin terrain in a single constructive effort.

The selection of excavation units was established according to non-probabilistic criteria to avoid overlooking unique architectural spaces. For example, there are only two two-story galleries in the whole site (AU-16 in Building IV, and AU-30 in Building VIII), that I considered appropriate to investigate. Similarly, it was clear that some adjoining Architectural Units constituted Functional Units (e.g., galleries and annexed courtyards). To reach a better understanding of the original function of these interconnected spaces, I deemed it essential to investigate a small sample of them. The strategy of intentional selection of excavation areas led me to excavate 16 Architectural Units in Buildings in IX and VIII (exposing a total area of 154 m², or 5.8% of the

---

7 The only exception to this rule was detected within AU-30 of Building VIII, a two-story gallery that formed part of a “patio-group cell”. The excavation of the internal floor of this gallery identified two previous occupation surfaces. The lowermost construction level did not conform with the structural design of the gallery, suggesting that it belonged to an earlier, unrelated structure.

8 A “Functional Unit” is defined in this study as a building section comprising one or more Architectural Units that were structurally and functionally connected.
buildings’ surface), and 12 in Building IV (exposing a total area of 134 m², or 8.11% of the building’s surface) (Figs. 6.4 and 6.5).

The final 2006 campaign investigated the perimeter wall of Cerro Chepén Alto and recorded a sample of its most distinctive defensive features. I identified three different types of defensive features associated with this wall: *torreones*, *plataformas*, and superficial concentrations of sling stones (see below). During the 2006 campaign, I excavated two *torreones*, and a carefully arranged superficial concentration of sling stones associated with “Plataforma 1”. I made additional measurements of a similar concentration of sling stones, this time associated with “Plataforma 5” (which was not excavated). During this campaign, I also excavated a trash dump that filled up an external room of Building IX. This trash dump was detected at the end of the 2003 field season, and yielded an exceptional sample of stylistically-diagnostic pottery sherds. Compliance with this heavy research schedule was made possible thanks to the valuable collaboration of Katiusha Bernuy Quiroga and Jose Luis Fuentes Sadowski, both archaeologists who graduated from the Archaeology Program of the Universidad Nacional Mayor de San Marcos.

To end the presentation of the research program, I want to describe what was known about Cerro Chepén prior to the inception of the PROCECHE. One theme that is particularly interesting is the major state of confusion that reigned regarding the character and occupation span of the site. This confusion did not allow us to locate this important power center within its proper cultural context, and affected any attempt to reach a reliable reconstruction of the cultural evolutionary sequence of the valley.
Figure 6.4. Ground plan of Buildings VIII and IX showing the location of excavation areas.
Figure 6.5: Ground plan of Building IV showing the location of excavation areas.
First, as surprising as it may sound, even though Cerro Chepén lies next to a major population center (the city of Chepén) and to an important communication artery (The Pan American Highway), no scientific investigation had been carried out at the site prior to my arrival. The site did not remain, however, totally unknown to science. A few archaeologists and other erudite thinkers had paid short visits to the site, publishing their superficial observations in descriptive volumes of north coast archaeological sites (Hecker and Hecker 1990; Horkheimer 1944, 1965; Ishida et al 1960), newspaper articles (Donnan 1990b; Pelaez Rios 1990; Amilcar Torres 1940), and even regional history books (Almicar Torres 1959; Tucto Chavez 1990). The shallow descriptions rarely include a concise judgment about the character of the site. The few researchers who dared to present a functional interpretation of the site tended to use the terms "fortress" or "citadel" (Amilcar Torres 1940; Donnan 1990b: 41, Hecker and Hecker 1990: 33), making it clear that they restricted their short visits to the higher sector of the settlement (Cerro Chepén Alto).

A similar confusion is evidenced in the attempts made to define a temporal framework for the site’s occupation. In 1993, I visited, with members of the San José de Moro Archaeological Project, an exhibition at the Jequetepeque city of San Pedro de Lloc by Peruvian archaeologists working at the Formative site of Kuntur Wasi. In this exhibition, which dealt with regional archeology, Cerro Chepén was presented as a Huari site. At least one of the authors referred to in the previous paragraph also shared this view about the site (Pelaez Rios 1990: 18). Hans Horkheimer (1944: 45), who published the first description of the site, offered a more cautious statement, suggesting that Cerro Chepén Alto’s architecture might have come from cultural traditions of the northwest
highlands of Peru. In the same vein, Peruvian archaeologist Jaime Deza Rivasplata, who was born and raised in the Jequetepeque Valley, suggested that the site belonged to the Cajamarca Culture (Deza Rivasplata 1996: 5). Unfortunately, he has offered no justification for this view. In a contrary position, Herbert Eling (1987: 436, 445), in his doctoral dissertation, assigned the site to the Late Chimú tradition. The final and correct cultural identification of the site was proposed by Christopher Donnan (personal communication 1993), who reached a fairly precise understanding of the Late Moche domestic pottery style of the valley after conducting several field seasons at Pacatnamú.

The wide array of conflicting interpretations regarding the character and occupation span of Cerro Chepén impeded a clear understanding of the events that took place in the valley during the Late Moche phase, and of the specific circumstances that were involved in the demise of the local political entities. In some way, this confusion was the obvious result of the poor state of development manifested by the regional archaeology. Not every interpretation raised by the many investigators who visited the site was, however, necessarily flawed. Curiously enough, it was the researcher who published the first description (Horkheimer 1944) who made the most pertinent observations. Cerro Chepén does indeed manifest remarkable connections with the cultures that occupied the northwestern highlands of Peru. It is my intention to clarify the precise nature of these connections, and to determine the specific conditions that led to the disappearance of this site and of the political orders settled in the Lower Jequetepeque Valley.
The defensive wall of Cerro Chepén Alto

After presenting a broad description of the archaeological site of Cerro Chepén, and introducing a general outline of my research strategy, I turn now to describe the sectors that make up the site. I want to start this report with a description the perimeter wall of Cerro Chepén Alto, not only because this construction represents the most spectacular defensive work of the region, but also because its rigorous design evidences the stressful conditions that pervaded the area by the end of the Late Moche phase. The wall of Cerro Chepén Alto may have been one of the last constructions raised at the site. Radiocarbon dates confirm that the final abandonment of Cerro Chepén occurred concurrently with the desertion of other Late Moche power centers of the region (Chapter X). It is easy to see how this protective feature is related to the conditions that instigated the collapse of the political entities of the lower valley.

The wall of Cerro Chepén Alto is a linear feature, 1720 meters in length, that circles the summit of Chepén Hill (Fig. 6.6). The insulation offered by this defensive feature is truly remarkable. If it was not for the presence of open accesses, of crumbled wall segments, the area that it protects would be inaccessible even to modern trekkers. The first thing that draws our attention about this wall is that it takes advantage of the local topographic features to achieve its mission. The wall does not constitute a continuous structure, but presents small "gaps" in areas where it meets large vertical rock outcrops. These small precipices have been ingeniously assimilated into the defensive design of the wall as "natural barricades." The topographic adaptation of the wall also affected its structural design. Two different major wall segments are found in different topographic areas of the hill. I call these segments "hill-top wall" and "hill-slope wall".
Figure 6.6. Architectural plan of Cerro Chepén Alto showing the location of accesses in the defensive wall.
The hill-slope wall covers approximately 2/3 of the whole structure. It runs along the northern and eastern flanks of the hill, that is, through areas where the natural slope is not very steep and can therefore be easily climbed by unwanted visitors. The hill-slope wall contains most of the supplementary defensive features that are associated with this artificial barrier (torreones, plataformas, and superficial concentrations of sling stones). Additionally, it has a low parapet, typically of 50 cm in height, running along the frontal edge of some of its segments.

The hill-slope wall is also the most spectacular version of the structure. It has an average exterior height of 4.5 meters and a top width that ranges between 2 and 3 meters. A wall collapse, located immediately north of Torreón 3, revealed the cleverness of its structural design (Fig. 6.7). First, to ensure the stability of the structure, the wall was designed with an external inward inclination of approximately 75 degrees. The inner side is less high and tends to be vertical (90 degrees). When building the wall, the largest available stones were reserved for its outer faces.

The stones that were placed on the external face were carefully selected. This section includes mostly large blocks that, while having a wide horizontal base, present a flat lateral side with a slight inclination of approximately 75 degrees. These stones were later mounted one on top of the other to achieve one of most notorious characteristics of the construction: a smooth external surface. Given that this surface has few gaps and protrusions, it is almost impossible to climb. Large rocks that did not have the required shape were placed on the inner side of the wall, which is much more irregular. All of the stones that make up the external face of the wall were originally fixed together with mud mortar.

---

9 The maximum external height measured in the “hill-slope wall” reached 5.7 meters.
Figure 6.7. Cross-section of the “hill-slope” wall of Cerro Chepén Alto.
Smaller stones were placed immediately behind the external blocks. They were commonly arranged horizontally, as if meant to provide a firm support to the top rows of external stones. We also find, however, rough stones placed irregularly to fill up interior gaps. Finally, the core of the entire structure was filled up with a mixture of small angular stones, lithic debris, and mud. This fill reached the uppermost level of the structure. The top section of the wall, however, seems to have been sealed, with a layer of sifted mud, in order to provide a smooth walking surface for the defenders.  

A cursory examination of the construction technique of the hill-slope wall allows me to reach an interesting conclusion about the strategy of work organization. The wall was not raised in several construction stages, but was the product of a single building episode. In other words, the visible wall does not conceal a less bulky, earlier structure that ended up been assimilated into the volume of the larger work. The construction of the wall was planned and executed in a single effort. The current wall was erected in a continuous process that involved lifting up a construction level of exterior blocks, and filling up the void space between them in preparation for a new tier of stones. Lengthwise, however, the wall did not grow in the same manner. The wall has various adjoining segments of different lengths, that commonly have un-mortared, skewed junctures. Traditionally, this type of "segmented construction" is interpreted in North Coast archaeology as evidence of several work crews working simultaneously (Hastings and Moseley 1975: 202-203; Moseley 1975b: 193). This view is shared in this work.

---

10 A cursory examination of other collapsed segments of the wall led me to conclude that this construction technique may include two variants. In some sections, there are no medium-sized stones placed behind the outer layer of large blocks. In these cases, the blocks contain an interior fill of angular pieces and mud. In other sections, the fill is missing and the whole wall interior is made up of large stones placed horizontally.
The hill-top wall, on the other hand, marks the boundaries of the western flank of the Cerro Chepén Alto sector. This segment barely surpasses 600 meters in length, stretching between Building V and the Southern Access of the sector (Fig. 6.8). As the name implies, the hill-top wall runs along the crest of Chepén Hill. This wall was erected using the same construction technique seen in the hill-slope wall. It differs from its eastern counterpart, however, in several design characteristics. The outer faces of the wall are nearly vertical, rarely exceeding 2 meters in height. The wall’s width is also much narrower, averaging 1.7 meters. This wall segment also lacks external parapets, and the supplementary defensive features are virtually absent (except for a “torreón”, a “plataforma” and a concentration of sling stones). While these characteristics seem to suggest that the builders of Cerro Chepén Alto committed the mistake of leaving the western flank of the sector poorly protected, the reality is different. The highest parts of the western slopes of Chepén Hill are crowned by steep cliff formations (Fig. 6.9). These cliffs act as natural barriers against human trespassers. In functional terms, the hill-top wall seems to represent more a symbolic or demarcation feature, rather than a true defensive mechanism, given that it would have been very difficult to reach from the West. It is likely that the military strategists of Cerro Chepén insisted on its construction in anticipation of audacious climbers.

In conclusion, the perimeter wall of the Cerro Chepén Alto sector is an amazing feat of military engineering. It effectively combined several requirements that added to its structural strength and increased its invulnerability, such as great mass, stability, efficient use of construction materials, and superb topographic adaptation. As if these features were not enough, the wall also included three types of supplementary defensive features –
Figure 6.8. Architectural plan of Cerro Chepén Alto showing the location of defensive features on the peripheral wall.
torreones, plataformas, and superficial concentrations of sling stones – which effectively complemented its defensive purpose. These features are described below.

**Torreones**

The “Torreones” are solid, discrete circular or square stone structures that abut the defensive wall. These independent structures are structurally integrated into the wall and even display its same general height. There are a total of 5 towers scattered along the course of the defensive wall of Cerro Chepén Alto (Fig. 6.8). Their locations clearly respond to defensive criteria. As is the case with the “plataformas”, they were placed near...
vulnerable spots (e.g., entrances through the wall) and/or at locations that commanded an excellent view of the external environment.

To understand the internal design and function of the towers, it is necessary to look at the excavated evidence. During the 2006 field campaign, we excavated two structures (Torreón 1 and Torreón 3) located in almost opposite sides of the sector. Torreón 1 is a cylindrical structure associated with the Western Access (Figs. 6.8, 6.10, 6.11). It had an internal diameter of 3.5 meters and was surrounded by a thin wall that did not rise more than 1.4 meters above its internal floor. The internal mud floor was placed directly on top a rough fill of large stones. The floor bore no traces of post holes or any other evidence that might suggest that the structure was roofed. Torreón 1 had three possible accesses. The formal doorway lay to the south, right behind the defensive wall. A second doorsill was placed on the opposite side of the structure. This access was later sealed by the construction of the defensive wall. Finally, a possible entrance with a high threshold opened to the East. This entrance rose 85 cm from the external surface but only 10 cm from the internal floor. A large boulder placed in front of it could have been used as an aid to reach the access from the outside.

What made this Torreón truly remarkable was the features and objects found associated with it. The structure presented three large concentrations of river pebbles of standard dimensions (described below). These types of stones are commonly interpreted, in North Coast archaeology, as sling shots. A small rectangular deposit that abutted the tower from the outside was filled to capacity with these stones (Figs. 6.10 and 6.11). Additional concentrations were found next to the deposit and within the tower interior.
We proceeded to count the pebbles that made up these three concentrations and got the following results:

- External deposit: 13,061 pebbles.
- Lateral concentration: 1,618 pebbles.
- Interior concentration: 9,690 pebbles.

In total, this structure contained a staggering sum of 24,369 pebbles. While this type of defensive weapon has been detected in other pre-Hispanic defensive sites of the north coast (Dillehay, 2001: 271, J. Topic and Topic 1987: 48), none has yielded so many pieces, let alone in a single concentration\(^\text{11}\). Considering the location, structural design, and character of the associated elements, it is possible to advance a functional interpretation for Torreón 1. In my opinion, this structure represented a formal surveillance/defensive post that protected the Western Access of the wall (see below). This post could have sheltered armed personnel prepared to take defensive actions, if needed.

Torreón 1 also offered interesting information relating to the history of construction of the defenses of Cerro Chepén Alto. The excavation revealed that Torreón 1 preceded the construction of the encircling wall, standing originally isolated on the terrain. When clearing the debris that lay over the structure, it became clear that the wall not only abutted the tower (Figure 6.12), but also that it sealed off one of its original entrances. This evidence helped solve a research mystery that had puzzled me for several

\(^\text{11}\) Theresa Topic (1991: 284) found a superficial concentration of 194 sling stones near the defensive wall of Galindo. She specified, however, that this concentration would have been much larger given that many stones had fallen down the slope. Similarly, Swenson (2004: 520) detected a pile of about 30 sling stones on one of the most protected “hierarchical terraces” of the site of Catalina. Based on the site descriptions that he provides in his dissertation, I infer that this author found larger concentrations at this and other Late Moche sites of the Jequetepueque Valley.
Figure 6.10. Ground plan of Torreón 1.
Figure 6.11. Torreón 1 after excavation.

Figure 6.12. The juncture between the defensive wall and the external wall of Torreón 1.
seasons. It was clear to me that the Cerro Chepén Alto sector was built after the hostilities between the local Late Moche communities had already broken out. In that sense, I could not understand why hostile neighbors, noting that the Cerro Chepén inhabitants were undertaking the construction of a formidable defensive network, took no actions to sabotage the work when it was still underway.

The reason for this apparent negligence was found in structures such as Torreón 1. I think that Torreón 1 was initially planned as a small isolated redoubt for armed guards responsible for protecting the labor crews that worked on the construction of the peripheral wall. Its numerous entrances would have allowed these guards to converge at the post from different directions and take immediate defensive actions to repel possible attacks.

Torreón 3 was another tower-like structure excavated during 2006. This Torreón is located near the southern tip of the sector, protecting a vulnerable pass that opened north of a construction that I call “Supplementary Wall”\(^\text{12}\) (Figs. 6.8 and 6.20). Torreón 3 was built on a wide rectangular terrace which abutted the perimeter wall from the inside (Fig. 6.13). As was the case with Torreón 1, Torreón 3 is also a circular structure surrounded by a 1.4 meter high encircling wall. This structure was also unroofed.

Although the overall design of both towers is strikingly similar, there remain some interesting differences. Torreón 3 has only one doorsill, located on its western side. The people who designed this tower decided to locate its only entrance in the most protected flank of the structure, that is, on the farthest side of the outer face of the defensive wall. Next to this access we found a stepped dais that reached the height of the

\(^{12}\) The “Supplementary Wall” is a short non-monumental wall segment that borders the southern tip of the Cerro Chepén Alto sector. The main function of this wall segment was to control human traffic into the Southern Access of the sector.
Figure 6.13. Ground plan of Torreón 3.
wall that surrounds the tower. The function of this architectural feature remains unknown. Finally, a possible stairway, located on the western edge of the terrace, might have represented a connection route with the habitation areas that spread behind the tower on the highest reaches of the sector.

The excavation of Torreón 3 revealed information about how human traffic was organized in the tower’s setting. An interesting design feature, which was also noticed on Torreón 1, is that there was no direct connection between the defensive wall and the tower’s interior. If a person guarding the defensive wall wanted to reach the tower, he had to step out of the wall onto the support terrace, and then walk around the tower until reaching its western entrance. A neatly preserved flight of steps, found on the northeast corner of the terrace, connected the northern segment of the defensive wall with the latter construction. A similar feature would have been present on the southeast corner of the terrace, but it unfortunately disappeared due to the collapse of the defensive wall. This interesting architectural design demonstrates that the towers were originally planned as independent but complementary structures to the defensive wall.

The excavation of the tower’s interior also revealed high numbers of river pebbles resting on its floor. In this case, these objects were arranged in two piles that leaned against opposite sides of the structure, possibly to allow defenders to take better defensive positions in case of an attack. In total, 4,464 sling stones were in these two concentrations. The original number may have reached 5000, as many of the pebbles fell down the slope when the northern margin of the support terrace collapsed (Fig. 6.13).

The excavation of Torreón 1 and Torreón 3 revealed the presence of circular structures associated with the perimeter wall of Cerro Chepén Alto. It is not clear whether
such structures were also present at the other three towers that spread along the course of the wall. Torreón 2 is a large rectangular platform 7 meters long and 4.5 meters wide, located roughly at the middle of the eastern segment of the hill-slope wall (Fig. 6.8). Like Torreón 1, this platform was built prior to the wall and was later integrated into its course. While the platform is large enough to accommodate a 4-m-wide circular structure, it was severely affected by a central huaqueo that accumulated debris on its outer edges. A superficial examination of the damaged surface revealed neither traces of a circular wall nor of river pebbles.

Possible traces of a circular wall were detected on what remained of Torreón 4, located in the proximity of the Southern Access of the Cerro Chepén Alto sector. Since the defensive wall in this area was not wide enough to accommodate a circular structure, an external buttress was added to amplify its volume and upper surface. The tower was severely damaged when the whole buttress collapsed. Finally, Torreón 5 was a large semicircular terrace that was attached to the external face of the wall in an area of steep terrain. This is the only Torreón associated with the hill-top wall, and would have commanded an extraordinary view of the western flanks of Chepén Hill. Unfortunately, almost the whole structure collapsed due to a poor consolidation of its foundation.

The circular towers of Cerro Chepén Alto represent truly unique architectural features. Given that this sector might have housed a contingent of foreign people, it would be interesting to investigate where the closest counterparts of these structures are found. This brief review is included in anticipation of a more detailed architectural analysis that will deal with the buildings with galleries of Cerro Chepén Alto. The results
of this review are only supplementary to the conclusions that will be presented in the following chapter.

First of all, it is fair to say that circular structures are totally alien to the Late Moche constructive tradition. These types of structures are absent, for example, at Cerro Chepén Bajo, other Late Moche sites of the Jequetepeque Valley, and even the large population centers of Pampa Grande and Galindo. The closest resemblances to the Cerro Chepén Alto structures are found at Middle Horizon sites of the northern highlands.

At the site of Cerro Amaru, located in the nuclear area of the Marcahuamachuco tradition, Theresa and John Topic (1984: 48) detected a group of eighteen circular structures equally distributed on top of three artificial terraces that ascended the slope of the hill. The circular structures were stone constructions with an internal diameter that ranged between 4.5 and 5 meters. While the excavations revealed that these buildings were used as deposits for foodstuffs, their presence at Cerro Amaru demonstrates that the members of the Marcahuamachuco tradition knew and used this architectural form.

A closer connection with the circular structures of Cerro Chepén may be found in the Cajamarca Valley. The monumental site of Cerro Coyor, which is absolutely contemporary with Cerro Chepén, houses up to 4 circular structures commonly referred to as "towers" (Julien 1988: 159, Ravines 1985: 130). Structures of this type are also present in at least two other sites in this region (Julien 1988: 130). Given that circular structures are also rare in the Cajamarca region, Julien (1988: 1961) thinks that they were spread from the Chachapoyas territory (northeastern highlands of Peru). Even though there is still a lot to be known about the Cajamarca structures, they represent, for the moment, the closest counterparts to the circular towers of Cerro Chepén.
Plataformas

At some locations, the defensive wall increases its regular width and widens considerably over a short distance. I call these wall swellings “Plataformas”. There are six such Plataformas distributed along the course of the defensive wall, most of them associated with the “hill-slope wall” (Fig. 6.8). In some sense, the Plataformas are similar to the Torreones, given that they provide an ample surface where defenders could congregate. They differ, however, from the latter in being an integral part of the encircling wall. Some Plataformas are isolated in a long wall segment, looking like knots along a string when seen from high altitude (Fig. 6.14). Other Plataformas are found at places where the defensive wall meets or runs parallel to a high rock outcrop. In these

Figure 6.14. An isolated “Plataforma” located amidst the course of Cerro Chepén Alto’s “hill-slope” wall.
cases, the Plataforma was created by omitting the interior face of the wall and extending the wall fill into the external face of the natural rock formation. Plataformas are mostly located in areas that command an unrestricted view of the site and of its immediate surroundings. In my opinion, they were created to facilitate monitoring. Their wide upper surfaces also offered an ideal setting to concentrate a large number of defenders.

During the 2006 field campaign, I excavated an interesting feature associated with Plataforma 1. This Plataforma takes the form of a wide terrace set against a cliff, and represents the initial section of a wall segment that surrounds a natural prominence that rises on the northern fringes of Chepén Hill (Fig. 6.8). Its location and elevated position offered an ideal setting for controlling the Eastern Access of the Cerro Chepén Alto sector (Fig. 6.19). The Plataforma had, on its surface, two small stone rooms, about $3 \text{ m}^2$ each, that aligned with its front edge (Fig. 6.15).

The rooms were in an area that was covered with several large boulders, and space restrictions affected their overall design. Instead of being perfectly square adjoining structures, they looked more like twin oval basins. The structures were also carelessly built with walls made of small stones cemented with mortar. These walls ranged between 15 and 20 cm in thickness and did not surpass 40 cm in height.

Excavation revealed that the rooms were originally designed as sling stone deposits. The North deposit was almost empty, containing only 177 pebbles. The South deposit, by contrast, was originally filled to capacity. Unfortunately, it lost much of its contents when the upper edge of the retaining wall of the terrace collapsed, taking with it the front wall of the room. In its interior remained, however, a pile of 1,355 pebbles
Figure 6.15. Ground plan of the two sling stone deposits located on top of Plataforma 1.
mostly leaning against its rear wall. An additional concentration of 783 sling stones spread around the rear limits of the southern deposit. In total, this feature contained 2,315 sling stones, but would have contained at least 3,500 before its partial collapse.

**Superficial concentrations of sling stones**

The defensive wall of Cerro Chepén Alto has at least 10 discrete concentrations of river pebbles (Fig. 6.8). These piles do not denote a regular distribution. Nine of them, for example, are associated with the "hill-slope wall". Most of these piles are found, however, in the immediate vicinity of the Plataformas and the Torreones. These concentrations have been found in 6 different types of locations:

- Inside torreones (concentrations 1 and 9).
- Inside isolated small deposits (concentrations 2 and 3).
- Behind the wall (concentrations 4 and 8).
- On top of the wall, leaning against the parapet (concentrations 6 and 7).
- Inside a natural cavity present in a rock outcrop that stands next to the wall (concentrations 8 and 10).
- Inside a rock shelter (concentration 5).

The pebbles that make up these concentrations are commonly interpreted in the archaeological literature as "sling shots." Their contextual associations at Cerro Chepén corroborate this interpretation. The pebbles are small, spherical or oblong river stones with a typical length of 6.5 cm (Fig. 6.16). They represent a special selection of heavy crystalline rocks (quartzite, granite, diorite, andesite, basalt). This material contrasts sharply with the type of rock that is found on the hill, which has a volcanic origin and
denotes an irregular angular fracture. It is clear, then, that the pebbles were intentionally brought up to the site from some other source. The nearest source is the San Gregorio River, which lies 3.5 km to the North.

During 2006, I undertook a deeper analysis of the pebbles that made up five different concentrations (interior of Torreón 1, the exterior deposit of Torreón 1, Torreón 3, Concentration 3, and Concentration 8). The research strategy consisted in taking in situ measurements of a random sample of 500 pebbles from each concentration. The attributes measured on each pebble were maximum length – which was recorded with a caliper – and weight – which was recorded with a digital scale. These attributes were

---

13 Concentration 8, which lies immediately behind Plataforma 5, is the largest sling stone pile that can be seen on the site’s surface. Although this concentration was not excavated, I conducted a rough estimation of its size, concluding that it comprised between 6,000 and 8,000 stones.
selected because they provide an adequate characterization of the objects’ dimensions, but also because they are easy to measure, and offer a low probability of inter-observer errors. The purpose of the study was to determine the degree of consistency of these parameters, both within and between concentrations. Assuming that the pebbles were collected by different teams during a short time span, a high degree of consistency would suggest: a) high level of coordination in the collection activities, possibly dependent upon b) the use of a propellant of standard dimensions. A low level of similarity between the statistical parameters of different concentrations would suggest: a) carelessly coordinated collection activities and/or b) the use of different types of propellants.

The descriptive statistics of these samples are summarized in table 6.1. Figures 6.17 and 6.18 illustrate the frequency distributions for the maximum length and weight values of the five samples, respectively. In the case of the maximum length parameters, although the five distributions are relatively clustered, an ANOVA test demonstrated that the samples are dissimilar within a probability level of 0.05. An a posteriori Games-Howell test conducted on these values indicated that only the samples of Concentration 8 and Torreón 3 were statistically similar. Interestingly, these two piles were located in relatively close proximity (Fig. 6.8). In the case of the weight statistics, they also failed an ANOVA test of similarity. Once again, a Games-Howell test demonstrated that only the concentrations that lie in close proximity (interior of Torreón 1 and exterior deposit of Torreón 1, on the one hand, and Concentration 8 and Torreón 3, on the other) were statistically similar.

What do the similarity tests performed on the five samples indicate about the thoroughness of the collection activities? First, they demonstrate overall careless
Table 6.1. Length and weight parameters of five samples of 500 sling stones of different concentrations located at the defensive wall of Cerro Chepén Alto.

<table>
<thead>
<tr>
<th></th>
<th>min.</th>
<th>max.</th>
<th>range</th>
<th>μ</th>
<th>s.d.</th>
<th>min.</th>
<th>max.</th>
<th>range</th>
<th>μ</th>
<th>s.d.</th>
<th>Σ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Torreón 1 (interior)</td>
<td>4.1</td>
<td>9.3</td>
<td>5.2</td>
<td>6.2</td>
<td>0.92</td>
<td>52</td>
<td>372</td>
<td>320</td>
<td>139.68</td>
<td>51.82</td>
<td>69,838</td>
</tr>
<tr>
<td>Torreón 1 (exterior)</td>
<td>3.9</td>
<td>9.1</td>
<td>5.2</td>
<td>5.96</td>
<td>0.85</td>
<td>52</td>
<td>350</td>
<td>298</td>
<td>131.66</td>
<td>46.63</td>
<td>65,828</td>
</tr>
<tr>
<td>Torreón 3</td>
<td>4.2</td>
<td>9.3</td>
<td>5.1</td>
<td>6.68</td>
<td>0.96</td>
<td>56</td>
<td>440</td>
<td>384</td>
<td>182.17</td>
<td>71.49</td>
<td>91,084</td>
</tr>
<tr>
<td>Concentration 3</td>
<td>4.3</td>
<td>9.9</td>
<td>5.6</td>
<td>6.52</td>
<td>0.89</td>
<td>48</td>
<td>444</td>
<td>396</td>
<td>159.22</td>
<td>64.12</td>
<td>79,610</td>
</tr>
<tr>
<td>Concentration 8</td>
<td>4.5</td>
<td>10.5</td>
<td>6</td>
<td>6.77</td>
<td>0.99</td>
<td>60</td>
<td>492</td>
<td>432</td>
<td>181.39</td>
<td>76.15</td>
<td>90,698</td>
</tr>
</tbody>
</table>
Figure 6.17. Frequency distributions of maximum length parameters of five sling-stone samples.
Figure 6.18. Frequency distributions of weight parameters of five sling-stone samples.
planning. Second, they indicate that only the concentrations that lie in close proximity show similar parameters. Assuming that all the sling stone piles were collected at roughly the same time, it would be possible to infer that different teams of collectors were assigned the responsibility of keeping up the defenses that spread along different sectors of the wall. The better fit evidenced by the weight parameters indicates that it might have been weight, rather than size, that guided the collection of stones. The use of this parameter (weight) in the selection of stones is consistent with the use of a propellant of standard size. Stones that were collected to be hand-thrown would have shown a greater range of variation.

Another important study conducted on the sling stones that made up the concentrations associated with Torreón 1 consisted of a rough assessment of the effort required to transport the pebbles from the river source to this defensive post. The total weight of the two 500 pebble samples collected at the external deposit, and at the tower’s interior, yielded 65.8 and 69.8 kg, respectively. If we extrapolate these values to the total number of pebbles found within these spaces, we get a weight of 3,297.4 kg for the whole concentration. If these sling stones were transported with adult llamas, which individually carry loads that do not exceed 25 or 30 kg in weight (Flores Ochoa 1977: 144, Lechtman 1993: 261), a caravan of between 110 and 132 animals would have been required just to fill up the ammunition reserves of this tower.

Finally, a further research objective, which will require considerable effort to be solved, consists of defining the actual dimensions of the sling stone piles that spread along the defensive wall of Cerro Chepén Alto. This study may provide an indirect
assessment of the level of stress suffered by the sector inhabitants during the peak of the hostilities\textsuperscript{14}.

It is very difficult, however, to estimate the size of the superficial concentrations that were not excavated. Most of them lie partly covered by wall debris and by sediment carried down the slope by El Niño rains\textsuperscript{15}. Some of the excavated concentrations, such as the ones present on Torreón 1, seem to be quite unusual and do not serve to establish reliable comparisons. The other piles that were excavated seem to come close to what may have been the acceptable size of an individual ammunition reserve. Based on the information provided by the latter, and on a cursory examination of the surface of the unexcavated features, I calculate that the un-surveyed sling stone piles of Cerro Chepén Alto would have contained an average of 3,500 shots, with a range of variation between 1,000 and 8,000 pieces. If this calculation is correct, the sling stone piles of Cerro Chepén Alto would have contained an average of 60,000 shots. The numbers of stones in this amazing ammunition reserve could easily have been double that of the whole population of the lower valley during Late Moche times, and would have been more than enough to ensure the safety of the inhabitants of Cerro Chepén Alto.

**Wall entrances**

The intricate defensive design of the Cerro Chepén Alto defensive wall also finds expression in its access ways. This 1720 meter-long construction has only three formal

\textsuperscript{14} The true significance of Cerro Chepén Alto’s sling stone concentrations will only be assessed when similar features at other Late Moche sites of the valley are thoroughly investigated.

\textsuperscript{15} As surprising as it may sound, Torreón 1 showed only five sling stones on its surface before being excavated. As stated above, excavation revealed that this structure contained more than 24,000 pebbles. It is possible that other large sling stone piles associated to the defensive wall, especially some located in the vicinity of the Southern Access of the sector, may lie similarly covered by wall debris.
entrances, which are artfully located to receive traffic from different zones of the Lower valley (Fig. 6.6). In this way, the Western Access opens toward the central expansion of the northern arm of the valley. The Eastern Access, on the other hand, is oriented towards the valley neck of the San Gregorio River. This access also represents the most direct link with the adjoining Cerro Chepén Bajo sector. Finally, the Southern Access receives traffic from the southeastern fringes of the lower valley, that is, from the valley neck area of the Jequetepeque River.

More interesting than the strategic location of the wall’s gateways are the defensive measures implemented to protect them. All three entrances were protected by additional defensive mechanisms, which included Torreones, Plataformas, sling stone piles, ancillary walls, and even special topographic features. Under strict supervision, these three entrances would have been almost invulnerable.

The defensive design of the western gateway is perhaps the easiest to interpret, given that the external approach route to this entrance is basically intact. This route is a narrow path that diagonally ascends the northeastern slope of the hill, running on top of carefully arranged support terraces in some areas. This approach route leads directly to an opening in the defensive wall. Before reaching this entrance, the road makes a short deviation in the opposite direction, redirecting human traffic into the base of the defensive wall. By passers are led directly to the foot of Torreón 1, which may have been heavily guarded and loaded with more than 24,000 sling shots (Fig. 6.19). Having reached this point, by passers are forced to parade in front of the defensive wall until finally reaching the Western Access. It should be stated that the wall segment that runs between Torreón 1 and the access was protected with an external parapet. The road that
Figure 6.19. The defensive organization of the Western Access of Cerro Chepén Alto’s defensive wall.
leads to the Western Access was cleverly designed as an inescapable route. The gateway was located right in front of a cliff formation that prevented bold by passers from improvising an alternative approach route.

The Eastern Access, on the other hand, opens towards the highest reaches of the Cerro Chepén Bajo sector. In fact, the small habitation terraces of this sector end abruptly just 30 meters from this entrance. The density of construction, and the collapse of the ancient structures, hinders the identification of old circulation routes.

One thing that is clear about the Eastern Access is that it was heavily fortified. The entrance was located in an area where the defensive wall was built on two different levels. (Fig. 6.20). The entrance was located on the lowermost segment, which ran in a north-south direction. The uppermost segment ran in a northeast-southwest direction, bordering a small natural promontory that rises on the northern fringes of the Chepén Hill. At the beginning of the uppermost segment stands Plataforma 1, commanding a preferential lateral view of the external side of the access. As described earlier, this Plataforma contained two small deposits loaded with more than 3,500 projectiles. Two additional sling stone piles exist in the immediate proximity of the Eastern Access. Concentration 4, for example, is located on the northern end of the lower wall segment, just 15 meters from the entrance. Concentration 5, on the other hand, was located on its southern end. This pile was placed inside a rock shelter located in a cliff formation that interrupted the course of the wall. From these high strategic positions, the defenders of Cerro Chepén Alto could have repelled any unwanted incursion into the Eastern Access with a precise cross-fire.
Figure 6.20. The defensive organization of the Eastern Access of Cerro Chepén Alto’s defensive wall.
Finally, the Southern Access is the one that presents the most elaborate defenses. Particularly striking is the way in which different constructive elements were combined to strictly regulate human traffic. The circulation route that leads into the Southern Access is illustrated in figure 6.21. I think it appropriate to describe all of its constituent segments in order to clarify its clever defensive design.

First, in order to reach the Southern Access from the outside, it is necessary to cross an entrance located in an ancient section of the perimeter wall Cerro Chepén Bajo. This opening is more than 200 meters away and several meters down the slope of the Southern Access. This old entrance is reached from the bottom of a deep ravine that meanders around the southern fringes Cerro El Gavilán, and that leads into a wide desert pampa that spreads north of Chequén Hill.

After crossing this opening, by passers must follow the circulation route imposed by the builders of Cerro Chepén Bajo. The initial ascending route runs along the interior base of the old defensive wall. In this area, human traffic was carefully monitored from Building E, the largest and highest “hierarchical terrace” of Cerro Chepén Bajo. (Fig. 6.21). This route leads into the southern end of a long terrace that has a relatively level walking surface. This terrace is actually a road that leads into the back area of Building E and, from there, into the very core of the Cerro Chepén Bajo settlement. Right behind Building E, the builders of Cerro Chepén Alto located a massive defensive post at the defensive wall, Plataforma 5, which included a stockpile of projectiles that ranged between 6,000 and 8,000 pieces.

If the by passers planned to reach Cerro Chepén Alto, they had to avoid this terrace and continue ascending the slope until reaching the entrance of the
Figure 6.21. The intricate access pattern and defensive organization of the Southern Access of Cerro Chepén Alto’s defensive wall.
“Supplementary Wall”. The "Supplementary Wall" is a 146-meter long wall segment that runs parallel to the southeastern course of the major defensive wall. When I first mapped this short structure, I thought that it was an unfinished work. A detailed study of the defensive design of Cerro Chepén led me to conclude that this feature constituted a fully-operative, functional complement to the defensive wall.

The “Supplementary Wall” was planned as a small barricade to hinder uncontrolled human traffic into the Southern Access. It had a single entrance, located in an almost perfectly central position. This entrance is not aligned, however, with the Southern Access of the Cerro Chepén Alto sector. People who planned to reach the latter access were forced to parade in front of the defensive wall for about 40 meters after crossing this entrance. A similar control mechanism was observed in the Western Access. In the case of the Southern Access, by passers could not avoid the circulation pattern imposed by the “Supplementary Wall”. Torreones 3 and 4 were strategically placed at the two open ends of this wall, preventing any attempt to escape the formal access route (Fig. 6.21).

In conclusion, the defensive design of the three entrances and the strict control mechanisms implemented to regulate human traffic in their immediate surroundings, represent a clear indication of the main concern that governed the planning and construction of the Cerro Chepén Alto sector. Undoubtedly, Cerro Chepén Alto was created with the goal of being an invulnerable stronghold. To accomplish this task, the ancient engineers not only encircled the site with a huge wall, but also endowed this wall with a high number and wide variety of complementary defensive features. The final design of the fortification was so effective, that the whole 9.7 ha settlement could have
been effectively protected by a relatively low number of defenders (possibly no more than 100 armed guards strategically posted at critical positions).

**Cerro Chepén Alto sector**

The intricate defensive design of the encircling wall that protects the Cerro Chepén Alto sector brings us to one inescapable conclusion. The people who occupied this sector lived submerged in a condition of permanent stress. They considered that an external menace threatened the continuity of their way of life, and decided to lock themselves up in an impregnable fortress. This obsession with defense poses several interesting questions for the investigation: Who was threatening the Cerro Chepén Alto inhabitants? How did the animosities with the external party begin? And, especially, what did the Cerro Alto Chepén Alto sector contain that made it worthy of such over-dimensionalized defensive provisions? While I reserve the answers to the first two questions for the final chapter of this dissertation, I will dedicate the following section to a description of the internal organization of the Cerro Chepén Alto sector.

The Cerro Chepén Alto sector contains, in addition to small clusters of agglutinated constructions and other dispersed structures, nine buildings of monumental dimensions (Figs. 6.2 and 6.6). These buildings are clearly differentiated from neighboring structures by a series of interconnected spaces built with walls that share the same basic characteristics (thickness, orientation, type of stonework). Sometimes, the identification of these buildings is made easier because they are surrounded by a perimeter wall, and/or were erected on top on a set of adjoining support terraces. If these
buildings are surrounded by other constructions, the latter tend to be less bulky and have a lower level of architectural sophistication.

In this work, I argue that the Cerro Chepén Alto sector had a series of specialized buildings that played a variety of functions that are typical of complex societies. These structures would have included temples, granaries, workshops, elite residences, commoner houses, and, in the case of defensive sites, barracks. The nine monumental buildings of Cerro Chepén Alto may have played some of these functions. In fact, during the years 2003 and 2004, I excavated three summit structures, concluding that they were used as elite residences. Detailed information about the structural design, architectural style, and functional organization of these three buildings will be presented in the following chapter. In this section, I present brief descriptions of the six unexcavated buildings, and advance some preliminary interpretations on their functional role and relative importance within the sector.

**Building I**

Building I is one of the most intriguing structures of Cerro Chepén Alto. First, it was built on an unusual location. Building I occupies the summit of a small natural promontory that rises on the northern fringes of Chepén Hill (Fig. 6.2). Despite this preferential position, it represents one of the "lowest" buildings in the whole sector (see below). Building I is also located in a relatively vulnerable position. It is the most accessible structure from both the Western and Eastern accesses.

Second, Building I is distinguished by a singular design that is not replicated by any other structure of the sector. The most distinctive feature of Building I is a large “D”-
shaped terrace that spreads over its northern half (Fig. 6.22). This terrace is defined by a continuous, 2-meter-high, curved, retaining wall that creates an artificial leveled surface on top of the rocky promontory. The terrace is internally delineated by a low bench, and presents a low platform in its southern end that has two long ascending steps. This platform leans against a long wall that was originally ornamented with a row of up to 16 small niches.

At the eastern end of the platform stands the entrance that connects with the southern half of the building. The southern half of the structure is demarcated by a low wall that defines a large trapezoidal space. All the structures found within this half concentrate in the center of this quadrangle. Here we find a quadrangular courtyard internally surrounded by a high bench, and two small lateral rooms. These conspicuous spaces are flanked by terraces, which are ascended by external flights of stairs that are set parallel to the retaining walls of the terraces.

The design characteristics of Building I point to a ceremonial structure. Its 1065m² semi-circular terrace is the largest artificially-built leveled space of the whole sector. This plaza includes a lateral platform, framed in an ornate architectural setting. The podium-like structure offers an ideal position from which notable characters could have observed a troupe of actors performing on the wide frontal esplanade. The functional interpretation of the building is also based on negative evidence that discards other possible roles for this structure. Despite its preferential location, and its proximity to the Western and Eastern Accesses, it is clear that this building did not host activities related to traffic control or sector defense. Four lines of evidence discard these possible functions:
The building stands north of the Western and Eastern accesses, while the bulk of the sector spreads south of them. People wanting to reach the central structures of Cerro Chepén Alto could have easily by-passed this structure.

The building commands an imperfect view of the two entrances located on the defensive wall.

The wall that delimits the southern half of the structure is a simple demarcation feature that offers no defensive advantages.

The building lacks other defensive features (i.e. sling stone piles) that could have limited its vulnerability.

The singular design of Building I makes it difficult to establish connections with known north Peruvian pre-Hispanic architectural traditions. One thing that catches my attention is that this structure does not reproduce the typical layout of the Late Moche “hierarchical terraces”. As described in a previous chapter, the "hierarchical terraces" are bulky structures that comprise several superimposed low terraces that decrease in area as we move up the structure. Their different structural levels are commonly interconnected by ramps. I think that the location chosen for Building I was ideal for erecting one or more of these structures. In fact, Cerro Chepén Bajo houses up to four different buildings of this type built on very similar topographic settings (top of a small promontory).

Building II

Building II is located in the Northwest end of the sector, marking the beginning of an area of dense construction (Fig. 6.2). Building II was erected on steep terrain. In fact, one of the most outstanding features of this building is the great height of its frontal
retaining walls, which define large earthen platforms. A large sand dune spreads on the hill slopes directly in front of Building II. I deduce that the sand encroachment occurred before the construction of Cerro Chepén Alto, given that a northern segment of the defensive wall was built directly on top of it. This sand accumulation represented an excellent defensive resource for the building’s occupants, given that it hampered any attempt to climb the hill from the north.

Building II is an elongated structure that consists of three adjoining compounds that rise at approximately the same height (Fig. 6.22). These compounds contain mostly wide-open spaces, sometimes surrounded by walls. A recurrent architectural element in both the central and eastern compounds is the walled patio, which sometimes includes an internal elongated bench. In the case of the central compound, a group of rooms stands between two of these courtyards. The Eastern construction block shows a cluster of rooms behind a set of large terraces.

It is very difficult to determine the functional role of Building II. Notable, for example, is the absence of diagnostic ceramics on its surface. The repeated alternation of wide open spaces and small rooms suggests the combined occurrence of both public and private activities.

**Building III**

Building III rises up the hill behind the eastern compound of Building II (Fig. 6.2). This building is surrounded by a polygonal wall that, as was the case of Building I,
Figure 6.22. Cerro Chepén Alto: Architectural plans of Building I (top) and Building II (bottom).
defines an area that is mostly dominated by empty space (Fig. 6.23). The bulk of the building’s architecture stands on the eastern half of the walled space. Here we find two excellent examples of the walled patio with lateral bench. Although these courtyards adjoin each other, direct access between them is impossible given that they stand at significantly different heights. The lowermost patio is associated with the building’s main entrance. The upper patio stands next to a cluster of quadrangular rooms built at different levels. As is the case of Building II, it is very difficult to assess the original role of this structure.

Building IV

Building IV was one of the structures excavated by the PROCECHE, and its description is reserved for the next chapter. For now, it is enough to state that Building IV is perhaps the most spectacular structure on the whole site. On the one hand, this building integrates several internal spaces of "exogenous" design. On the other hand, its architectural style is one of the most elaborate of the entire sector.

A brief example may illustrate how elaborate the design was. The building’s façade was intended to generate a strong visual impact on spectators. An elegantly built 23-meter-long flight of steps, formally flanked by two low walls, leads directly to the foot of its vast frontal terrace. The retaining wall of this terrace had a maximum elevation of 5 meters, making it the highest of its kind in the entire sector. The terrace wall integrates medium-sized and very large blocks in an apparently random disposition, but showing a perfect alignment of flat surfaces along the outer face of the wall. The top of the terrace is reached through a continuation of the basal stairs, which cut through the core of the
terrace following a curved course. Undoubtedly, this and other singular design characteristics of Building IV make it one of the most important structures of the site.

**Building V**

Building V occupies the uppermost reaches of the northern slope of Chepén Hill. From this location, this building commands a preferential view of all the structures located on this slope, especially buildings II and III (Fig. 6.2). Building V is actually a relatively small construction that lacks a massive support terrace. Instead, this building was built on a sequence of five adjoining elongated terraces that ascend the slope in an orderly fashion (Fig. 6.23). Building V also spreads on top of an apparently earlier construction. Part of this construction can still be seen on its eastern flank, and consists of a series of thin-walled rooms that have a different orientation. One of the demarcation walls of Building V clearly cuts through one of these rooms.

There are three important features that distinguish Building V from other buildings of the sector, and which provide valuable clues of the original function of the structure:

- Building V stands in front of the main access of Building VI, a monumental structure that integrates architectural spaces of "exogenous" design (Fig. 6.6).
- Building V included a special type of architectural component that I have also detected in some "hierarchical terraces" of the Cerro Chepén Bajo sector. This component is a small quadrangular room with an elongated bench in its rear section, which I tentatively interpret as a sleeping bench.
Figure 6.23. Cerro Chepén Alto: Architectural plans of Building III (top) and Building V (bottom).
Building V has a superficial pile of sling stones at the upper edge of its lowermost support terrace. This pile is very similar to the ones that are found along the perimeter wall of Cerro Chepén Alto.

Given these singular characteristics, I conclude that Building V was a control post meant to guard the access to Building VI. It is possible; therefore, that Building V housed a contingent of defenders responsible not only of protecting Building VI, but also for monitoring the northern fringes of the sector.

Building VI

Building VI is the only structure of “exogenous” design that was not excavated by the PROCECHE. This building occupies the northern edge of the summit of Chepén Hill, standing sheltered behind buildings IV and V. Despite its high location, the building commands a limited view of the site surroundings (Fig. 6.2).

One of the most notable features of Building VI is that it replicates the general layout of Building IX, one of the structures excavated by the PROCECHE. In fact, both buildings represent the only twin structures in the whole site. Building VI presents a large square open plaza in its front (Fig. 6.24). To create the horizontal level of this plaza, it was necessary to raise very high retaining walls on its southern and eastern flanks. Right behind the plaza stand two additional construction levels that contain most of the building’s architecture. The first level is occupied by two quadrangular courtyards that precede two rooms with restricted access. These rooms are actually the lower halves of two elongated lateral galleries. In Building VI, the main entrance of the structure cuts right through the middle of the northern gallery.
The upper construction level is occupied by a central patio surrounded on three sides by a wide bench. An external lateral flight of stairs connects the lower construction level with the central patio. The lateral bench provides access to the western gallery and to the upper halves of the two lateral galleries. Finally, at the rear end of the building, we find two large rectangular enclosures surrounded by high walls. Today, these spaces are totally empty. Originally, they would have been ideal places to store massive amounts of goods. Building VI was later surmounted by what seem to be long demarcation walls, which clearly did not respect the original layout of the structure.

Building VI did not present any significant superficial evidence that could hint to its original function. The clues to solve this functional dilemma may lie in its twin structure, Building IX. I will present the results of the functional analysis conducted on the latter structure in the following chapter.

**Building VII**

Building VII is a relatively small structure dominated by wide open spaces which are often delineated by low walls (Fig. 6.24). The only exception to this rule is represented by two small adjoining rooms with internal benches, located in a relatively central position within the building. These rooms are surrounded by high walls and were apparently the only spaces that had roofs. The particular design of this structure suggests that it had an unusual function.

In fact, Building VII might have been a dependent structure of Building IV. It stands behind the latter structure, and its sole access opens directly to the rear quarters of Building IV. There are two additional lines of evidence that suggest that Building VII
Figure 6.24. Cerro Chepén Alto: Architectural plans of Building VI (top) and Building VII (bottom).
housed a group of low-status residents, possibly attached to the dignitaries who occupied Building IV. First, the quality of its stone work is among the poorest of the sector. Most of its internal walls were erected with simple piles of un-mortared stones. In this regard, Building’s VII architecture is very similar to the structures that occupy the “Area of Irregular Architecture” of Building IV (see Chapter VII). As will be explained in the following chapter, this zone apparently housed the workshops of artisans involved in the production of small shell and metal ornaments.

The second line of evidence is represented by the remarkable discovery of a series of ceramic mold fragments that were discarded in a small midden located directly in front of the building’s main entrance. This find, that I call “Feature 9”, was accidentally discovered by a project workman at the end of the 2004 field season. Its partial excavation revealed, besides food remains and a few diagnostic pottery sherds, fragments of up to ten different molds used for manufacturing sumptuary ceramic vessels (Rosas 2005: 30-31). The most outstanding mold was used to manufacture the bridge handle of a double-spout bottle (Fig. 6.25).

The discovery of mold fragments is an unusual event at the site. After three years of excavation and several superficial surveys, I have been able to locate only three other fragments in the architectural spaces that lie south of Building IX. Considering the location, architectural style, and the objects associated with Building VII, it is possible to interpret this structure as a workshop of dependent specialists who were sponsored by the elites of Building IV. One of their main activities would have been related to the production of ceremonial ceramics.
Buildings VIII and IX.

Buildings VIII and IX are two structures of exogenous character that were excavated during the 2003 season. Their analysis is reserved for the next chapter.

Assessing the relative importance of the buildings

The dispersal pattern of monumental structures within the Cerro Chepén Alto sector seems to respond to a strategy of "defensive agglomeration." It is clear that the people who built this sector, besides protecting it with an impassable wall, sought additional defensive advantages for its internal structures. The strategy that the builders
followed to increase the invulnerability of their buildings consisted of grouping them in the highest, least accessible parts of the hill.

Considering the principles that guided the location of the structures, I decided to undertake an assessment of the relative importance held by each monumental building of Cerro Chepén Alto according to a scoring system that measured their level of vulnerability and monumentality. This analysis was carried forward to determine the relative significance of the four buildings that integrate architectural spaces of foreign design in their general plan. Two criteria were considered in assessing the vulnerability of structures: a) altitude (measured in meters above sea level), and b) minimum distance to the nearest access in the defensive wall. The altitude values, illustrated in figure 6.26, record the absolute altitude of both the uppermost and lowermost occupation floors of each building, and are summarized as the statistical mean of these values\(^{16}\). The distance values, illustrated in figure 6.27, measure the length of the shortest route that connects the main entrance of each building with the nearest access in the defensive wall\(^{17}\).

Considering that some of the less extensive buildings may have played subordinate roles, it was necessary to include an assessment of monumentality in the equation. In this case, the assessment was simply expressed as the total area of the building (Fig. 6.28). The relative importance of the structures was determined irrespective of functional considerations.

\(^{16}\) The absolute altitude of the buildings’ occupation floors was measured in relation to the summit of Chepén Hill. The highest point in this hill is marked with a geodetic signal, which shows an absolute altitude of 376 meters above sea level.

\(^{17}\) The distance values were measured in the field with a tape measure following clearly defined circulation routes. Some of these routes ran along topographic features (ravine bottoms, ridge crests) and were sometimes demarcated by side walls, steps, portals, and even cessation of construction in densely occupied areas.
The results of the evaluation are shown in table 6.2 and illustrated in figure 6.29. In this table, each building has been assigned a relative score for each of the three evaluated characteristics. This score expresses the degree of divergence of a building’s altitude, distance or monumentality absolute value, in relation to the lowest value detected within each category. For each evaluated characteristic, the building that showed the lowest absolute value was assigned a relative score of “1”. In this way, for example, if “Building X” had the shortest access route and the path that led to “Building Y” doubled that distance, then “Building Y” would be assigned a relative score of “2”. Different buildings may show the lowest scores in different categories (the “lowest” structure is not necessarily the one that has the shortest access route). The final “significance value” of each building is obtained by multiplying its three correspondent relative scores by each other.

Figure 6.29 clearly illustrates that the four buildings of exogenous design were highly ranked among all structures of Cerro Chepén Alto. In other words, these buildings occupied the most protected positions within a sector that figured defense into its design. I propose that we can draw a direct parallel between the relative significance of the buildings and the social standing of the people who used them. This means that, in order to understand the circumstances that lay behind the creation and abandonment of this important sector, it is imperative to solve the dilemma of the cultural identity of the occupants of these privileged buildings. The results of this inquiry will eventually disclose the main causes of the Moche demise in the Jequetepeque Valley.
Figure 6.26. Graph that compares the absolute altitude (in meters above sea level) of the highest and lowest exposed occupation floors of the nine monumental buildings of Cerro Chepén Alto.
Figure 6.27. Graph that compares the shortest distance to the nearest access in the defensive wall for each of the nine monumental buildings of Cerro Chepén Alto.
Figure 6.28. Graph that compares the areas of the nine monumental buildings of Cerro Chepén Alto.
Table 6.2. Parameters used in the calculation of the “significance scores” of the nine monumental buildings of Cerro Chepén Alto.

<table>
<thead>
<tr>
<th></th>
<th>Parameter</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>altitude (m.a.s.l.)</td>
<td>distance (m)</td>
<td>area (m²)</td>
<td>final score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>absolute value</td>
<td>relative score</td>
<td>absolute value</td>
<td>relative score</td>
<td>absolute value</td>
<td>relative score</td>
<td></td>
</tr>
<tr>
<td>Building I</td>
<td>286.42</td>
<td>1.01</td>
<td>101.4</td>
<td>1.00</td>
<td>1920</td>
<td>2.59</td>
<td>2.62</td>
</tr>
<tr>
<td>Building II</td>
<td>282.96</td>
<td>1.00</td>
<td>166.3</td>
<td>1.64</td>
<td>1344</td>
<td>1.81</td>
<td>2.97</td>
</tr>
<tr>
<td>Building III</td>
<td>303.21</td>
<td>1.07</td>
<td>175.5</td>
<td>1.73</td>
<td>1009</td>
<td>1.36</td>
<td>2.52</td>
</tr>
<tr>
<td>Building IV *</td>
<td>311.82</td>
<td>1.10</td>
<td>179.2</td>
<td>1.77</td>
<td>1652</td>
<td>2.23</td>
<td>4.34</td>
</tr>
<tr>
<td>Building V</td>
<td>324.64</td>
<td>1.15</td>
<td>228.9</td>
<td>2.26</td>
<td>827</td>
<td>1.11</td>
<td>2.88</td>
</tr>
<tr>
<td>Building VI *</td>
<td>327.42</td>
<td>1.16</td>
<td>248.9</td>
<td>2.45</td>
<td>961</td>
<td>1.29</td>
<td>3.67</td>
</tr>
<tr>
<td>Building VII</td>
<td>308.18</td>
<td>1.09</td>
<td>200.8</td>
<td>1.98</td>
<td>742</td>
<td>1.00</td>
<td>2.16</td>
</tr>
<tr>
<td>Building VIII *</td>
<td>352.95</td>
<td>1.25</td>
<td>331.7</td>
<td>3.27</td>
<td>1260</td>
<td>1.70</td>
<td>6.95</td>
</tr>
<tr>
<td>Building IX *</td>
<td>353.14</td>
<td>1.25</td>
<td>281.5</td>
<td>2.78</td>
<td>1388</td>
<td>1.87</td>
<td>6.50</td>
</tr>
</tbody>
</table>

* Buildings that integrate spaces of exogenous design.
** Calculated as the mean of the altitude values of the highest and lowest occupation floors.
Figure 6.29. Graph that compares the “significance scores” of the nine monumental buildings of Cerro Chepén Alto.
Cerro Chepén Bajo sector

The Cerro Chepén Bajo sector spreads along the eastern slopes of Chepén Hill, as well as throughout the summit and northern slopes of Cerro El Gavilán (Fig. 6.2). The most distinctive architectural feature of this sector is represented by small irregular terraces, which sometimes appear in large aggregations, and sometimes are found dispersed in small isolated clusters (Fig. 6.30). These structures denote a hasty, careless manufacture, and are mostly devoid of free standing walls. The presence of domestic waste on their surface – fragments of utilitarian vessels, food remains – suggests that most of these terraces were low-status habitation structures. This evidence led me to designate this area as "Low Status Habitation Sector" in previous works (Rosas 2004, 2005, 2007). A change in nomenclature is now necessary, not only because it is clear that not all of these structures served housing functions\(^\text{18}\), but also because this sector includes its own examples of monumental buildings.

As I mentioned in a previous chapter, the most typical version of public building in Cerro Chepén Bajo is the "hierarchical terrace." There are at least 12 of these structures within the walled perimeter of the sector (Fig. 6.2). These structures have been named with capital letters from north to south starting along the eastern slopes of Chepén Hill, and from west to east along Cerro El Gavilán. While there are no two identical structures, they all share specific design features that allow us to group them within the

---

\(^{18}\) Small, isolated empty terraces which typically occupy the highest elevations of the sector would have acted as ground-consolidating mechanisms meant to prevent loose rocks from falling into occupied areas. Elongated terraces, which are sometimes longitudinally interconnected, apparently served as internal circulation routes. Wide terraces set across the bottom of dry gullies and ravines – as the ones found at the bottom of Quebrada El Gavilán – would have been erected to slow down or totally contain flash floods generated by El Niño rains (Hecker and Hecker 1990: 12). Some of these bottom terraces could have also been used as improvised planting surfaces to take advantage of the humidity that tends to concentrate at the bottom of dry gullies during wet seasons (Dillehay and Kolata 2004: 4328). Finally, I can not rule out the presence of terraces that served storage functions, as has been documented at the site of Galindo (Bawden 1977, 1982a).
same category. First, a long retaining wall, which is approximately 2 meters in height, defines the level of the first terrace. From this level up, the structure ascends the slope of the hill with a series of wide terraces that are singularly low. Some of these terraces are so low, that they can be easily climbed as if they were simple steps. Despite their easy accessibility, it is not unusual to find sets of ramps interconnecting these terraces\(^\text{19}\).

Finally, the hierarchical terraces commonly lack superficial architecture delineated by free standing walls. If elevated structures are present, they always have different

\[^{19}\text{Five hierarchical terraces of Cerro Chepén Bajo show clear evidence of access ramps. The poor state of preservation of other structures prevents discerning if this constructive element was more common.}\]
configurations than the ones present at the most representative buildings of the Cerro Chepén Alto sector (square patios surrounded by galleries)\(^{20}\).

These structures have two other notable characteristics that are worth highlighting. These characteristics refer to the style of their associated objects and to their singular pattern of dispersal. First, fragments of typical Late Moche domestic pottery abound throughout the Cerro Chepén Bajo sector. On or in the vicinity of the hierarchical terraces, we also find examples of the late variants of this style, especially of “platform neck jars” (Fig. 6.31). This evidence suggests that some of these structures were occupied until the very end of the Moche sequence. The hierarchical terraces are also the only structures in the sector that present fragments of fine decorated pieces on their surface. A few surveyed structures revealed an absolute predominance of Late Moche sumptuary vessels decorated with fine line motifs (Fig. 6.32). Fragments of similar pieces have also been found on hierarchical terraces of the most representative Late Moche sites of the north coast, such as Pampa Grande and Galindo (Shimada 1994a: 154; Bawden 1977: 315). This evidence suggests that the elites who used these structures identified themselves with this style, and this fact represents a remarkable contrast with the evidence documented at the Cerro Chepén Alto sector (see Chapter VIII).

Second, I mentioned above that the monumental buildings of the Cerro Chepén Alto sector were arranged according to a defensive pattern, which I designated “defensive agglomeration”. It is clear that the dispersion of the hierarchical terraces of Cerro Chepén Bajo also followed a defensive pattern, but this time of a different nature. While there is a case of defensive clustering on the top of Cerro El Gavilán, most of the corporate

\(^{20}\) An exception to this rule was represented by Building V, which has a series of small rooms with internal benches.
Figure 6.31. Rim fragments of “platform neck jars” found in the vicinity of “hierarchical terraces” of Cerro Chepén Bajo.
Figure 6.32. Fragments of Late Moche stirrup-spout bottles decorated with fine line motifs found in the vicinity of hierarchical terraces of Cerro Chepén Bajo: a) Building L, b) Building Y, c) Building K, d) and e) Building H.
structures of this sector were arranged with the objective of maximizing visual control and, above all, visual interconnection among buildings.

Almost all hierarchical terraces of Cerro Chepén Bajo were erected on the highest reaches of the occupied slope (the only exception being Building F) (Fig. 6.2). The structures were placed at locations that favored an unfettered view of the surrounding landscape, such as the edge of a cliff or the summit of a small natural prominence. In no case were any of these structures built on low ground, such as near the bottom of a ravine. Many of these structures are scattered along the slopes of the hills, marking the upper limits of the occupied space. To prevent these structures from being hidden by the curvature of the hill, other buildings were built in places that, while still distant, allowed a direct visual connection with their nearest peers.

An excellent example of this network of visual interconnection is found on the eastern slopes of the Chepén Hill. This area contains 5 hierarchical terraces, built spaced at slightly increasing altitudes from north to south. The buildings were specifically arranged to allow the structures that command the most prominent elevations to have an unrestricted view of their nearest, lowermost peer. Thanks to this repeated pattern of visual connection between neighbors, the five structures ended up interconnected in a continuous chain of visual control. Structures located on natural prominences on the other side of Quebrada El Gavilán presented the possibility of establishing a "redundancy of control". Thanks to this strategy, not only were no monumental structures isolated, but the builders of Cerro Chepén Bajo were able to achieve an effective visual coverage of the whole sector.
Finally, an issue that has yet to be discussed refers to activities that these structures may have hosted. Edward Swenson (2004, 2006), who studied a number of hierarchical terraces at other Late Moche sites of the valley, argued that these structures served religious functions. Swenson (2004: 12) reached this conclusion after comparing these structures with Moche iconographic renditions of sacred structures. Moche iconography illustrates stepped structures crowned by small throne-like structures, which are shown occupied by prominent individuals presiding over ritual ceremonies. While I admit that most of the activities performed by Moche elites would have been imbued with a "mystical" halo, disparities in the architectural design and the variety of architectural spaces manifested by the Cerro Chepén Bajo structures could evidence different functions. A brief description of the monumental buildings can clarify this point.

Buildings A and B

Buildings A and B are located at the northernmost tip of the eastern slope of Chepén Hill (Fig. 6.2). These buildings effectively marked the northern boundary of the settlement, and represented the "less visible" structures around the site. Both terraces were erected midway along the slope, with Building B standing a little higher than Building A.

These two structures have a fairly simple architectural design. They feature large, open spaces and only three constructive levels. A 60 meter long wall segment, that follows the contour of the slope, is clearly associated with these terraces (Fig. 6.33). This wall is not related to the peripheral wall of the sector, and may have offered additional
Figure 6.33. Cerro Chepén Bajo: Architectural plans of Buildings A and B and associated defensive wall (the slope ascends from the bottom to the top of the drawing).
protection from low-ground incursions. This wall could have also provided a rapid communication route with the central part of the settlement.

These buildings are important because they have a privileged view of the northern flank of the hill. They are located, then, in an ideal position to effect an early detection of unwanted approaches from the north. Considering this evidence, together with the marginal location of the structures and the presence of an ancillary wall, I conclude that Buildings A and B would have been used primarily as observation posts.

**Building C**

Building C was built on the eastern flank of Chepén Hill in an area of steep terrain. The building ascends this slope with numerous terraces or constructive levels. Building C stands out due to its complex internal compartmentalization (Fig. 6.34). The structure comprises three areas with different architectural organization. The lowermost area consists of numerous, small, interconnected terraces. In some cases, small, free-standing walls create further subdivisions within the leveled spaces. The walls of two adjacent terraces were decorated with pairs of large niches.

The highest area corresponds to the hierarchical terrace itself. This area comprises up to four long terraces, some of them demarcated by high retaining walls. Additional types of architecture are entirely lacking. The area of the hierarchical terrace is partly defined by a wide wall. On the uppermost terrace we find a formal gateway leading to an ample, upper, leveled space. There is a path starting in this space that leads directly to the Eastern Access of the defensive wall of Cerro Chepén Alto.
Finally, the structure comprises a northeast block that was entirely built on an elevated rock outcrop. Several open terraces were randomly adapted to the irregular surface of the rocky promontory creating different horizontal levels of occupation. This area is ideally suited for surveying activities. It not only commands a preferential view of the site, but is also is the only part of Building C from where Buildings A and B could be easily monitored. In conclusion, Building C is a complex structure, which could have hosted ceremonial, residential, and monitoring functions.

**Building D**

Building D is one of the most prominent examples of the hierarchical terraces of Cerro Chepén Bajo. Curiously, this structure also shows remarkable similarities with Building I of Cerro Chepén Alto. Building D, for example, also presents a wide D-shaped frontal esplanade outlined by a continuous retaining wall. At the back of this plaza stands a low platform with a long frontal step. The platform leans against an free-standing wall that contains no niches. (Fig. 6.34).

Despite these design coincidences, Building D falls well within the Late Moche architectural tradition of the valley. Behind the esplanade we find a sequence of three large rectangular terraces. Despite being fairly low, these terraces were connected by a set of perfectly aligned ramps. On top of the terraces there is a special type of structure that is also common in other hierarchical terraces of Cerro Chepén Bajo. This structure relates to fairly large rectangular rooms that were internally divided by a perpendicular wall. As is the present case, sometimes these enclosures were built with free-standing walls on the surface of the terraces. In other cases, these structures took the shape of
Figure 6.34. Cerro Chepén Bajo: Architectural plans of Building C (left) and Building D (right) (the slope ascends from the bottom to the top of the drawing).
semi-subterranean, rectangular chambers dug into the terrace. By analogy with a similar structure excavated at Pampa Grande (see description of Building Y), I interpret these spaces as deposits. In short, Building D would be a typical ceremonial structure that combined storage functions.

**Building E**

Building E is the last hierarchical terrace found on the eastern flanks of Chepén Hill (Fig. 6.2). The structure was built on a high ridge that connects this hill with Cerro El Gavilán. In fact, the main body of the building was created by encasing the ridge crest with high lateral stone walls. This ingenious architectural adaptation to the terrain not only explains the impressive volume of the structure, but also its curious L-shaped ground plan (Fig. 6.20).

Building E is a huge structure. In many ways, it resembles a stone huaca set atop a hill. It has a stepped façade that rises 11.5 meters in height. This frontal side apparently supported a zigzag ramp that led to the summit of the huaca. The northern and southern sides of the structure were also marked by staggered walls. Unfortunately, this building has been greatly affected by the collapse of its retaining walls. Currently, it resembles a large heap of loose stones. The large accumulation of debris makes it very difficult to uncover additional details of the original design of the huaca.

Despite its poor state of preservation, the preferential location of the structure allows me to advance some conjectures about its original function. First, Building E is the highest hierarchical terrace in the whole sector. It therefore commands an unrestricted view of the entire site, and it is very likely that it held functions related to the monitoring
of its inhabitants. Its spatial proximity and visual dominance of the Southern Access of the old wall suggests that this structure was at least involved in controlling human traffic into the site (Fig. 6.20). As was the case of Buildings A and B, Building E also marks the southern boundary of the sector, and has an advantageous position to detect any approach from that direction.

**Building F**

Building F was built on Cerro El Gavilán, at the edge of a cliff that faces Quebrada El Gavilán (Fig. 6.2). From this position, it commands an unobstructed view of all of the small habitation terraces that spread across the eastern slopes of Chepén Hill. In fact, this structure also offers the advantage of "redundant visual control" of the marginal buildings A and B, located at great distance on the northern slopes of Chepén Hill.

Building F is a large, elongated structure dominated by open spaces arranged at different levels (Fig. 6.35). This building houses no additional types of structures on its surface, making it very difficult to determine the activities that took place in it. Archaeological materials that may be distinctive of specific activities are also scarce on its surface. An interesting feature that distinguishes this building from other similar structures in the sector is its location. Building F may be the only hierarchical terrace in Cerro Chepén Bajo that has small habitation structures upslope.

**Building G**

Building G is located approximately 220 meters uphill from Building F. Building G was built on one of the several rocky promontories that rise on the summit of Cerro El
Gavilán. Building G is another complex structure which would have hosted different functions. Its eastern half is occupied by a nicely arranged hierarchical terrace that comprises several horizontal levels interconnected by a flight of perfectly aligned ramps (Fig. 6.35). Its western half bears a wide variety of structures, among which we find at least three rooms with a low (sleeping) bench in their back. At the western limit of the structure, we find a patio with a high podium demarcated by a thick rear wall that bears three large niches. Building G would have been another type of multifunctional structure that combined residential and ceremonial activities.

**Building H**

Building H also stands near the summit of Cerro El Gavilán, just a few meters from Building G. Building H is bordered on the south and east by a curved segment of the perimeter wall of Cerro Chepén Bajo. In this area, the wall forms a large terrace on which Building H was partly erected. From this position, the building’s occupants commanded an advantageous view of the desert pampa that spreads southeast of the site (Fig. 6.2).

Building H presents a dense concentration of terraced levels (Fig. 6.36). These levels tend to ascend the slope in a north-south direction, although the highest terraces of the structure, which are located at its back, gain altitude from east to west. The largest frontal terraces were interconnected by a neatly-preserved lateral ramp.

The terraces of Building H supported different types of elevated structures. Among them we find square rooms with an internal (sleeping) bench. Rectangular deposits are also visible. One of these deposits takes the semi-subterranean form, and was
Figure 6.35. Cerro Chepén Bajo: Architectural plans of Building F (left) and Building G (right) (the slope ascends from the bottom to the top of the drawing).
located on the uppermost terrace of the structure. Another deposit stands in an intermediate level and has two large niches in one of its side walls.

**Building Y**

The summit of Cerro El Gavilán presents a large natural depression that is surrounded by hierarchical terraces on four flanks. This depression apparently held an old plaza that is now covered by large quantities of fragments of large storage jars. Building Y framed this plaza from the south (Fig. 6.2).

Building Y is perhaps the most outstanding hierarchical terrace of Cerro Chepén Bajo. It has an architectural quality that is seldom replicated by other similar structures. A high 46-meter-long retaining wall defines the level of the first terrace (Fig. 6.37). This terrace supports the additional construction levels, which were outlined by almost perfectly parallel walls. As is the case with most structures of its kind, the upper terraces are low and present no impediment for easy passage. Despite the ease of passage, the formal ascent route is clearly delineated by a set of centrally aligned ramps. On the uppermost terrace, we find a throne-like structure that is aligned with the ramps. This structure is the only one of its kind found on any hierarchical terrace of Cerro Chepén Bajo. Additional architectural features include a rectangular enclosure divided by an internal wall, located in a rather inaccessible position at the rear of the building, and a higher level of terraces that occupy the top of the small rocky promontory against which the structure was built.

Building Y shows several remarkable similarities with a hierarchical terrace located on the western margin of Sector D of Pampa Grande (Fig. 6.37, right). This
construction – designated “Structure S” – also presents a series of adjoining terraces interconnected by ramps, and up to two throne-like seats on the upper terrace. A rectangular enclosure of adobes with internal subdivisions is located in a rather inaccessible position at the back of the structure. This feature was excavated, yielding charred beans in its eastern room, and maize kernels in its central room (Anders 1977: 256). The structure has been interpreted as a cluster of deposits. It is likely that the morphological parallels that exist between the Pampa Grande and Cerro Chepén structures also involve functional similarities. In any case, the rectangular enclosure of Building Y presents fragments of large storage jars in its interior and immediate surroundings.

**Building J**

Building J stands west of the natural depression that occupies the summit of Cerro El Gavilán. The building comprises a voluminous square body in its front, and a series of lower, elongated terraces at its back (Fig. 6.36). Some of the rear terraces support rectangular rooms, which may be superficial or sunken.

**Building K**

Building K is the northernmost structure of the summit group. It also has a meticulous architectural arrangement; with terraces defined by walls of strong orthogonal tendency (Fig. 6.38). The structure is ascended through a lateral access ramp, which takes advantage of a slightly inclined natural rock outcrop. The building does not support any kind of superficial structures.
Figure 6.36. Cerro Chepén Bajo: Architectural plans of Building H (left) and Building J (right) (the slope ascends from the bottom to the top of the drawing).
Figure 6.37. Comparison of the architectural plans of Cerro Chepén Bajo's Building Y (left), and Structure S of Pampa Grande (right, redrawn from Anders, 1977, Fig. 12).
Building L

Finally, the eastern margin of the summit group is occupied by Building L, the smallest of Cerro Chepén Bajo. The structure was built next to the defensive wall of Cerro Chepén Bajo, in an area where the wall makes a 90° turn to accommodate the depression on the summit of Cerro El Gavilán. Building L also presents a voluminous square body that embraces a few terraced levels (Fig. 6.38). The ritual character of the structure is evidenced by the presence of a juvenile llama burial on its northern limit, which was exposed by grave robbers long ago.

In conclusion, the hierarchical terraces of Cerro Chepén Bajo manifest significant coincidences in their general layout. The same formal spaces are repeated over and over again, including low terraces, access ramps, small rooms with interior benches, rectangular enclosures with internal subdivisions, and interior walls decorated with niches. These similarities suggest that all buildings belong to the same architectural category. Specific differences in the individual design of the buildings respond, in part, to the need to adapt the structure to the irregularities of the local topography, which sometimes demanded assimilating large rock extrusions into the construction. Other differences would correspond to functional criteria. While it is feasible that most of the buildings included ceremonial spaces, it is clear that they also accommodated structures dedicated to other activities such as storage, residence, and visual control. Some of these functions took precedence over others in the final design of the buildings.
Figure 6.38. Cerro Chepén Bajo: Architectural plans of Building K (left) and Building L (right) (the slope ascends from the bottom to the top of the drawing).
The defensive wall of Cerro Chepén Bajo

As was the case of Cerro Chepén Alto, the Cerro Chepén Bajo sector was protected by a peripheral wall that surrounded it completely. A distinctive characteristic of this wall is that it does not constitute a continuous work, but is made up of several independent segments – each comprising, in turn, a series of minor structural segments – that are not directly connected. A general top view of the site allows us to confirm the presence of large gaps separating these segments (Fig. 6.2). These gaps do not represent unprotected areas that could have been easily trespassed by invaders. To the contrary, these gaps are occupied by areas of rugged topography where human traffic is almost impossible. The wall of Cerro Chepén Bajo exploits the natural irregularities of the terrain to maximize its defensive role.

As was the case with the wall of Cerro Chepén Alto, this strict adaptation to the natural terrain determined two different configurations for the defensive wall of this sector. I call these sections "hill wall" and "plain wall." The “hill wall” was entirely constructed with stones. It starts at the southern limit of Chepén Hill, just a few meters from the "Supplementary Wall" that guarded the southern entrance to the Cerro Chepén Alto sector. From this point forward, the wall runs down the eastern slope of Chepén Hill for about 300 meters until reaching the southern base of Cerro El Gavilán, to which it is attached. Very close to the end of this segment we find a formal access, which represents the only southern entrance to this sector, and the only gateway that survives intact over the entire length of the defensive wall (Fig. 6.20).

An upper wall segment, 330 meters in length, runs along the southern margin of the summit of Cerro El Gavilán. This segment starts as a continuation of the lowermost
retaining wall of Building E. It is configured like a simple retaining wall along most of its initial course, and then turns into a double-faced, free-standing wall when crossing the area that contained the highest concentration of hierarchical terraces of the site. This segment ends at the base of a small peak that marks the eastern limit of Cerro El Gavilán (Fig. 6.2).

The next wall segment begins several meters to the east, on top of a small peak. This 260-meter-long segment descends the slope of Cerro El Gavilán in a northerly direction until almost touching the northern agricultural plains. This wall has an external offshoot, represented by an additional wall segment that runs for about 270 meters encircling the eastern base of the small peak. This segment was raised as a necessary precaution to protect a vast area left unguarded by the main wall. The presence of this lower version of a supplementary wall indicates an obvious concern about preventing unwanted intrusions from the east.

The “hill wall” of the Cerro Chepén Bajo sector does not have the architectural elaboration of the ramparts of the higher sector. This construction also lacks the additional defensive features (Torreones, Plataformas, and sling stone piles) that characterize its higher counterpart. Its external height rarely exceeds 3 meters, and there are few examples of constructive segments with defensive parapets. While this evidence may suggest some degree of "defensive naivety" on part of the wall designers, the reality proves different. The hill wall represents an almost unsurpassable construction. It ingeniously assimilates the vertical rock outcrops that lie in its path, avoiding the

---

21 The absence of sling stone piles on this wall represents a real dilemma. While the defensive walls of other Late Moche sites of the valley were not endowed with towers or platforms, they sometimes had discrete concentrations of sling stones along their courses. I believe that similar piles were originally present on the walls of Cerro Chepén Bajo, but were later transferred to the higher sector once its peripheral wall was completed.
unnecessary task of building a defensive line in areas that are already impassable. It is also interesting to note that its independent segments are not linearly arranged, but tend to overlap across space, creating two, superimposed, defensive lines in some areas.

The “hill wall” also incorporates a clever defensive mechanism that is absent in its higher counterpart. This defensive mechanism is panels of adobe bricks that are externally attached to the stone structure (Fig. 6.39). These panels create perfectly smooth vertical surfaces that are impossible to climb without the aid of specialized elements (ladders). The adobe panels are present in the wall segment that reaches down to the agricultural plain, and in the wall segment that borders the summit of Cerro El Gavilán where most of the hierarchical terraces are concentrated. Their presence manifests a concern for providing extra protection for areas that were of critical importance.

Finally, the "plain wall", as its name suggests, runs along the plain that borders the base of Chepén Hill and Cerro El Gavilán from the north (Fig. 6.2). The plain wall is a continuous adobe-brick structure that was erected on stone foundations. The wall is best preserved along its eastern course. Here we find a 223-meter-long wall segment that might have risen up to 3 meters in height, but has been severely worn by heavy rains. The plain wall has disappeared along the stretch that crossed the mouth of Quebrada El Gavilán, evidently due to the flash floods that flowed down this gorge. The wall is also difficult to trace along the base of Chepén Hill. Here, the destruction seems to be due to human action. By the end of the 1960s, heavy machinery dug out large quantities of sand
and sediment from this area, affecting the integrity of the wall. During our mapping operations in the year 2000, we were still able to detect a few isolated blocks of its former stone foundation. We also detected traces of what could have been a former northern access. Aerial photographs taken in 1968 show a standing abobe superstructure covered by massive quantities of sand, north of Chepén Hill. Taking into consideration the information provided by aerial photographs and our own field measurements, I conclude that the "plain wall" could have reached approximately 840 meters in length.

Figure 6.39. Remnants of adobe-brick panels attached to the external face Of Cerro Chepén Bajo’s “hill wall”.

---

22 This information was provided by Mr. Manuel Paucar, former PROCECHE worker and current resident of the area. According to Mr. Paucar, the sand extraction activities were meant to enlarge the elevated causeway of the Pan American Highway north of the city of Chepén
The huacas

Another interesting architectural feature of Cerro Chepén Bajo are two adobe huacas located in the flatlands, directly in front of the plain wall (Fig. 6.2). The huacas are actually two elongated low platforms that are now severely eroded by the heavy rains that occasionally hit the North Coast. The eastern platform is severely destroyed, having been almost entirely razed by a bulldozer. The 1968 aerial photographs show its original contours almost intact, if it was not for the presence of a dense concentration of grave robber’s pit on its summit. It is possible that the major destruction of the eastern huaca dates from the time when heavy machinery destroyed the western course of the defensive wall. The western huaca, although not having been altered by human action, shows a poor state of preservation. After weakening its outer retaining walls, the heavy rains spread its internal fill throughout the area, turning the huaca into an amorphous earthen mound.

The two huacas enclose a rectangular plaza which is also delineated by the plain wall. Behind this plaza stands an additional platform, which seems to be structurally integrated into the defensive wall. The sides of this platform have been eroded by rain runoff, significantly reducing the volume of the original structure. Another important constructive element associated with the huacas is the Serrano Canal, which runs immediately in front of them (Fig. 6.2 and 6.40). It is hard to define the relative antiquity of the huacas, given that diagnostic surface ceramics are scarce in the area. The earliest fancy and domestic pottery sherds are representative, however, of the Late Moche style. Based on this evidence, and on the clear physical association of the huacas with the
defensive wall and the Serrano Canal, I interpret these structures as contemporary with the Cerro Chepén Bajo sector.

**Greater Cerro Chepen**

In his 1987 doctoral dissertation, Herbert Eling urged north coast archaeologists to stop delineating archaeological sites in terms of the most evident structures that show a close spatial proximity. He opted for a broader perspective that involved considering all buildings and other functionally-related archaeological features that occupy a vast area that could be interpreted as a “micro-territory of intense activity” (Eling 1987: 350-363). Typical examples of the functionally associated archaeological features that compose a “major site” include huacas, habitation areas, roads, canals, and cemeteries. Following Eling’s lead, I will devote this section to describing the Late Moche archaeological features that lie in the periphery of Cerro Chepén, and that were obviously used by its former inhabitants. These features are located on the northern slopes of Chequén Hill, on a vast desert plain that spreads north of this hill, and on the eastern periphery of Cerro Chepén Bajo.

As indicated in a foot note at the beginning of this chapter, the Cerros de Chepén hill chain forms an inverted “T”. Chequén Hill occupies the lower half of the horizontal segment of this “T”. To the east of Chequén Hill stands an isolated rocky promontory, locally known as "Cerro Serrano". Finally, north of Chequén Hill spreads a vast uninhabited desert pampa crossed by an ancient approach route to the site of Cerro Chepén (Figs. 6.1 and 6.40).
Figure 6.40. “Greater Cerro Chepén”: Late Moche constructions and activity areas in the periphery of the fortified site.
The northern slopes of Chequén Hill present scattered evidence of Late Moche occupation. It should be noted, however, that this slope is not an adequate environment for a habitation site, given that it is covered by extensive fossil dunes. However, a few interesting constructions are found in the dunes’ perimeter. A 500-meter-long, straight, stone wall run along the lower stretches of the western and most extensive dune (Fig. 6.40). This wall was apparently designed to demarcate (and contain?) this natural formation. Some 110 meters upslope from the wall, standing isolated in an area of steep terrain, there is a large stone building. All its constituent walls have crumbled, apparently because they were erected on unstable, sandy soil. The most interesting archaeological feature of the hill is, however, a large geoglyph that covers an area of approximately 60 X 60 meters. This geoglyph stands below the building, adjoining the inner face of the demarcation wall of the dune (Figs. 6.40 and 6.41). The geoglyph was created with a series of 1.5 meter wide, square clusters of small black stones that were laid above the clear surface of the sandy slope. It is difficult to discern if the geoglyph was meant to portray a complex figure, given that its northern limits have been wiped out by sporadic landslides. Currently, it is only possible to discern the shape of an inverted "U" at great distance (Fig. 6.41). All of these interesting features associated with sand dunes suggest that this geological formation constituted a sacred place. The only archaeological materials found on the surface of these features are fragments of Late Moche domestic ceramics.

The evidence of Late Moche occupation in the vicinity of Chequén Hill is not limited to the sand dune area. Two elongated low promontories project north of the base of Chequén Hill, intruding into the vast arid pampa (Fig. 6.40). Both elevations conceal
two pre-Hispanic cemeteries that were intensely looted in the recent past. Surface ceramics at both cemeteries indicate a Late Moche presence. The poor quality of the vessels suggests that these graveyards were dedicated to common people.

![Figure 6.41. The geoglyph on the lower northern slopes of Chequén Hill.](image)

Finally, the last major Late Moche archaeological feature located in the surroundings of Chequén Hill is an elevated causeway that crosses the center of the arid pampa in a southeast-northwest direction. The road is 3 meters wide and shows a still visible, 550 meter long straight course. The road disappears before reaching the narrow pass that separates Chequén Hill from Cerro Serrano. Encircling the lower slopes of the latter hill, we find another large fortified settlement, this time belonging to the Chimú
Period. If the road maintained its straight course after overcoming the base of Cerro Serrano, it would have led directly to the site of Calera de Talambo. As mentioned in the previous chapter, this valley neck site, better known by its vast Chimú fortifications, apparently housed an earlier Late Moche hillside settlement. This site would have been one of the participants of the "Cerro Chepén Community", and would have been formally linked with the other members of the group by this connection route.

Curiously, the elevated road does not link directly with Cerro Chepén, but ends at the mouth of a small ravine 450 meters east of the site. The ravine leads to the top of a small plateau that crowns a group of low hills that spread east of Cerro El Gavilán. Scattered on this plateau, we find several small, artificial terraces with their surfaces covered with large quantities of broken storage jars. All these large vessels are of typical Late Moche style. The scattered terraces extend westward until almost touching the defensive wall of the Cerro Chepén Bajo sector. It is clear that when this sector was occupied, many of its inhabitants traveled to this external area to conduct an activity that involved the use of large pottery vessels. The precise nature of this activity is unknown to me, but it must have been also related to the use of the elevated road.

All these interesting features give us a glimpse of how this “micro-territory of intense activity” might have been organized during its heyday. First, the entire Late Moche population of this part of the valley remained concentrated in a single area: within the fortified periphery of Cerro Chepén. A formal communication route connected one of the satellite sites of the community – Calera de Talambo – with the great central place. While this road does not lead directly to any of the formal accesses of Cerro Chepén, it crosses right in front of the ravine that meanders south of Cerro El Gavilán, and that
passes near the wall segment that contains the only distinguishable access into the Cerro Chepén Bajo sector (Fig. 6.20). The users of the road, when approaching Cerro Chepén, would have seen first the most distant peripheral features of the site’s immediate territory – two cemeteries of ordinary people – far from the inhabited area. Continuing their advance towards the site, they would have probably noticed the geoglyph that covers the sandy slopes of Chequén Hill. It is very likely that this geoglyph was some kind of symbol or emblem glyph of the site, announcing to by-passers that their destination was near. Coming closer to the site, by-passers had the option of getting off the road to seek the southern entryway into Cerro Chepén Bajo, or continuing along its course to reach the plateau littered with small activity terraces.

**Summary and conclusions**

In this chapter, I have presented a detailed description of the site of Cerro Chepén, with special emphasis on its internal organization and most significant functional components. Some aspects of this organization are repeated in other Late Moche sites of the valley, and others are unique to this important population center. If we pay attention to both the recurrent and divergent patterns, and how they appear to be related, it is possible to begin sketching a picture of how this great settlement was organized by the end of the Moche sequence. The last section of this chapter is dedicated to advancing some judgments about the conditions that prevailed at the site during this critical time and summarizing the material evidence that allows this reconstruction.
The first aspect worth highlighting is the bipartition of the site. As already noted, Cerro Chepén encompasses two distinct sectors demarcated by peripheral walls. In my opinion these sectors can also be viewed as two different sites for the following reasons:

- Both sectors are physically separated, occupying different parts of the same hill.
- Both sectors are protected by independent defensive works.
- These sectors present a redundant set of corporate buildings, which manifest markedly different architectural styles.

This evidence allows me to conclude that these sectors could have functioned independently from each other. It is still necessary to clarify whether they were occupied simultaneously or in sequence (see below).

The Cerro Chepén Bajo sector replicates the organizational plan of other Late Moche sites of the region. First, it constitutes a “fortified hillside settlement”. Second, the most distinctive type of corporate building that is found in this sector is the "hierarchical terrace". One specific variant of the hierarchical terraces of Cerro Chepén Bajo – composed of low elongated terraces interconnected by a set of centrally aligned ramps – is repeated in six other Late Moche settlements of the lower valley, including San Ildefonso and Catalina (Swenson 2004, Fig. 6.12, Type 2). Finally, as is often the case in other Late Moche sites of the Jequetepeque Valley, in particular, and of the North Coast, in general, fragments of fine stirrup-spout bottles decorated with fine line motifs are commonly found on the surface of the hierarchical terraces of Cerro Chepén Bajo. This fancy style is the most representative physical manifestation of the Late Moche elite ideology (Castillo 2003: 111).
The Cerro Chepén Alto sector, on the other hand, is organized in a different way. First, it constitutes a “fortified hilltop settlement”. Second, its most characteristic monumental architecture encompasses buildings erected with free-standing walls. The internal layout of these buildings is not repeated in the monumental structures of other Late Moche sites, including Cerro Chepén Bajo. The internal plan of these buildings, on the other hand, seems to respect architectural cannons of cultural traditions that occupied the northern highlands of Peru.

Another significant aspect of the internal organization of the site is its defensive design. Both sectors were protected by ingeniously designed bastions. The defensive wall of the higher sector, which combined Torreones, Plataformas, ammunition piles, and carefully guarded entrances, is the most notable. The defensive design of the site is also expressed in the distribution pattern of buildings. In the Cerro Chepén Alto sector, buildings were arranged according to a "defensive agglomeration" pattern. In this sector, the four buildings that integrate architectural spaces of exogenous design occupy the most protected positions. In the lower sector, in addition to the “defensive agglomeration” pattern, buildings were also distributed according to a strategy of "visual interconnection". The clear obsession with defensive planning seen in both sectors leads me to conclude that they were built and occupied when the region was imbued in a climate of generalized hostility.

Finally, despite the substantial differences that distinguish the Alto and Bajo sectors, there is sufficient evidence to suggest that both sectors were intimately connected. On the one hand, some buildings manifest interesting architectural coincidences. Building V of the higher sector, which has been tentatively interpreted as a
guard post, includes small rooms with an internal elongated bench very similar to the ones present in some hierarchical terraces of Cerro Chepén Bajo. Buildings I and D, tentatively interpreted as ceremonial structures, share the “D”-shaped frontal esplanade that supports a low, rear podium.

On the other hand, there is also evidence that indicates that both sectors were functionally linked. The road that departs from the uppermost terrace of Building C leads directly to the Eastern Access of the Cerro Chepén Alto defensive wall. It is possible, then, that this Cerro Chepén Bajo structure controlled part of the traffic headed towards the higher sector. The builders of the defensive wall of Cerro Chepén Alto located Platform 5 – which includes the largest superficial concentration of sling stones of the site – right behind Building E, guarding the southern access route to Cerro Chepén Bajo (Fig. 6.20). If Cerro Chepén Bajo was already abandoned when the higher sector was created, why bother deploying surveillance mechanisms in one of its access routes?

Finally, additional evidence that suggests an intimate connection between both sectors is the high quantities of fragments of Late Moche domestic pots that cover their surfaces. These fragments include examples of the highly distinctive “Platform neck jars” which, as noted in the previous chapter, were introduced in the valley by the end of the Late Moche sequence (Donnan 1986a: 22).

What does this evidence suggest about the origin, evolution and occupation sequence of these sectors? In my opinion, the available evidence indicates that Cerro Chepén Bajo was constructed and occupied before the higher sector. Its occupation may have spanned, however, the entirety of the Late Moche period. There is no evidence that might suggest that the site was earlier or later than any other major Late Moche
settlements of the region. When Cerro Chepén Bajo stood alone, it is possible that it might have constituted an influential power center, already commanding the "Cerro Chepén Community". The neat arrangement of its defensive works indicates that its inhabitants participated in the conflict that involved most political centers of the region.

Cerro Chepén Alto was erected some time later. To protect the site, its builders took advantage of some of the pre-existing defensive works (especially around the Southern Access). The defensive obsession manifested in the design of the new sector could suggest an escalation of valley-wide hostilities. This escalation did not force, however, the abandonment of the lower sector, which remained under the control of its traditional authorities. The elites who resided in the new sector materialized their dominant ideology in the spaces and objects that they used on formal occasions. The better protected buildings of this sector even assimilated the architectural design of cultural traditions based on the nearby highlands. Is this assimilation indicative of the arrival of a group of foreign leaders, or perhaps only of an ideological transformation? In the upcoming chapters I will try to solve this question based on a detailed stylistic analysis of monumental architecture and prestige objects, as well as of other physical manifestations of cultural behavior.
CHAPTER VII

ARCHITECTURAL ANALYSIS

As stated in the previous chapter, the fortified site of Cerro Chepén comprises two sectors. Cerro Chepén Alto is the one that denotes the most notable defensive organization. Part of this organization is manifested in a continuous perimeter wall, which is distinguished not only for having great height, but also for ingeniously combining Torreones, Plataformas, sling stone piles, and carefully guarded entrances in its defensive design. The wall of Chepén Cerro Alto is, in short, the best organized Pre-Hispanic defensive work of the region, and possibly of the north Peruvian Coast in general. This construction can be interpreted as a physical manifestation of the hostile environment that prevailed in the valley during the Late Moche era. It can also be viewed as a direct indication of the organizational power of the group responsible for building the sector and its defensive works.

In this study, I suggest that the group that occupied Cerro Chepén Alto played an important part in the conduct, escalation, and outcome of the conflict that affected the valley populations during Late Moche times. This group occupied nine monumental buildings, four of which assimilated architectural spaces of exogenous design. These four buildings were also significant for occupying preferential locations within the defensive sector, suggesting that their occupants held leading positions within the Cerro Chepén social hierarchy. The exogenous nature of their architecture may suggest that these prominent individuals were not native to the Lower Jequetpeque Valley. The unusual
design of these structures can also be the result of a process of emulation, which resulted from the intimate connections that local Moche elites maintained with foreign groups who held successful dominant ideologies.

In this chapter, I present the theoretical postulates that guide the architectural analysis of the buildings of exogenous character of Cerro Chepén Alto, as well as the specific research methodology employed and the general results of my inquiry. The analysis was aimed at solving the mystery of the cultural identity of the occupants of these buildings, and was guided by two fundamental principles. First, the analysis proceeded from the viewpoint that monumental architecture is the material expression of a dominant ideology (DeMarrais 1997, DeMarrais et al. 1996). This principle leads me to believe that, in order to find the area of origin of an ideology that found physical manifestation in a particular architectural form, we need to look for the place where similar architectural ideas were expressed in a pure and pristine form. However, given that the style of monumental architecture can be copied by distant groups, it became necessary to introduce a discriminating principle that could help me to discern whether the atypical buildings of Cerro Chepén were constructed by local admirers of a foreign ideology, or whether they were erected by true outsiders. Based on the tenets of the theory of "Stylistic behavior and Information Exchange" (Wobst 1977) – especially those that maintain that only the objects that can be viewed by large numbers of individuals are the most suitable for emitting stylistic messages – I propose that, in the case of complex buildings, only the design of public spaces is sensitive to be copied. The second principle that guides the process of cultural identification proposes, therefore, that the design of
private spaces expresses more accurately the native architectural tradition of the studied group.

The architectural design of the private spaces of monumental buildings IV, VIII and IX of Cerro Chepén Alto leads me to conclude that these structures were built by immigrants from the northern highlands of Peru. These spaces are closely related to structures present in the Marcahuamachuco core area and in the Upper Chicama Valley. They are, on the other hand, totally unrelated to the Moche architectural tradition. The analysis has also shown a curious duplication of buildings with similar design features at Cerro Chepén Alto. This evidence seems to suggest that this sector housed two different highland *parcialidades*. Further details about the design characteristics and functional organization of the surveyed buildings, as well as about their affinity to important architectural traditions of Northern Peru, are presented in the following pages.

**Monumental architecture as materialization of ideology**

As Terry Eagleton (1991) has coherently stated, the concept of “ideology” allows several valid definitions. Viable meanings range from a simple worldview, to a carefully designed social manipulation strategy meant to promote class interests. In the case of complex societies, it is not rare to find internal clashes between conflicting ideologies promoted by different organized groups. The elites are frequently involved in this struggle, always seeking ways to safeguard their interests and maintain their unparalleled social privileges. One of the most common strategies through which the elites managed to maintain a leading hand in negotiations is through the process of materialization of ideology.
The process of materialization of ideology involves conferring physical shape to the most basic precepts, norms, and ideals of a belief system (De Marrais 1997, DeMarraiset al 1996). The process of materialization offers a decisive advantage in the arena of political negotiations because it allows its drivers to: a) achieve better control of the contents and meaning of their own proposal (allowing them to outline an ideological construct that is unmatched in internal coherence), b) indoctrinate all those who are not tenaciously clinging to an alternative proposal, and c) identify the individuals or groups who manifest deviational behaviors. While the elites are not the only social group that tends to appeal to materialization strategies for increasing their political influence (see, for example Bawden 2001), their ability to master massive quantities of human and non-human resources offers them the opportunity to deliver ideological messages on a scale that can not be paralleled by contesting groups. One of the most common mechanisms used by elites to send messages on a grander scale is precisely through monumental architecture.

Monumental architecture represents one of the most efficient means for broadcasting ideological messages. While the initial signaling costs can be significantly high, the possibility of reaching large audiences with breathtaking constructions pays off any hardship faced in the initial investment (Wobst 1977: 322). Monumental architecture also satisfies the principle of permanence, which ensures that the message, once sent, will endure unchanged for multiple generations (Moore 1996: 141). Monumental architecture can also be read as a direct power indicator. Given that these constructions require the participation of a large number of laborers, their final volume and dimensions represent an index of the social power wielded by the elites who commissioned the work (Neiman
Finally, the elites can adapt part of the structure to serve as a space for public assembly. In this way, they can overload the theatrical setting with the most conspicuous symbols of the dominant ideology, turning an apparently innocuous physical space into an arena of mass indoctrination. The summoned audience, impressed by the lavishness of the artificial environment and subjected to a relentless bombardment of selected information, will have little opportunity to challenge the validity the ideological messages being emitted.

Given these characteristics of monumental architecture, I think it is a valid methodological tool to try to unravel the cultural identity of an elite group based on a stylistic analysis of the monumental structures that they commanded. As Jerry Moore (1996: 218) eloquently expressed, "When public buildings are constructed under the direction of elites, such constructions will exhibit values held by elites and understood by the society at large." The identification of elite groups based on stylistic traits of ancient structures is not, however, without difficulties. Some reading problems arise, especially in situations and areas of cultural contact. One of the most common problems faced by this identification strategy is how to interpret monumental constructions endowed with a particular ideological stamp that are found within a cultural area that is not home to the projected ideology. In the case of complex societies, the most common interpretation offered for this type of spatial incongruity relates to territorial conquest.

The territorial conquest interpretation is commonly based on two assumptions, which stem both from theoretical premises and the historical knowledge of professional researchers. The first assumption highlights the unifying nature of the elite ideologies (Eagleton 1991: 44). Given that the dominant ideologies serve, among other things, to
promote group cohesion and shape a nation’s identity, we should expect to find architectural manifestations of this power ideology restricted to the physical territory that was controlled by a political group. The second assumption stems from historical experience, which tells us that many expansionist states imposed their distinctive architectural style in the territories that they assimilated (Sinopoli 1994: 171).

Indeed, monumental architecture serves a very important role in the process of territorial consolidation. First, given that architecture is not a transportable good, its presence in a foreign area communicates a message of "territorial ownership" better than any other physical means of ideological expression (Keeley 1996: 57). The large volume evidenced by these structures emits a clear message not only of physical presence, but also of permanence – making clear the intentions of the aggressor group. The impact that these structures exert on assimilated populations can be measured in works such as the Inca Trail. As John Hyslop (1984: 2) has stated, most of the subjects of the Inca Empire may have never seen an Inca noble during their life times. They knew perfectly well that they belonged to the Tawantinsuyu, thanks to the daily vision of ubiquitous state works such as the Inca Road system.

Second, during the process of territorial expansion, the conquering group faces the challenge of subjugating a population whose language and customs are unknown to them. Given that monumental architecture emits unambiguous stylistic messages, it becomes an ideal means for achieving the cultural assimilation of foreign masses (DeMarrais et al 1996: 27). This property is particularly valued among societies that never developed a writing system, which is an alternative medium that can be used in re-education programs. Craig Morris (1998: 302) explained the value of monumental
architecture in Inca strategies of territorial consolidation, expressing that "in a society that lacked writing, architecture and other media carried an especially heavy burden in facilitating communication and assisting in the inculcation of new beliefs and behaviors."

In Andean archaeology, the vast majority of archaeological cases in which monumental buildings bearing the ideological stamp of a particular polity have been found outside their home territories have led to interpretations of territorial conquest (see, for example, Gallardo et al 1995, Isbell 1977, Conrad and Keatinge 1983, Mackey and Klymyshyn 1990, Marcus et al 1985, McEwan 1989, Morris and Thompson 1985, Perez et al 2003, Schaedel 1951a, Schreiber 1992, Williams and Isla 2002). This trend has been, in large part, encouraged by Inca archaeology, which evidences a convenient agreement between early Hispanic written sources that document an expansion, and archaeological evidence that proves the existence of Inca monuments in the territories described in these texts (see, for example, D'Altroy 1987, Hyslop 1979, Menzel 1959, Morris and Thompson 1985). But not all cases of spatial dissemination of architectural features can be interpreted in this way. A different cultural mechanism that can produce results very similar to the imposition of foreign rule is “architectural emulation”. Under this mechanism, the leaders of a complex group willingly decide to adopt precepts of a foreign ideology to improve their own strategies of social control (Whalen and Minnis 2001: 665). The assimilated ideas are subject to the process of materialization, and may find physical expression in the architectural style that is used by the local elite group.

While not as common as the interpretations of forcible imposition, Andean archeology presents some studies in which disseminated architectural features have been understood as the product of processes of emulation. Izumi Shimada (1991: LII), for
example, argued that during Middle Horizon Epoch 3 (ca. AD 800-1000), the Pachacamac power center, located on the Central Coast of Perú, fell under the ideological influence of the Sicán Precinct of Batan Grande, located in the Lambayeque Valley. The 15 middle-sized pyramids with ramps that were erected on the site copied the typical “T”-shaped layout of the Sicán temples, becoming a "late Middle Horizon synthesis of North and Central Coast architectural traditions" (Shimada 1991: XLII ). It should be noted that Pachacamac is located more than 650 km from the southernmost known Sicán political territory (Jequetepoque Valley), and there is no evidence of Sicán military interference at Pachacamac or at any intervening territory.

A more interesting emulation case was documented at the large urban center of Huari, located in the central highlands of Peru. In one of the central sectors of the city, Isbell and his associates discovered a quadrangular sunken court which resembles, both in masonry style and general layout, the famous semi-subterranean temple of the ceremonial center of Tiahuanaco (Isbell 2001: 124-126; Isbell et al 1991: 28-32). This structure was one of the first ceremonial buildings erected in the city, and indicates that the elites of the emerging urban center were relying on sacred elements native to the Titicaca region for developing their own dominant ideology (Isbell and Cook 1987, Isbell and Vranich 2004: 180). The site of Huari is located some 650 km northwest of Tiahuanaco, and is known to have maintained very close ideological links with the Bolivian center, especially during the early part of its cultural sequence (Isbell 2001: 117, Menzel 1964: 67). Despite the evident ideological closeness, the site has never yielded an imported or locally copied Tiahuanaco symbolic object (Menzel 1964: 67). This evidence
rules out the possibility that Tiahuanaco emissaries from the high Titicaca plateau were the ones who planned and executed the construction of the sunken temple at Huari.

In conclusion, two cultural processes of different character (territorial expansion and emulation) can generate similar results. At this point it is valid to ask if there is a viable archaeological way for determining whether a building of exogenous design found in a distant cultural area was created by foreign intruders or whether it was an ingenious reproduction made by local architects. The answer to this dilemma is of vital importance for this study, which seeks to unravel the cultural mechanism responsible for the presence of buildings of exogenous design dominating the heights of the Cerro Chepén Alto sector.

In my opinion, the solution to this dilemma is found in the theory of “Stylistic Behavior and Information Exchange”, proposed by Martin Wobst (1977). One of the basic tenets of this theory argues that the level of stylistic sophistication expressed by an artifact (which is understood as an entity of visual communication), will decrease significantly the lower its potential to be seen. Referring explicitly to the case of domestic utensils, Martin Wobst wrote (1977: 328):

“[...] the less an artifact is visible to the members of a given group, the less appropriate it is to carry stylistic messages of any kind. Classes of artifacts which never leave the contexts of individual households and which are not usually visible to members of other households (such as ordinary kitchen utensils, underwear, bedding and mattresses, tools utilized by individuals in solitary task pursuits, etc.) are unlikely to carry messages of social group affiliation.”

I think the same principle could apply to the case of monumental buildings. Monumental architecture is a mechanism of visual communication (Moore 1996), and different parts of a building have unequal signaling properties (Blanton 1989). Therefore,
I propose that in the case of complex monumental buildings that have been emulated\(^1\) only the most visible parts of the structure – such as places of public assembly, other external gathering areas, and exterior sides – are prone to exhibit the style of the foreign architectural tradition. The most intimate interior environments (i.e. sleeping quarters), which are less visible or totally invisible to general audiences, are likely to manifest the architectural cannons with which the architects who erected the structure were most familiar\(^2\). In the case of intrusive buildings, whose construction was planned and coordinated by foreign supervisors, the entire layout of the structure will conform to alien patterns. The differential signaling potential of public and private spaces has been clearly demonstrated in an analysis conducted by Julian Reade (1979) on the mural decoration of Assyrian palaces. In the specific case of the Palace of Sargon, brutal scenes of war and execution of prisoners were reserved for the (public) reception areas for visitors, while bucolic nature and hunting scenes were limited to interior spaces designed for the King’s private enjoyment (Reade 1979: 338-339).

One Andean case of emulated buildings, described above, can be used to test the thesis of the differential signaling potential of private and public spaces. This case refers to the pyramids with ramps of Pachacamac and Pacatnamú, two contemporary sites that allegedly fell under the influence of the Sicán Precinct of Batán Grande during the Epoch

\(^1\) I define “complex monumental buildings” as large structures that integrate a great variety of internal architectural spaces, among which we find spaces of public use (i.e. frontal plazas) and spaces of private use (i.e. internal living quarters).

\(^2\) This does not mean, however, that all monumental works erected by expansionist polities outside their home territories will always show a perfect rendition of native architectural cannons. Contact situations may give rise to new architectural forms, which Mackey (2003: 322) has rightly called “conciliatory architecture”. In the Andean Area, examples of “conciliatory architecture” are even found in the most visible parts of introduced buildings. Some authors who have studied provincial Inca architecture have suggested that these syncretisms result from the recruitment of local manpower in construction activities (Bueno 1983: 7, Fresco 1984: 100, Hyslop 1990: 267). Carol Mackey (2003: 322), on the other hand, suggests that this type of architecture may have a clear intentionality, being aimed to prevent discontent and even overt expressions of rejection on the assimilated population.
3 of the Middle Horizon (Shimada 1991: LIV). I will limit the analysis to Huaca 1 of Pacatnamú, and to the Pyramid with Ramp No. 2 of Pachacamac, for which we have detailed architectural plans.

Both structures present a frontal plaza where commoners would have gathered (Franco 1998a: 14, Moore 1996: 116). From this setting, the Pacatnamú and Pachacamac pyramids would have looked much alike (Fig. 7.1). The huacas were seen as solid constructions with two frontal terraces. A large central ramp allowed direct access to the top of each structure. Each pyramid was crowned by a massive “U”-shaped building that surrounded a central, frontal patio. These buildings contained a complex arrangement of rooms that was not visible to external observers. The notable structural coincidences of these public spaces contrast sharply with the layout of private spaces at the back of both pyramids (Fig. 7.2). At the back of the Pyramid with Ramp No. 2 of Pachacamac stand up to seven large sunken deposits, an extensive sunken square courtyard, and a series of peripheral rooms (Franco Jordán 1998a: 19-20). Behind Pacatnamú’s Huaca 1, on the other hand, lies the Major Quadrangle, a large enclosure that contains labyrinthine passages that lead to five distinct room complexes (each of them containing audiencia-like structures), wide open plazas, and even a funerary platform (Donnan 1986c). In fact, if we had limited our comparisons to the rear complexes of both huacas, which apparently were off limits to common visitors, no one would have ever thought that both structures were related in any way. These areas illustrate, on the other hand, the different alternatives chosen by the leaders of these disparate societies to organize their administrative activities.
Figure 7.1. Ground plans of Huaca 1 of Pacatnamú (left) and Pirámide con Rampa N° 2 of Pachacamac (right) Redrawn from Hecker and Hecker 1985, Map N° VI, and Paredes and Franco 1987, Fig. 4.
Figure 7.2. Ground plans of the architectural complexes located behind Huaca 1 of Pacatnamú (left) and Pirámide con Rampa N° 2 of Pachacamac (right). Redrawn from Donnan 1986c, Fig. 2; and Franco 1998a, Fig. 7.
Stylistic analysis of Buildings IV, VIII, and IX

In order to determine whether the monumental buildings of Cerro Chepén Alto were designed by local or foreign architects, it was necessary to start by "dismembering" these structures in areas that would have served public and private functions. To achieve this task, I felt it necessary to define which architectural components of each building would have constituted functionally-integrated areas. Here is where my concepts of "Architectural Unit" and "Functional Unit" come in handy. An "Architectural Unit" is the minimal architectural space that, besides being demarcated by walls or other constructive elements, was endowed with a specific use. In the Cerro Chepén Alto sample, these units include rooms, galleries, salas con nichos, corridors, stairways, courtyards, terraces, and so forth. The identification of the Architectural Units that make up each surveyed monumental buildings was made on the field maps before proceeding with the excavation. In this way, buildings IV, VIII and IX ended up including a total of 39, 38 and 49 Architectural Units, respectively. In the end, each excavation area was designated according to the number of the Architectural Unit in which it was located.

A "Functional Unit", on the other hand, includes a series of Architectural Units that, apart from being structurally interconnected, would have been also functionally related. In most cases, the identification of Functional Units was based on circulation patterns. While access into a Functional Unit is relatively restricted\(^3\), human movement between its internal components is relatively unhampered. Typical cases of Functional Units in the monumental buildings of Cerro Alto Chepén include a courtyard surrounded by galleries (whose entrances opened up into the central patio) and a set of interconnected

\(^3\) The Functional Units of Cerro Chepén Alto present, as a norm, one single entrance.
rooms. In some cases, a Functional Unit was represented by a single Architectural Unit, as was the case of the *Sala con Nichos* of Building IV. My preliminary analysis of the field maps and constructive layout of buildings IV, VIII and IX led me to detect 8, 5 and 4 Functional Units within these buildings, respectively, some of which were subjected to excavation. The identification of the specific type of activities that took place within the confines of these units demanded a careful analysis of the excavated evidence and of their special architectural design.

The so-defined Functional Units were the focus of the discriminatory analysis meant to discern between spaces of public or private function. The distinction between public and private functions was determined according to the following criteria:

- **Ampleness of space.** This study assumes that public spaces should include wide open areas useful for accommodating a large number of people.

- **Accessibility of space.** This study assumes that public spaces are located relatively close to the main entrance of the building. In the case of complex buildings, the most remote and inaccessible areas are generally dedicated to the domestic needs of the occupants (food preparation activities, rest and shelter) (Read 1979)\(^4\).

- **Ornamentation of space.** This study assumes that the architectural environment of public spaces, which is visible to a potentially high number of

\(^4\) To simplify the analysis, the degree of accessibility of a given space was determined according to subjective criteria (e.g. “relative proximity to the building’s main entrance”), and not according to rigid measurements (e.g. “linear distance to the building’s main entrance” or “number of door thresholds that need to be crossed in order to reach the area”). The latter strategy always yielded confusing results in my preliminary tests. For example, I think that an area that is reached after crossing a sequence of four large courtyards that are communicated by ample entrances, is no less accessible that an area that is reached after crossing four small rooms arranged in a labyrinthine pattern.
observers, should denote a high level of stylistic sophistication (what Sackett [1993:33] called "adjunct style").

A fourth approach that also proved useful for determining the purpose of the surveyed units was the character of the associated archaeological materials. Some excavated spaces contained discrete trash accumulations, which yielded large quantities of ceramic sherds. In this study, it was assumed that some public spaces would have held massive meetings in which large quantities of food and liquids might have been consumed. The ceramic vessels discarded in their interiors were expected to show a high incidence of high-quality serving and eating vessels. As shown below, this expectation was fulfilled in the cases of the Two-floor Gallery Group and the Patio-group of buildings IV and IX, respectively.

The stylistic analysis of the Functional Units proceeded after the private-public functional dilemma was solved. The analysis consisted in comparing the architectural arrangement (seen both in two-dimensional floor plans and in three-dimensional reconstructions) of the Cerro Chepén Alto units with drawings and descriptions provided by researchers who had studied and characterized the monumental architecture of the Moche and contemporary highland traditions (see, for example, Bawden 1977, Benavides 1997, Franco 1998b, Haas 1985, Shimada 1994a, Swenson 2004, Uceda 2001 for Moche architecture, and Anders 1986, Isbell 1991, Julien 1988, McCown 1945, McEwan 1998, J. Topic 1991, for highland architecture). To a more limited degree, the analysis also relied on the information provided by small Pre-Hispanic architectural models of sacred structures, and on the descriptions of Andean monumental architecture made by early Spanish observers. In the end, the degree of similarity between the compared
architectural forms was established on nominal criteria, and not on any mathematical or logical system that may have served to draw more precise statistical matches.

**Functional analysis of Buildings IV, VIII, and IX**

In addition to the stylistic analysis, significant effort was devoted to determine the original use dedicated to the Architectural Units that comprise larger structural aggregations. The functional analysis complements the study of architectural design in two specific ways. First, I believe that the stylistic comparisons will have greater validity when considering analogous structures. One can not conclude, for example, that the torreones of the defensive wall of Cerro Chepén Alto derived from the circular structures of Cerro Amaru, given that the latter have been interpreted as deposits. I must admit, however, that in cases in which the available evidence proved insufficient to disclose the activities that took place in an excavated area, the comparative analysis was also used to solve the functional dilemma. In other words, the analysis was not totally impervious to a certain degree of “circular reasoning”. To prevent this practice from leading to aberrant results, I made sure that the little information rescued from my own excavations would at least not contradict the hypothetical function that had been assigned to the compared structure (for example, if I was drawing stylistic parallels between a Cerro Chepén Alto structure and a room interpreted as a deposit, it was important that the excavated space would not yield evidence that would suggest food processing activities).

---

5 In this study, I decided not to apply symbolic systems of stylistic characterization of structures such as the one proposed by Czwarno (1989) – which is based on patterns of boundedness and nesting of structures – or by Moore (1996) – which is based on access patterns. This decision was based on two specific reasons. First, the investigated buildings were raised in an area of steep terrain, and the need to adapt the structures to a rough topography generated a level of architectural variation that could not be solely explained on stylistic terms. Second, all excavated structures are relatively small, and do not present the number of compartments necessary to detect recurrent patterns in the organization of internal space.
Second, the use-analysis of architectural spaces also sought a broader objective related to the elucidation of the original function of the whole structure. It was necessary to corroborate that the excavated buildings were structures where we would expect to find material manifestations of past elite ideologies. It makes no sense, for example, to look for this type of message in inconspicuous structures such as workshops or granaries. As will be seen at the end of this chapter, this requirement was fulfilled to complete satisfaction, given that the variety, monumentality, and character of the internal components of the surveyed structures suggested that they were used as elite residences.

The determination of the original use dedicated to architectural spaces was based on the following criteria (in order of importance):

- Characteristics of associated artifacts and features, as revealed by excavation.
- Physical organization and location of the architectural space.
- Comparisons with similar structures of known traditions.

To assess the importance that the excavated artifacts bore in the reconstruction of use activities of architectural spaces, it was necessary to identify the refuse category to which they belonged (Schiffer 1972, 1977, 1983). In a few excavated areas, it was clear that most artifacts belonged to the "primary" and "de facto" refuse categories, ensuring reliable use determinations. The vast majority of cultural debris and pottery fragments recovered during the excavations came, however, from garbage dumps and secondary refuse concentrations. While this problem posed certain difficulties for the interpretation, I felt fortunate that the occupants of the monumental buildings of Cerro Alto Chepén did not choose to discard their garbage in a single dump, but opted instead to implement several independent disposal areas. At least in the case of Building IV, virtually every
Functional Unit contained an internal garbage dump, and in many cases these were ingeniously incorporated into the architectural setting (see below). Since it was evident that many of these dumps were still growing while the parent space and/or neighboring spaces remained in use, I concluded that the artifacts they contained were originally used in or at the vicinity of the Architectural Unit where they were found. And given that these discrete dumps differed in their artifactual composition, it was clear that they reflected the specific activities carried out in the immediate surroundings.

**General characteristics of buildings IV, VIII and IX**

Before starting with the stylistic and the use analyses of the Functional Units that compose buildings IV, VIII and IX, I want to devote a few paragraphs to describe a few general aspects of the architectural design of these buildings, with special attention to wall and roof construction techniques. This general review discloses the uniqueness of the architectural style of the structures, providing information that other researchers may deem valuable for conducting further comparisons.

First, as has already been mentioned, the architectural spaces that make up the excavated buildings can be roughly classified into three main types: rooms, galleries, and courtyards. All these spaces were built with double-faced, free-standing walls, made with the irregular angular stones that abound on the hill. The masonry style of these walls can be characterized as "irregular". Stones of different shapes and sizes were placed, one next to the other, with no attention to defining clearly distinguishable rows. When building these walls, the architects of Cerro Chepén Alto only paid close attention to aligning a flat face of the stones with the exterior sides of the walls. The stones were cemented with
a reddish mortar of remarkable consistency. Years after the abandonment of the site, occasional rains washed away the mortar that lay between the stones depositing it at the base of collapsed sections. Excavations revealed that these "mortar pockets" were singularly hard, proving very difficult to cut even with the assistance of iron hand picks. The red clay that composes this mortar is not found in the vicinity of the hill, and its specific area of origin remains unknown to me.

The wall’s stonework was not meant, however, to be seen. Excavations revealed that all free-standing walls were originally plastered with a fine brownish mud. Some of the plastered wall surfaces were later painted. In a wall that faced the central courtyard of Building IX’s Patio-group, for example, we found an intact plastered section that was painted white. The interior faces of the demarcation walls of the Sala con Nichos of Building IV were, on the other hand, completely plastered with a yellowish mud. The practice of wall painting was not exclusive to "public areas". In the interior space of the two-floor gallery of Building VIII, we found remnants of an old wall surface painted white. The only walls that were not plastered nor painted were the retaining walls of the large terraces that held up the buildings. The unusually large stones that were set in the retaining wall of the frontal terrace of Building IV were placed there with the clear intention of being seen.

Our excavations also showed that the primary walls of these buildings (i.e. the walls that defined the general contours of the structures and of their main internal spaces) were built directly on top of the rocky substratum. This practice did not require the excavation of foundation trenches, as was the case of several Huari sites (Isbell 1991: 297, McEwan 1996: 184, J. Topic 1991: 149, Schreiber 1992: 178). At the time when
these buildings were erected, the rock outcrops of the hill would have been exposed on the surface. Once the primary walls of a room were constructed, the room’s interior was leveled with a dense fill of earth mixed with stones. This horizontal level was later capped with a 10 cm thick mud floor, which rested on top of a solid support layer of fine gravel mixed with mud. The secondary walls of the buildings (short walls that create internal subdivisions within the structures) were commonly raised on top this gravel-rich layer.

Although the vast majority of free-standing walls of the Cerro Chepén Alto structures have partially collapsed, I have been able to determine that the roofed spaces had an interior height that ranged between 2 and 2.3 meters. The best-preserved wall segments (those that still maintain a relatively straight upper edge), and the lines of corbels that protrude from the interior walls of the two-floor galleries, show this particular height above the interior floors. Each roofed space had a single entrance. The door openings were perfectly rectangular and bore a raised threshold (15 to 20 cm). Even though there is no door with a lintel still in place, the available evidence suggests that the doors openings were not very high. A vertical distance of 1.30 meters separates the lower surface of the corbels and the raised threshold of the entrance door of the two-floor gallery of Building VIII. A similar distance was recorded between the lower surfaces of the corbels and the floor of the front patio of the two-floor gallery of Building IV.

Considering this evidence, and the fact that the Cerro Chepén Alto structures bore no window openings, one can conclude that the roofed spaces of these buildings were particularly dark. This particular feature represents a blessing for archaeologists, given

---

6 Some lateral galleries had two external doors. However, these doors led to different compartments created by internal dividing walls.
that the former occupants of the structures would have been prone to lose some of their smallest belongings in the dark ambiance of their living quarters.

The roofing technique used in Cerro Chepén Alto was quite interesting. One of the most distinctive features about this technique is that it did not involve the use of vertical posts. In a total excavated area of 288 m², that involved three different buildings, we were able to locate only 3 empty post holes. Two of them were located in the Sala con Nichos of Building IV, and the third one – which apparently held a decorative pole with no clear structural properties – was found right in front of the two-floor gallery of Building VIII. The limited use of posts in roofing activities is strange to the Moche constructive tradition, which made common use of vertical supports (Alva and Donnan 1993: 49; Benavides 1997, Campana 1983, Donnan 1978: 79, Uceda 2000).

Our excavations have proved that the roofed environments of the buildings with galleries never exceeded 3 meters in width. In these spaces, the roof was apparently directly supported on the upper edges of the peripheral walls. The roofing technique has been very difficult to reconstruct, given that the Cerro Chepén Alto structures were completely stripped off of their wooden materials after being abandoned. These extractions not only involved the roof beams, but also the lintels of doors and large niches.

The reconstruction of the roofing technique was largely made possible by the discovery of solid earth lumps with impressions of perishable roofing materials in the interior of formerly roofed spaces. These fist-sized lumps appeared concentrated in a layer of roof debris of uniform thickness (Capa C, 10 to 15 cm thick) that spread evenly right above the internal floor level of these rooms. My impression is that this layer
denotes an intentional dismantling of roofing materials, given that the subsequent wall collapses accumulating on it rarely reached the internal floor.

The information offered by the dried-mud lumps is as follows (Fig. 7.3). The roof skeleton was apparently composed of several wooden logs laid horizontally across the narrowest side of a room. These beams supported a grid of parallel canes, which were tightly tied together with rough fiber cords (*soguillas*). The imprints on the lumps show that the canes had relatively thin stalks, suggesting that they were “carrizo” (*Phragmatis communis*) rather than “caña brava” (*Gynerium sagitatum*) stems. Curiously, the cane grid was not laid transversally to the underlying log support, but parallel to it. The stretched grid was later covered by a rough mat made of intertwined long leaves. Finally, a thick layer of coarse mud was poured on top of the roof superstructure.

The weight of the upper mud cover caused the grid to expand and arch between the beams. The mat prevented water and fine sediments from percolating into the room’s interior. After the upper mud cover had dried out, the entire inferior surface of the roof was finally covered with a thick coat of very fine mud. The arched cane grid offered several adherence points for the wet mud coating that was been spread from below. Thanks to this ingenious roofing technique, the builders of Cerro Chepén Alto managed to endow their rooms with perfectly flat ceilings.

My attempts to reconstruct the technique used to build the elevated floor structures of the two-story galleries met with limited success. This failure was in large part due to the absence of solid earth lumps that could provide valuable structural information. The only unusual thing that I noticed in the three excavation profiles that were placed in the interior of the two-floor galleries was an unusually thick layer of
Figure 7.3. Reconstruction of a roof structure of Cerro Chepén Alto.
compacted earth lying above the basal floors (Fig. 7.4). This evidence leads me to think that the elevated floor structures of the two-story galleries never bore a mud cover. While their original support structure would have been very similar to the one of the regular roofs (beams – cane grid – mat of carrizo leaves), this frame apparently held a thick layer of earth that was later compacted. The idea of using compacted earth rather than a rigid mud cover as a walking surface seems a logical solution, given that a dry mud floor would have cracked under the weight of the human occupants.

Finally, there are two additional constructive features of the buildings with galleries that I think are culturally meaningful. The first feature is a clever garbage disposal strategy, which involved integrating growing refuse lumps into the interior space of roofed spaces. Inside the two-floor gallery and the rear room of the set of Interconnected Rooms of Building IV, we discovered short sequences of occupation floors covering relatively thin accumulations of cultural debris (pottery sherds, llama bones, and other food remains) (Fig. 7.4). Apparently, the users of these structures allowed their garbage to accumulate inside their living spaces until the lumps attained unbearable magnitudes. When this point was reached, they proceeded to scatter the refuse in a uniform layer and to cover it with a new mud floor. This practice was repeated at least twice in each surveyed environment. Apparently, the abandonment of the site occurred when the third level of refuse was beginning to accumulate on the last occupation floor.

The second culturally distinctive feature of the buildings with galleries of Cerro Chepén Alto relates to a strategy used to adapt the structures to the hill’s topography. Buildings IV, VIII and IX were erected in areas where the hill’s summit is traversed by
Figure 7.4. Southwest profile of Unit-16, Building IV (the two-floor gallery), showing a short sequence of occupation floors at the bottom of the unit and the dense accumulation of packed earth.
large rock outcrops, some of them of massive proportions. When I excavated these buildings, I was surprised to see none of these outcrops protruding in the interior spaces of these structures. Substantial filling operations would have been required to conceal the rocky irregularities of the terrain under the constructed spaces. Obviously, an idea that guided the design of these buildings was to establish a clear differentiation between the "built environment" and the "natural environment". Even the internal components of each building were spatially arranged so as to coincide with areas of relatively smooth topography. This practice endowed each structure with a unique ground plan, which would not be replicated by neighboring buildings, even those of analogous character. An interesting design feature of Building IV may serve as an example of this extreme topographic adaptation. The large frontal terrace of Building IV owes its large volume to the need to assimilate a rock outcrop of colossal dimensions into the construction. If this outcrop had not existed, it is possible that the building’s facade would have shown a very different layout.

This practice contrasts sharply with Late Moche constructive techniques as reflected in the hierarchical terraces of Cerro Chepén Bajo. In these structures, rock outcrops frequently cut through occupation areas. The Moche architects, rather than covering up these protrusions, decided to integrate them into the architectural layout of free-standing structures. Moche architecture reflects, therefore, a clever integration of natural elements into the constructed space. The buildings with galleries of Cerro Chepén Alto suggest, on the other hand, an imposition of artificial forms on the natural topography.
**Building IV**

Having presented the method of architectural analysis that I will apply in this study, as well as a brief description of general constructive patterns, I will move on to discuss the architectural design and functional organization of the excavated buildings. I want to start the analysis with Building IV. Even though this building was the last one to be excavated, it presented a clearly definable internal organization that I will later use as a guide for analyzing the internal layout of the other excavated buildings.

As indicated in the previous chapter, Building IV is one of the most conspicuous structures of Cerro Chepén Alto. It rises on top of the most densely occupied habitation area of the northern part of this sector. While this location offered defensive advantages, it may have also offered control prerogatives, given that the structure commands a preferential view of the northern and eastern flanks of the site. In fact, this large building, with its high retaining and free-standing walls, would have represented a true architectural hallmark, visible not only from most corners of the settlement, but also from the agricultural plain that spreads north and east of the hill. This evidence leads me to conclude that Building IV held very important functions, being perhaps the most important construction of the whole sector.

After studying the floor plan and conducting cursory field observations of the architectural spaces of Building IV, I was able to detect up to eight major Functional Units in its architectural plan. Five of these units (*Sala con Nichos*, Interconnected Rooms, Two-floor Gallery Group, Patio-group, and Area of Irregular Architecture) were subjected to excavation (Figs. 6.5. and 7.5). A long “S”-shaped circulation route that ran across the interior core of the building connected these units in a sequential manner.
Figure 7.5. Ground plan of Building IV showing the location of Functional Units and internal circulation route.
This unusual circulation pattern facilitated the identification of the most accessible and most distant Functional Units of the building. In the description that follows below, greater emphasis is placed on the Functional Units that were excavated, given that they offered a wealth of information. The unexcavated structures are granted perfunctory descriptions, mostly based on superficial evidence and on the organization of their interior space.

**Frontal Terrace**

The Frontal Terrace is a large open space, located in the most accessible part of the building (Fig. 7.5). The terrace is shaped by a curved retaining wall that contains the largest stone blocks ever deployed in any monumental building of Cerro Chepén Alto. As was mentioned before, these blocks generate a strong visual impact, and constitute an indelible stamp of the large amount of human effort that was invested in the erection of this building.

The Frontal Terrace is accessed through a 23 meter long stairway, which only retains intact its six initial steps. The stairway was originally demarcated by two low walls, and would have constituted the most elaborate access way into any of the buildings of the sector. Curiously, the stairs do not reach the top of the terrace, but cut through its core describing a curve. It is impossible to determine if this curved segment had stylistic connotations or if its design responded to practical reasons. As was mentioned above, the large Frontal Terrace was build concealing a massive rock outcrop, and it is possible that a curved entryway was needed in order to avoid hitting a massive rock barrier.
The Frontal Terrace, with its large open area and accessible location, would have served as a reception area for visitors. In its margins stands the entrance of the only communication route that leads to the interior spaces of the building.

**Cuadrángulo**

The *Cuadrángulo* is a large walled, rectangular, empty area that marks the southern boundary of the Frontal Terrace (Fig. 7.5). Despite sharing the same retaining wall with the terrace, the *Cuadrángulo* represented a peripheral component of Building IV. First, it is not possible to access the *Cuadrángulo* directly from any interior space of Building IV. The *Cuadrángulo* has its own exterior access, located approximately at the center of its southern wall. To reach the building from the *Cuadrángulo*, it is necessary to walk around its external southern perimeter, and take an elevated passageway that leads directly into the entrance of the building’s main corridor. The elevated passage crosses in front of a series of small rooms that open towards it. It is possible that these rooms housed individuals responsible for controlling external traffic into the building.

A second distinctive feature that suggests the peripheral character of the *Cuadrángulo* is its interior arrangements. While the wall that demarcates this space does not differ from any other primary wall of the structure, the interior surface of this enclosure is highly irregular. The *Cuadrángulo* lacks an internal mud floor. To the contrary, the internal surface of this structure is crisscrossed by irregular rocky protrusions that make human traffic very difficult. In fact, the *Cuadrángulo* is the only Architectural Unit of Building IV in which the natural topography of the hill has not been properly leveled. A similar situation was noted in an external room of Building IX, which
was used as a garbage dump. While there is no indication that the Cuadrángulo served a similar function, its peripheral location and the poor investment dedicated to its internal arrangement leads me to suggest that this structure had a purely utilitarian use. It is possible that this structure was used as a temporary storage area for the goods that flowed in into the building, and that were necessary for sustaining its occupants.

**Sala con Nichos**

The Sala con Nichos is perhaps the most outstanding structure of Building IV. It presents several monumental features that are not replicated by any other Functional Unit of this building. First, the Sala con Nichos is the largest walled space of Building IV (132 m$^2$, almost twice as large as the Cuadrángulo). The Sala con Nichos also has the most voluminous demarcation walls (approximately 1 meter in thickness). These walls were decorated with the largest niches found in the structure, and also occur in the highest concentration documented. Finally, this unit is one of the most accessible architectural spaces of the building. In fact, the Sala con Nichos is the only enclosed space that is directly accessible from the large Frontal Terrace (Fig. 7.5). All these characteristics indicate that the Sala con Nichos functioned as a public space, possibly the most important of Building IV.

Unfortunately, the state of preservation of this structure was disastrous. Its peripheral walls, especially the north wall, were seriously damaged. The best preserved wall, the southern wall, still rose to an incredible height of 3.8 meters on both ends, which stood largely intact$^7$. This wall was apparently higher than the eastern and western walls. Rows of four niches are clearly distinguishable on the eastern and southern walls.

---

$^7$ The maximum height of the southern wall was measured from the level of the internal floor.
Two niches are present in the western wall, south of the entrance. All these niches are of similar size: about one meter wide and between 60 and 70 cm deep. It is very difficult to discern the original height of these nooks, given that the wall collapse took down their upper margins. Nor is it possible to know whether the north wall originally bore its own row of niches, as it has disappeared down into the level of the internal floor. Before excavation, the entire interior of the enclosure was covered with a dense layer of wall debris. This layer was thickest at the base of the eastern and the southern walls, suggesting the presence of buried structures (benches?). Finally, there was a large huaqueros pit located right in the middle of the enclosure. This pit has destroyed all meaningful material associations in the central area of the sala.

The Sala con Nichos was excavated under the assumption that it constituted an architectural form typical of the Moche tradition, which I call "hierarchical chamber". This form is linked to the "hierarchical terrace", and appears commonly represented in baked clay architectural models that have been recovered at the most lavish Late Moche burials of San José de Moro (Fig. 7.6). The "hierarchical chamber" is a rectangular enclosure that bears a complex internal arrangement of benches. The compound includes two low, lateral benches, and a higher bench placed along its rear end. A central ramp connects the basal floor level of the structure with the top of the rear bench, where a dais or throne-like seat stands aligned with the ramp. Only the rear bench is covered by a roof. The roof is inclined, and rests above the back wall of the chamber, which is higher than its other peripheral walls. The roof is frontally supported by three posts, placed at regular distances along the frontal edge of the rear bench.
Figure 7.6. Different views of two Late Moche baked clay architectural models from San José de Moro that depict “hierarchical chambers”. Redrawn from Castillo 2001, Fig. 8, and Castillo et al 1997: 120.
The "hierarchical chamber ", as represented by the clay models of San José de Moro, is not an imaginary architectural form. Edward Swenson (2004:575) found several life-sized structures (without evident surrounding walls) at the Late Moche site of Portachuelo de Charcape, in the Lower Jequetepeque Valley. Garth Bawden (1977, Fig. 84) found an internal compartment of an elite house of Galindo arranged in this manner (Fig. 7.7). The "hierarchical chamber", which has a long history of use on the North Coast of Peru, seems to be an architectural form loaded with high ideological symbolism. Its origins can be traced to the Gallinazo Culture (Wilson 1988, Fig. 89) (Fig. 7.7). After the Moche collapse, the Chimú continued reproducing this architectural form, as evidenced by some extraordinary wooden architectural models that have survived until our times (Donnan 1975, Uceda 1997). In the Huaca de la Luna, Santiago Uceda (1997) found one of these models intact, together with a set of wooden figurines that illustrate the type of rituals that may have taken place inside these structures. In short, in addition to a series of characters that can be identified as musicians, gift bearers, and a "chichero", the model includes a mummy bundle which seems to represent the focal point of attention. Based on this evidence and on early Spanish documentary information, Uceda (1997: 169) concluded that in this architectural space held celebrations related to the cult of ancestors.

I decided to conduct an "L"-shaped excavation in the southeast corner of the Sala con Nichos, in order to expose part of its rear bench, eastern bench, and central ramp. (Fig. 7.8). To my surprise, I found only a perfectly flat floor, with no indication of having held any type of elevated bench-like feature. A vertical cut placed in one of the corners of
Figure 7.7. Examples of life-sized “hierarchical chambers” found at the Gallinazo site SVP-LSUCH-153, Santa Valley (left), and at the Late Moche site of Galindo, Moche Valley (right). Redrawn from Bawden 1977, Fig. 84; and Wilson 1988, Fig. 89.
the excavation allowed me to discover two previous versions of the floor, which were also perfectly horizontal.

The excavation uncovered two large post holes aligned two meters away from the south wall. It was clear, therefore, that the southern margin of the enclosure originally bore a partial roof. We found a third hole, this time much more shallow and with a curious rounded bottom, outside the roofed area (Fig. 7.8). This hole was the imprint of a large storage vessel, whose remains laid scattered across the floor. This vessel was a typical Late Moche domestic *paica*. On the floor we also found the shattered bottom of a black bottle with a ring base. Apart from these cultural elements, the floor remained surprisingly clean.

![Figure 7.8. View of the south corner of the “Sala con Nichos”, Building IV, after excavation.](image)

*Figure 7.8. View of the south corner of the “Sala con Nichos”, Building IV, after excavation.*
The excavation did not uncover the earth lumps with impressions of roofing materials that commonly compose the "roof debris layer" of most closed spaces of the buildings with galleries. This evidence leads me to conclude that the partial roof of the Sala con Nichos was designed as a light structure that only involved the use of vegetable materials (perhaps a cane grid resting on a wooden frame). Earth lumps with imprints of wooden beams tied up with fiber cords were found, however, in the interior of the four excavated niches. It was clear, therefore, that the niches originally bore wooden lintels, which were forcibly removed in the past. An additional curious architectural element present in both the southeast and southwest corners of the compound were small pairs of sockets, placed 2.3 meters above the floor level on the south wall, and 2 meters above the floor level on the lateral walls (Fig. 7.8). These sockets apparently held wooden pegs that were necessary for supporting the light roof. The roof of the Sala con Nichos did not rest, then, on top of the highest wall, but was projected horizontally from it as if it were some kind of scaffold.

Figure 7.9 presents a three-dimensional reconstruction of the Sala con Nichos based on the excavated evidence and the structural elements that are still visible in the walls. The inferred elevation of the partial roof allowed me to calculate the approximate height of the niches, which I think came close to one meter. This reconstruction shows that the Sala con Nichos did not reproduce the structural plan of the Moche “hierarchical chambers”. This structure can not be assigned, then, to the North Coast architectural tradition.

---

8 I think that this forceful extraction of wooden supports was largely responsible for the collapse of the walls. In the case of walls that had large niches and doorways, the extent of the collapse reached down to the point where the wooden lintels would have been placed. In the walls that had smaller niches with stone slab lintels, the collapse follows a different pattern.
Figure 7.9. Three-dimensional reconstruction of the Sala con Nichos, Building IV.
The search for an architectural parallel for the *Sala con Nichos* led me to early Spanish documentary sources collected in the northern highlands of Perú. A mid-sixteenth century document titled “Relación de los Agustinos de Huamachuco”\(^9\) has some passages devoted to the description of the ritual architecture of the inhabitants of the heights of Huamachuco. The temples are described as follows (1992: 11):

> “Para adorar a esta falsa trinydad y mocharla, tenyan grandes corrales y estos tenyan por una parte la pared muy alta y tenyan dentro unos hoyos donde hincaban unos palos para hazer las fiestas, y en medio ponyan un palo y revolbíanle con paja y atábanle […]; avía en las paredes munchas poyatillas para guardar las reliquias que de la oveja o carnero quedavan, y destos corrales está llen la tierra y desbaratamos munchos.”\(^10\)

And later (1992: 28):

> “Avía más otras tres casas en que se llegava la gente que venía a las fiestas. Estas seis casas quemaron los padres con las guacas y se deshizieron los grandes corrales que para su sacrificios tenyan, y andamyos para lo mesmo.”\(^11\)

In short, the Augustinian priests described the sacred architecture of the Huamachuco area as large pens with a wall of unusual height, a high number of internal niches in the walls, and indoor scaffolds. They also mentioned the presence of ritual vertical poles in the center of the enclosures. In the case of the *Sala con Nichos*, if one of these poles was ever present, the huaqueros would have long eliminated any vestige of it.

---

\(^9\) The “Relación de los Agustinos de Huamachuco” is an anonymous document written between 1560 and 1561 by Augustinian priests who were sent to the Huamachuco area to assist in the evangelization of the local population and, especially, in the removal of any remnants of local idolatries (Castro de Trelles 1992: XIV).

\(^10\) “They built large enclosures to worship their false deities. These enclosures had a tall wall on one side, and several internal wholes where they would place poles that they used in their celebrations. They placed a pole at the center of the enclosure that they covered with hay lashed with cord wrappings. The walls of the enclosures had several niches where they would place the leftovers of the sheep that they consumed during their feasts. The land was filled with these enclosures and we tore down several of them”.

\(^11\) “There were three houses where people who came to participate in the festivities would be accommodated. These […] houses were burned down by the priests together with their huacas, and the large enclosures and the scaffolds that they used in their sacrifices were dismantled”.

While the description of these ceremonial spaces suits the *Sala con Nichos*, it is important to stress that these descriptions apply to sacred buildings of the early Hispanic era, and may not be applicable to constructions of earlier time periods.

An indication that the architectural form described by the Augustinian priests may have a very long tradition in the Huamachuco area occurs at the archaeological site of Cerro Amaru. In 1983, the Topics (1984, 1985) excavated, at Cerro Amaru, an isolated compound that they interpreted as a "mausoleum". This structure was a quadrangular stone enclosure of 7 meters on each side, with a low roof – or elevated platform – projecting out of one of its lateral walls, as if it were a scaffold (Fig. 7.10). While this structure, which is perfectly contemporary with Cerro Chepén Alto’s Building IV, presents a series of features that are not present at the *Sala con Nichos* – no internal niches, underground chambers, an auxiliary small room – the overall design of the structure is basically the same.

In conclusion, I think that the closest architectural referents to the *Sala con Nichos* of Building IV are found in the highland area of Huamachuco. In any case, the enclosure dug in Building IV does not manifest close affinities with the Moche “hierarchical chamber”, which represents one of the most emblematic examples of coastal sacred architecture. Unfortunately, this conclusion does not help solve the mystery of the cultural identity of the occupants of Building IV. The *Sala con Nichos* was a space of public character and, as such, was prone to be copied. To solve this dilemma of cultural identity, it will be necessary to analyze other interior spaces of this important edifice.
Figure 7.10. Perspective of the “mausoleum” of Cerro Amaru, Huamachuco (redrawn from Topic and Topic 1985, Fig. 3).
Interconnected rooms

At the back of the Sala con Nichos runs a long corridor that marks the beginning of the internal circulation route of Building IV (Fig. 7.5). This corridor was an unroofed space that was wide enough (approximately 2.5 m) to sustain heavy traffic. Two portals located close together in the initial segment of this corridor would have served, however, to restrict this traffic in some way. The corridor leads directly to two major Functional Units of the building: the Interconnected Rooms and the Two-floor Galley Group (Fig. 7.5).

The Interconnected Rooms are a well-defined architectural cluster, composed of three adjoining rectangular rooms that share a long side. This cluster is set apart from the main body of the building, forming a lateral annex (Fig. 7.5). The rooms are interconnected by single entrances that are aligned (Fig. 7.11). The most distant room is long enough to represent a gallery\textsuperscript{12}, and was the only interior space of this set to be excavated. The special arrangement of the rooms, and their relatively restricted access pattern, creates an atmosphere of seclusion and privacy that is most strongly felt in the most distant environment. Therefore, while this cluster lies relatively close to the building’s main entrance, I think that it represents an area of private use. According to the theoretical postulates of this study, the design of these structures should provide reliable clues as to the cultural origin of the elites who sponsored the construction of the building.

Before the excavation of Building IV began, I was puzzled by the strategy followed by the original builders of this group to ensure the internal illumination of the structures. The three rooms that compose this cluster share the typical dimensions of the

\textsuperscript{12} In this work, I define a “gallery” as a narrow roofed room that is at least three times longer than it is wide.
Figure 7.11. Ground plan of the Interconnected Rooms, Building IV.
roofed spaces excavated during the 2003 season. Had all these spaces been roofed, the room cluster would have been in a state of total darkness, and the occupants of the gallery would have had serious difficulties finding their way around.

A preliminary study of the central room revealed the strategy used to solve the problem of internal illumination. The southern wall of this room contains two niches 50 cm wide, 60 cm high and 35 cm deep\textsuperscript{13}. Just 15 cm above the niches there are three sockets in the wall, evenly distributed between the niches (Fig. 7.12). It was clear, then, that the central room never bore total roofing, but held instead a partial cover that projected northwards (as a scaffold) from its southern wall. In other words, the central room was an open space, designed as a small scale replica of the Sala con Nichos. By keeping this room open, the occupants of the rooms assured a source of light for the neighboring architectural units.

The rear gallery, which was 7.8 meters long and 2.2 meters wide, was excavated in its entirety. The internal floor of this gallery was split into two levels, which more or less covered both halves of its floor plan (Fig. 7.13). The main entrance of the gallery opened into the upper floor level. In its surroundings, the perimeter walls of the gallery (which were in a good state of preservation) reached 3 meters in height. The south end of the gallery was occupied by a 2.1 meter long bench that rose 65 cm above the upper floor level. Similar features had been previously detected in other roofed spaces of Buildings VIII and IX, and have been tentatively interpreted as sleeping benches. Both the bench surface and the upper floor level were found clear of cultural debris.

The sunken floor level spread along the northern half of the gallery. This space was approximately 1 meter lower than the southern section. A thin 1.5 meter long

\textsuperscript{13} The lintels of these niches were made of stone slabs and were still in place.
division wall hid this area from any person standing on the gallery’s entrance. In sharp contrast with the higher occupation levels, the floor of the sunken section was found covered by a thin concentration of domestic refuse (Fig. 7.13). The excavation revealed that the last occupation floor of this section was laid over two earlier floors that were buried at shallow depths. The floor renewal operations were apparently conceived to seal off thin refuse concentrations that accumulated on the old surfaces. The ceramic contents of these sequential garbage layers were relatively scant (four escudillas, three jars, and one bottle), denoting a limited use of ceramic vessels that is consistent with a space of private use (contrast with the case of the two-floor gallery described below).
Figure 7.13. Floor plan of Unit-14 (the rear gallery of the Interconnected Rooms), Building IV (redrawn from a field original by Bárbara Carbajal).
In conclusion, evidence relating to space organization, associated features (sleeping bench), and discarded materials (meager amounts of cultural refuse) suggests that the gallery was used as a habitation area. Given the general characteristics of the architectural unit (high walls, two architectural spaces preceding the gallery, small courtyard that reproduces the design of the Sala con Nichos), I infer that the gallery was reserved for a high status individual. A comparative study may reveal if the architectural layout of this important Functional Unit corresponds to highland or coastal patterns.

Galleries are common in buildings belonging to highland cultural traditions. While their use is widespread on sites of the Huari culture, galleries may have an earlier origin on the northern highlands of Perú (J. Topic and Topic 1985: 19). Another architectural form that may help in the discriminating procedure refers to blocks of interconnected rooms with central accesses. Structures of this type, interpreted as dwelling areas, have been detected by the Polish archaeologist Andrzej Krzanowski (2006: 28) in the highest reaches of the Chicama Valley (Fig. 7.14). Interestingly, the Interconnected Rooms of Building IV combine the two most complex variants of this structural type as defined by Krzanowski: pairs of rooms with centrally aligned accesses (Type II), and pairs of rooms with perpendicularly oriented accesses (Type III) (Krzanowski 2006: 28). The enlarged design of Building IV’s cluster may respond to status criteria. In any case, the architectural layout of the Interconnected Rooms differs from the typical Late Moche design of elite residences, which relies on the use of simple rooms with multiple benches that lie in close proximity to deposits and kitchens (Bawden 1977: 283-294; Shimada 1994a: 171). The combined evidence suggests a highland origin for this important Functional Unit that was destined for private use.
Figure 7.14. Classification of pre-Hispanic housing units of the upper Chicama region, northern highlands of Perú (from Krzanowski 2006, Fig. 0-9).
Two-floor Gallery Group

The Two-Floor Gallery Group is accessed through a doorway that lies near the end of the entrance corridor, almost facing the main entrance to the Interconnected Rooms. This group consists of two Architectural Units: a rectangular open courtyard, about 9 meters long and 8 meters wide, flanked to the east by a huge gallery, 13 meters long and 3 meters wide (internal dimensions) (Fig. 7.5). The gallery is one of the only two, two-floored structures present at the site. The existence of an elevated floor structure is indicated by the presence of two opposing rows of corbels, which protrude out of the interior faces of the gallery’s longest walls, approximately 2.20 meters above the level of the internal floor.\(^{14}\)

Both the courtyard and the adjacent gallery were excavated. We placed a 4 by 2.2 meter excavation area in the southeast corner of the courtyard, exposing its main access and the exterior side of one of the gallery walls. The excavation uncovered a 90 cm wide and 30 cm high bench running along the southern edge of the courtyard (Fig. 7.15). The floor that spread at the base of this bench apparently defined an elevated level within the patio area. The most important find of the excavation was two large storage jars broken directly on the floor. The vessels were reconstructed by Mr. Cesar Luis Cordova Espinola, ceramic restorer of the Proyecto Arqueológico Huacas de Moche, allowing me to conclude that they were two “paicas” of Late Moche style.\(^{15}\)

Interestingly, the pots were not broken in their original use locations. First, the exposed floor did not bear the large hemispherical depressions that are necessary to hold such large vessels in place. Second, both paicas showed external soot deposits, and the

\(^{14}\) This height was measured from the upper surface of the corbels.
\(^{15}\) “Paica 1” is 63 cm high and has an orifice 57 cm wide, while “Paica 2” is 59 cm high and has a mouth opening 51 cm wide.
Figure 7.15. Floor plan of Unit-15 (patio in front of the two-floor gallery), Building IV (redrawn from a field original by Miguel Sordoméz).
court yard lacked any evidence of superficial fires. The vessel designated “Paica 1” contained a 1 cm thick crust of carbonized material in its interior. I sent samples of this material to the laboratory of the “Centro de Investigaciones Arqueobiológicas y Paleoecológicas” at the University of Trujillo to conduct a taxonomical analysis of starch grains. The analysis revealed the exclusive presence corn starch (Vasquez Sanchez and Rosales Tham 2005b: 2), which proved that this paica was originally used to prepare high quantities of chicha beer for an unidentified number of consumers.

The interior of the two-story gallery was also excavated. The excavation area extended from the access to the northern boundary of the gallery, covering a total length of 7.40 meters. The excavation uncovered a severely worn internal floor that was littered with domestic refuse (llama bones, small sea shells, plant materials and, above all, large quantities of pottery fragments) (Fig. 7.16). The refuse density proved that the original occupants of the gallery literally walked on garbage. The distal end of the gallery floor showed a slight depression (in this case, 40 cm in depth) that was filled with a coarse mixture of earth, stones, and cultural refuse. We dug this depression and the internal floor of the gallery, discovering two earlier versions of the floor lying just a few centimeters below the last occupation surface. As was the case of the rear gallery of the Interconnected Rooms, each of floor level was created to bury refuse layers that had previously accumulated on the gallery’s interior. Finally, the earliest floor of the sequence bore an 80-cm wide semicircular hole, placed at the center of the gallery just offset from the main entrance. The pit still contained the broken bottom of a large pottery container.
Figure 7.16. Floor plan of Unit-16 (two-floor gallery), Building IV (redrawn from a field original by David Oishiye Adams).
It is difficult to determine the original function of this gallery, given that the large accumulation of garbage has obliterated any primary use evidence. Two-story galleries are typical of the Marcahuamachuco and Huari traditions, and most authors who have studied them agree that they had residential functions (Isbell 1988: 170, Lumbreras 1980: 78, J. Topic and Topic 2000: 187). The residential interpretation may not be applicable in this case, given the large quantities of broken fine pottery vessels that we found in the gallery’s interior. The sequential garbage dumps yielded a minimum of 61 eating/drinking vessels, all of them of fine quality pottery. We also recovered smaller numbers of fine pottery bottles and drinking cups, as well as pieces of 31 domestic vessels of crude manufacture. I suspect that a similar number of vessels still lie buried in the southern half of the gallery that we left untouched.

For now, the available evidence only allows me to conclude that banquets for members of the elite class were held in or near the vicinity of the two-floor gallery. These banquets may have also involved the use of large ceramic containers, like the ones found broken in the courtyard and the one in the gallery’s interior. Interestingly, the pattern of waste disposal detected at the gallery indicates that these banquets did not occur after the structure had been abandoned. The repeated attempts to bury the accumulating garbage under occupation floors suggest that this behavior occurred while the gallery was still in use. In any case, I do not think that the gallery would have served housing functions given the unsanitary conditions generated by the garbage accumulation. In my opinion, the two-floor gallery was related to public activities, which possibly took place in open spaces like the annex courtyard or even the Sala con Nichos.
The question of the possible use devoted to the upper level of the structure deserves further explanation. As indicated above, even though we did not find traces of a collapsed wooden superstructure, the presence of corbels and the dense internal accumulation of packed earth indicate that the gallery originally had an elevated floor structure. One option to consider is that, given that the lower level of the structure was not fit for human habitation, the gallery’s residents occupied the upper floor. If this possibility should hold true, then the upper level should show conditions suitable for human habitation. These conditions include, at minimum, an appropriate height to facilitate unimpeded human movement.

In the southeast corner of the gallery there is a confluence of four walls that creates a structurally solid area. At this corner, the peripheral walls of the gallery show their greatest height, and it is possible that this height corresponds to the original standing of the walls. The second floor walls may have risen 1.9 meters above the rows of corbels. If we consider conservative measures – 20 cm for the thickness of the upper floor’s wooden superstructure and 10 cm for the final coating of packed earth, then the second floor would have offered 1.6 meters of free space. Given that this height allows unconstrained human traffic, the habitation hypothesis can not be completely ruled out.

An alternative possibility is that the upper floor of the gallery served storage functions. In fact, some authors have interpreted the upper levels of similar Huari (Williams 2001: 74) and Marcahuamachuco (J. Topic and Topic 1985: 18) structures as deposits. This interpretation is based on practical considerations, as well as on ethnographic evidence. First, storage at high levels frees perishable products from the

---

16 The walls that make up this confluence zone have perfectly flat upper edges, being very different from walls that have lost part of their constituent stones, which show irregular contours.
danger of putrefaction caused by moisture accumulation at ground level. High storage can also put consumables out of the way of some pests (e.g. mice) as long as the walls of the lower levels are tall, vertical, and perfectly smooth (which is the case of the two-story gallery). Attic storage is common among traditional families of Andean peasants of the northern highlands (J. Topic 1986: 63).

In conclusion, the two-floor gallery was apparently used for activities of public character. These activities may have taken place in open areas, such as the frontal courtyard or even the Sala con Nichos. As for the use devoted to its upper floor, there are two possibilities: storage area and living quarters. I tend to favor the first alternative because it is consistent with the massive consumption of goods that accompanies most banquets. Finally, regarding the architectural style of the structure, it is purely highland. While two-story galleries found a wide territorial distribution during the Huari expansion, they had an earlier origin in the area of Marcahuamachuco (J. Topic 1991: 159; J. Topic and Topic 1985: 19).

**Intermediate Terrace**

The Intermediate Terrace is a large open space that occupies the northern corner of Building IV. This space is reached through the Two-floor Gallery Group, through a recess that opens on the northwest corner of the courtyard (Fig. 7.5). This recess apparently led to an external, lateral stairway, which now lies covered by several cubic meters of wall debris (Fig 7.17). The Intermediate Terrace is also a mandatory transit zone for anyone trying to reach the most distant Functional Units of the building.
Figure 7.17. Three-dimensional reconstruction of the two floor gallery and its adjoining courtyard (the roof of the gallery has been partially omitted to show internal detail).
The massive volume of the Intermediate Terrace is supported by a large retaining wall that demarcates the building. In this area, the wall makes a sharp 90º turn, giving the terrace a general rectangular layout (Fig. 7.5). Originally, the uppermost edge of the retaining wall rose about 70 cm above the interior floor of the terrace, offering protection to its occupants. While the terrace lies approximately 4.8 meters below the level of the Frontal Terrace, and 4.15 meters below the courtyard of the Two-floor Gallery Group, its marginal location offered an unequaled panoramic view of the hill’s landscape. From this position, one can see the entire eastern slopes of Chepén Hill (including the whole extension of Cerro Chepén Bajo). The monitoring advantages offered by this emplacement led me to interpret it tentatively as an observation post for watchmen.

During the 2004 excavation season, the superficial evidence gathered at this location forced me to change that interpretation. While the terrace was never excavated, shallow huaquero pits that spread on its surface uncovered thin lenses of charcoal and burned earth just a few centimeters below its present surface. The Intermediate Terrace is the only Functional Unit of Building IV that presents evidence of superficial fires. It is my contention, then, that this open terrace was used as a large food preparation area. It is possible that most of the food and drink consumed in the banquets held in the surroundings of the two-floor gallery was prepared in this large open kitchen. It is also likely that the two large Late Moche paicas found broken on the gallery’s courtyard were originally placed on this terrace.
**Patio-group**

The Patio-group is a closed construction block that occupies the western end of the building. The group consists of a series of roofed architectural spaces surrounding a rectangular courtyard 11 X 6.8 meters large, which is, in turn, internally delineated by a 60 cm high bench (Figs. 7.5 and 7.18). The peripheral roofed spaces include the following:

- Two continuous galleries 12.6 and 10.7 meters long on the east and west, respectively.
- A high rectangular room with two pair of internal small niches on the south.
- Three small rooms of equal proportions to the north. Two of these rooms are interconnected, resembling a Type III housing unit of Krzanowski’s (2006: 28) classification. The third room stands isolated, and represents a transit area between the western gallery and the central courtyard.

I chose the name "Patio-group" for this construction block because it resembles in general layout a Huari architectural form that is designated in this way. The Huari Patio-group consists of a series of elongated galleries surrounding a square courtyard on all sides. The courtyard itself is commonly delineated by a high bench (Isbell 1991: 294, Schreiber 1991: 203). While the set of small rooms that occupy the northern end of the block represents a departure from the Huari pattern, it is necessary to stress that this pattern contains several variations (e.g. double galleries, galleries with diagonal corners, galleries that do not run along the entire length of the courtyard, galleries with internal subdivisions that create separate rooms, and so on). Finally, the architectural form known as "Patio-group", though widely disseminated among Huari sites, may have an earlier
Figure 7.18. Three dimensional reconstruction of the Patio-group, Building IV.

We excavated three formerly-roofed spaces around the central courtyard: the eastern gallery, the southern rectangular room, and the transit space between the western gallery and the central courtyard. The excavations met with different levels of success. The occupation floors of the gallery and the transit space were particularly poor in cultural associations. The most notable find was a partially complete black bottle found broken at the base of an internal bench of the eastern gallery. This bottle was decorated with a press mold design typical of the "Early Transitional" style, as defined at the site of San José de Moro (Rucabado and Castillo 2003). In any case, none of these areas showed the dense accumulations of cultural refuse that were detected in the interior of the two-floor gallery.

The excavation of the rectangular room with two pair of internal small niches offered the most interesting results. From the outset, this space caught my attention for resembling a structural type present in some "hierarchical terraces" of Cerro Chepén Bajo: the rectangular room partitioned by a thin division wall (page 441). The excavation revealed, however, that the division wall was a late addition to the structure, and that it originally displayed a very different internal organization.

The excavation probed the eastern half of the structure, uncovering a sequence of two occupation floors (Fig. 7.19). The deepest floor stood 80 cm above the level of the external bench. A 15 cm high bench ran along the rear section of the room, protruding only 40 cm from the wall that bore the niches. This bench held a formal hearth delineated by stones set in an upright position (the only of its kind in the entire building) located just
Figure 7.19. Floor plans of Unit-25 (elongated room) of the Patio-group, Building IV: initial floor (upper register), and late floor (lower register). Redrawn from field originals by Elvis Mondragón.
below Niche 2. The hearth contained fragments of burnt llama bones and charred corn cobs, all buried in a dense ash matrix. The original room floor was not perfectly horizontal, but tilted slightly towards the northern end of the structure. This slight depression was found filled with a mixture of earth and stones that contained compact cultural refuse (especially llama bones).

Another interesting feature of the southern room is a small square window, 40 cm wide and 23 cm high, located 70 cm above the floor in the northern wall just opposite the pair of small niches (Figs. 7.18 and 7.19). This window is the only of its kind in the whole site. Given its small size, it is evident that the window was not designed to provide interior illumination, but to vent the smoke accumulated on the room’s interior. The window provided a clear indication that this room was originally roofed.

Despite the presence of a hearth and the cultural refuse, the room does not seem to have been used as a kitchen. We did not find traces of household implements that would have been required for food preparation activities, and the variety of discarded food remains was quite limited. Inside the excavated room, we found basically two types of edible remains: llama bones and a few corn cobs. Based on the particular configuration of the hearth (a quadrangular basin delicately delineated with stones), and its alignment with Niche 2 (which stood 1.45 cm above the fireplace), I am inclined to interpret this feature as a ceremonial element. The initial version of the southern room presented, then, a ritual space where small sacrifices and offerings were made.

Some time later, the rectangular room was redesigned. Its interior was filled and capped with a new, perfectly horizontal, mud floor, which ended up resting 35 cm above the old occupation level. This floor was later pierced by seven large holes (Fig. 7.19).
The specific function of these holes remains unknown, given that they contained few cultural remains. An unusual find was several fragments of a high-quality Cajamarca Cursive bowl, which were distributed within several holes. The quality of this bowl suggests that the holes may have not played mere utilitarian roles.

The new floor held the internal wall that divided the room into two halves. This wall was a haphazard construction, composed by irregular stones piled together with scant use of mortar. Both sides of the dividing wall were very irregular and bore no plaster. Given that the wall blocked the rear half of the room, it is very likely that the structure stood unroofed during this time (highly diagnostic roof debris were not detected in its interior). The new use dedicated to this structure remains a total mystery.

In conclusion, it is difficult to advance a final interpretation for the use dedicated to the Patio-group. Two excavations in its peripheral quarters were unproductive. The third excavation seems to have uncovered an ancient space of ritual use. It is not possible, however, to extrapolate the information obtained in this room to the whole architectural cluster and conclude that it originally functioned as a ceremonial area.

Based on the interpretations offered by several researchers who have studied similar constructions (Krzanowski 2006: 28, Lumbreras 1980: 61, J. Topic and Topic 2000: 187), I am inclined to think that Building IV’s Patio-group was designed to serve primarily as a habitation area. In fact, the typical Middle Horizon Patio-group unit represents a direct architectural antecedent to the Inca Kancha, which constituted the basic high status housing structure of Inca planned sites (Protzen 2005: 92, J. Topic and Topic 2000:187) (Fig. 7.20). Building IV’s Patio-group may have included three Architectural Units that could have provided permanent accommodations: the two lateral galleries and the
Figure 7.20. Ground plans of four patio-groups of the Moraduchayoaq Sector of Huari (left), and of two Inca kanchas of Ollantaytambo (right). Redrawn from Isbell et al 1991, Fig. 9; and Protzen 2005, Fig. 2.13.
northern set of interconnected rooms. As for the architectural design of the Functional Unit, it clearly refers to highland traditions. While I did not find any stylistic parallel (neither Moche nor highland) for the room with a small ritual hearth placed on a low stool, the architectural spaces that were apparently used as living quarters have clear stylistic counterparts in the neighboring Cordillera.

The stylistic evidence offered by the Patio-group is of particular relevance for this study, as this architectural cluster appears to have represented an area of private use. Four lines of evidence support this conclusion:

- The Patio-group is one of the most distant Functional Units of Building IV.
- The Patio-group has a relatively restricted access (across the western gallery).
- The Patio-group lacks any kind of architectural embellishment.
- We did not detect any concentration of discarded votive ceramics that might suggest that massive celebrations were held within the perimeter of the Patio-group.

The Patio-group is, together with the Functional Unit of Interconnected Rooms, one of two architectural clusters of private use found within the confines of Building IV.

**Area of Irregular Architecture**

In the southeast corner of the courtyard of the Patio-group stands the entrance to another transit room that leads, this time, to the back stage of Building IV (Fig. 7.5). This area is occupied by the last Functional Unit of the structure. This unit spreads on wide open spaces, where small retaining walls sought to create relatively leveled occupation surfaces. The most noticeable architectural feature of this unit is a large enclosed area
that abuts the southeast corner of the Patio-group (Fig. 7.21). The architecture of this enclosure, and of its surrounding constructive elements, tends to be highly irregular, marking a notable contrast with the design of the other internal spaces of Building IV.

The walls of the enclosure are relatively low (ca. 1 meter tall). The absence of fallen stones in its surroundings confirmed that the walls stand close to their original height. Further, architectural features that differentiate this occupation area from other internal spaces of Building IV include: the absence of plastered walls, the presence of walls that do not meet at right angles, and the presence of constructive additions created with simple piles of stones. For example, during its final occupation stage, the internal area of the enclosure was crossed by a demarcation feature created with a simple line of loose stones (Fig. 7.21). Finally, the excavations did not detect the presence of post holes, nor of any other evidence indicative of the existence of permanent roofing. If this area bore any kind of cover, it must have been a precarious structure made with vegetable materials.

The internal spaces of the Area of Irregular Architecture proved very difficult to excavate. This difficulty was largely due to the absence of formal mud floors. The old occupation surfaces of this area were composed of simple sand layers or patches of packed earth. Despite this disadvantage, we were able to identify a sequence of up to four occupation levels inside the enclosure, the deepest of which was laid directly on top of the bedrock substratum. When the second and third occupation levels were being used, the internal space of the enclosure was demarcated by a 60 cm high bench that ran along its northern and western sides (Fig. 7.21).
Figure 7.21. Ground plan of the Area of Irregular Architecture, Building IV (redrawn from field originals by Marilyn Herrera).
The most remarkable feature of the Area of Irregular Architecture was, however, the character of the cultural refuse discarded in its interior. This refuse, that spread thinly on some of the internal occupation surfaces, tended to concentrate on two small middens located on an external terrace. This refuse had a unique composition, suggesting the conducting of craft activities. Three different types of manufacturing activities seemed to have taken place in this area: a) production of small metal ornaments, b) production of shell pendants, and c) manufacture of pottery. In fact, the unique composition of the garbage disposed in the Area of Irregular Architecture represents one of the strongest supports for my argument that waste disposal activities were conducted independently in each Functional Unit of Building IV.

a) Metallurgy

Evidence of the production of metal artifacts is represented by a few partly-processed raw materials and waste products. This evidence includes three small copper prills (one of them hammered), and a small copper sheet that was cut to resemble a crescent-shaped object (Fig. 7.22). Even though we did not locate possible melting furnaces in the vicinity, we did find the broken lateral half of a small ceramic pot that bore evidence of having been used as a fire receptacle (possibly some kind of primitive burner). We also failed in locating examples of goldsmith’s tools such as stone anvils, chisels, and percussion objects. These small portable objects, though not totally uncommon in Pre-Hispanic metallurgical settings (Shimada 1976, Fig. 70), were highly valued and may have been removed by the artisans when leaving the site.

---

17 Some artifacts and waste products were found embedded in the superficial sand layers and it is not clear if they formed part of the sand fill or if they were accidentally buried when trampled by human feet.

18 This object was apparently discarded because of its undesirable final configuration.
b) Shell ornament manufacture

The excavations helped to recover a few discarded worked shell pieces that belonged to four different species: “palabritas” (*Donax obesulus*, 4 pieces), “olivas” (*Oliva peruviana*, 2 fragments), pearl shell (*Pinctada mazatlanica*, 2 fragments), and “mullu” (*Spondylus princeps*, 1 piece). All these pieces were being transformed into pendants, and were discarded when the manufacturing process created some errors. The techniques and tools used were different for each type of shell.

The four small “palabritas” shells had a single hole drilled through the upper center of the valve (Fig. 7.23). These pieces were apparently rejected due to the irregular character of the perforations. The “oliva” shells had their apexes dissected, possibly to create an opening for a string. Finally, the ”mullu” and pearl oyster shells were cut into rough quadrangular pieces that were later transformed into fine geometrical pendants. The Area of Irregular Architecture yielded an unfinished pearl oyster piece that might have constituted an initial step in the manufacture of a pendant type found inside the two-story gallery (Fig. 7.24). The finished pendant differed from the unfinished piece in having neatly polished edges, a more regular contour, and a hole drilled through its distal section.

In addition to the discarded shell pieces, we also found tools (or pieces thereof) that might have been used to manufacture the pendants (Fig. 7.25). The occupation surfaces of the Area of Irregular Architecture contained a few pieces of angular debris of fine-grained and crystalline rocks that do not occur naturally on the hill. These debris were obviously the by-products of flaking operations aimed at obtaining flakes with sharp cutting edges. The most unusual lithic waste product found was a minute biface thinning
Figure 7.22. Small metal objects found in the Area of Irregular Architecture of Building IV: a) and b) unworked copper prills, c) hammered prill, and d) trimmed metal sheet.

Figure 7.23. Worked shells discarded in the Area of Irregular Architecture of Building IV: a) and b) “palabritas” shells, c) and d) small “oliva” shells, e) cut Spondylus piece, f) and g) pearl oyster fragments.
Figure 7.24. Two pearl oyster shell pieces found in the interior spaces of Building IV: unfinished ornament (Area of Irregular Architecture), and pendant (two-floor gallery).

Figure 7.25. Lithic objects found in the Area of Irregular Architecture of Building IV: a), b) and c) angular debris, d) biface thinning flake, and e) polished perforator.
flake of obsidian (Fig. 7.25 d). This material is not only alien to the hill, but to the North Coast in general. We also recovered two complete tools that were apparently used in the manufacture of pendants. One of them was a small, polished basalt perforator shaped in the form of shark tooth (Fig. 7.25 e). Its perforating edge fit nicely in the holes present in the discarded “palabritas” valves. The other artifact was a curious pottery sherd tempered with very fine sand that had a flat worn edge as if it had been rubbed against a hard surface (Fig. 7.26). Expedient tools of this type would have been required to wear down and polish the edges of “mullu” and pearl oyster pendants.

c) Pottery manufacture

The only evidence of pottery manufacture in the area, although not entirely conclusive, is represented by a bone awl or thin spatula that was found lying on one of the occupation surfaces of the main enclosure (Fig. 7.27). This object originally had two pointed ends that were no longer present. Although this instrument could have been dedicated to other uses (like hide working or textile manufacture), it would have been especially suited for carving small incisions in wet clay, or for trimming off clay accumulations from leather-hard pieces taken out of molds. I favor the pottery manufacture interpretation due to the proximity of Building VII, which lies only 20 meters away across a shallow ravine. As stated in the previous chapter, this building yielded an unusual sample of up to ten different ceramic molds which had been discarded in front of its main entrance (Fig. 6.25). Whatever the true function of the bone awl, it testifies to the wide variety of manufacturing activities that took place in the Area of Irregular Architecture of Building IV.
Figure 7.26. Ceramic fragment with a worn-out edge found in the Area of Irregular Architecture, Building IV.

Figure 7.27. Bone awl with broken ends found in the Area of Irregular Architecture, Building IV.
One last piece of evidence of craft activities in the Area of Irregular Architecture is an elongated stone block, 82 cm long, 26 wide and 16 cm thick, found approximately in the middle of the enclosure area that was demarcated with a line of loose stones (Fig. 7.21). This block had two perfectly flat, major surfaces, and would have been an ideal working table. While the block was found in the last occupation surface, I think that it could have been some kind of "site furniture" (sensu Binford 1983[1979]: 278) that would have been dragged from old occupation levels every time a new use surface was created.

In conclusion, the Area of Irregular Architecture is one of the few Functional Units of Building IV in which precise use determinations can be advanced. The area housed activities related to the small-scale production of small personal ornaments of shell, metal, and possibly pottery vessels. The design of the architectural space, on the other hand, is unfortunately not informative for not being monumental. The structures that occupy this area were erected with minimal effort. The only concern was to create spaces with the minimum conditions necessary to accommodate manufacturing activities.

**Preliminary conclusions about the design and function of Building IV**

Building IV is a complex structure composed of a series of discrete Functional Units, which were dedicated to different uses. The excavations revealed that three different types of activities took place within the confines of Building IV: celebration of feasts and rituals (Sala con Nichos, Two-floor Gallery Group), habitation (Interconnected Rooms, Patio-group), and craft production (Area of Irregular Architecture). Other possible uses dedicated to the building’s internal components, but for whom we still lack
conclusive evidence, include collection of goods (*Cuadrángulo*), storage (Two-floor gallery), and food processing activities (Intermediate Terrace).

Given the wide variety of activities that took place within the building’s confines, among which habitation is clearly represented, I am inclined to interpret Building IV as a residential structure. The monumentality of the work testifies that the people who lived here belonged to the highest echelons of Cerro Chepén Alto’s society. These individuals might have been entrusted key responsibilities – both of secular and ceremonial character – for ensuring the survival of the group. The specific place where these individuals would have resided was the remarkable set of Interconnected Rooms.

As for the architectural design of the building, I have postulated that, in the case of complex monumental structures, spaces of public and private character hold different information potential. Building IV houses at least two Functional Units of public character (*Sala con Nichos*, Two-floor Gallery Group) and two of private character (Interconnected Rooms, Patio-group). I find it significant that both types of spaces reproduce the architectural style of highland cultures, especially those that developed in the northern highlands of Peru. Building IV can be interpreted, hence, as a structure designed by foreign intruders and not as a local creation of coastal dwellers.

**Building VIII**

In addition to Building IV, two other buildings with galleries were excavated in Cerro Chepén Alto: Buildings VIII and IX. These buildings were constructed next to each other in an almost perfectly central location within the sector (Figs. 6.2 and 6.6). This location made them stand close to the hill’s summit. In fact, no other monumental
structure of the site was erected in a higher position (see Fig. 6.26). In the previous chapter, I mentioned that this location conferred unique defensive advantages to the buildings’ occupants. It is necessary to add, however, that this position also favored monitoring activities, offering the buildings’ occupants unrestricted views of the site and its surroundings.

First, the two buildings stand very close to the perimeter wall of Cerro Chepén Alto. In this part of the site, the wall runs along the crest of Chepén Hill (hence the name "hill-top wall"). From the top of the wall segments that run behind the buildings, it is possible to visualize the entire central area of the northern branch of the Jequetepeque Valley. On a clear day, it is even possible to see the eastern slopes of the hill chains that border this branch from the west (Faclo-Murciélago-Charcape, and Huaca Blanca-San Ildefonso-Santa Rosa). As was mentioned in Chapter V, these hills were the seat of two autonomous Late Moche irrigation communities of the valley. Second, the frontal terraces of both buildings command an unrestricted view of the eastern slopes of Chepén Hill, including the neighboring Cerro El Gavilán. In other words, these terraces allow visual coverage similar to that offered by the Intermediate Terrace of Building IV, except that in this case, the coverage is further extended by the higher position of the structures.

In conclusion, buildings VIII and IX are the monumental structures that command the best view of the surrounding landscape, allowing its occupants to achieve an early detection of any distant group of humans moving towards the site.

Turning now to the description of the internal organization and architectural design of Building VIII, it should be stated that Building VIII is an almost perfect rectangular structure that evidences clear differences in general layout from Building IV.
Despite these differences, it is clear that both structures were intimately related. Building VIII includes five different Functional Units, three of which (*Sala con Nichos*, Interconnected Rooms, and Two-Floor Gallery Group) are replicated in its northern counterpart. Moreover, there is a clear possibility that Building VIII’s Walled Patio was dedicated the same use as Building IV’s Intermediate Terrace (Fig. 7.28). Perhaps more striking than the repetition of internal components is the fact that these units occupy the same relative position within both buildings. This important evidence leads me to conclude that, though different in general floor plan, Buildings IV and VIII were analogous structures that not only embraced the same range of activities, but also housed individuals of similar rank. Before developing a broader discussion of this topic, I think it is necessary to first describe the main internal components of Building VIII.

**Sala con Nichos**

The main entrance to Building VIII is located at the back of the structure, oriented towards the “hill-top wall” of the sector. This entrance leads directly to a high podium that overlooks an enclosed space that I call the *Sala con Nichos* (Fig. 7.28). The most outstanding feature of this enclosure is a thick southern wall decorated with a row of four large niches (Fig. 7.29). Not only are the niches very similar to the ones of the analogous space of Building IV (85 cm wide, 80 cm deep and, possibly, 85 or 90 cm tall), but the *Sala con Nichos* is the only Functional Unit of Building VIII that presents this type of wall decoration. These niches are curiously arranged at two different levels, with the two eastern niches approximately 1 meter lower than the two western niches. This evidence
Figure 7.28. Ground plan of Building VIII showing the location of Functional Units and internal circulation routes.
suggests that the basal floor of the courtyard (which lies covered by a dense accumulation of wall debris) was also arranged in two different levels.

In addition to the unusual layout of the niches, there are three main design characteristics that distinguish this sala from the analogous space of Building IV: a more restricted area (ca 80 m²), the access podium, and principally, the presence of two elevated rooms on the western flank of the enclosure (Fig. 7.29). These two rooms have an open side directed towards the courtyard, and were apparently roofed with permanent structures. They rise approximately 90 cm above the level of the adjoining internal floor. We excavated the northern room completely, and were unable to find anything that could inform on its original use. Given its special emplacement, I think that this space was actually a seat for an important spectator.

The interior area of the Sala con Nichos was also excavated. We created a 3 X 2 m excavation area in the southeast corner of the enclosure. We found a horizontal floor, badly battered by falling rocks, approximately 1.5 meters below the level of the lower niches. The wall collapse in this corner was unusually dense, suggesting that the southern wall originally rose to a significant height (possibly 2 meters above the base of the niches). We did not find any evidence that suggested that this wall ever supported a partial roof. I doubt that this might have been the case, given that the courtyard’s floor might have been split into at least two levels.

In conclusion, Building VIII housed a Sala con Nichos, and this unit maintains the same relative location of the analogous space detected in Building IV (the nearest space to the building’s main entrance). Based on its location and design characteristics (an architecturally-embellished open space with lateral podiums), I propose that the Sala con
Figure 7.29. Three-dimensional reconstruction of the Sala con Nichos and the adjoining Interconnected Rooms, Building VIII.
Nichos of Building VIII also served public functions. The particular layout of this Functional Unit differs from the one of its most monumental pair, and makes it difficult to establish comparisons with structures of known cultural traditions. Despite this difficulty, I believe that the Sala con Nichos of Building VIII is absolutely comparable to that of Building IV, and that its design peculiarities only disclose a different way of expressing the same architectural idea.

**Interconnected Rooms**

In the northeast corner of the Sala con Nichos stands an exit that leads into an internal courtyard that served as a traffic distribution area. South of this courtyard we find a set of Interconnected Rooms that stand right behind a wide sidewalk (Figs. 7.29 and 7.30). We excavated the frontal room or antechamber of the group, discovering a perfectly clean space that had a solid mud floor and dense wall plasters. This space offered undisputable evidence of having been roofed (a roof debris layer resting on the floor). A sealed lateral access originally connected this room with the neighboring Sala con Nichos, evidencing the close connection that existed between both Functional Units.

I interpret this block of rooms as an analogous unit to the one found on Building IV. In other words, it was a private space where the most prominent individuals of the structure dwelt. The floor plan of this set comes surprisingly close to the Type II housing unit of Kzanowski’s (2006: 28) classification (Figs. 7.14 and 7.30). Finally, it is also significant that the Interconnected Rooms maintain the same relative position within the building as that of the analogous structure of Building IV – being relatively close to the building’s main entrance, but still more distant than the Sala con Nichos.
Figure 7.30. Ground plan of the Interconnected Rooms, Building VIII.
**Patio with Podium**

The courtyard that served as a traffic distribution area has in one of its corners an access that leads to one of the most interesting Functional Units of Building VIII: the Patio with Podium. This unit is reached after crossing a small enclosed transit area very similar to the ones located on the northwest and southeast corners of Building IV’s Patio-group. The Patio with Podium consists of a large square courtyard (111 m²), partially bordered by a low "L"-shaped bench. Behind this bench stands a large high rectangular podium (Fig. 7.28). The podium is 13.2 meters long, 4.7 meters wide, and rises about 2 meters above the floor of the courtyard. The top of the podium is reached through an external lateral block of stairs; very similar to the ones present in buildings I and VI (see description of these structures in Chapter VI).

The most interesting aspect of this Functional Unit is that it manifests close affinities with Late Moche architecture. Recall, for example, "Building G" of Cerro Chepén Bajo, which had on its western end a small patio with a raised podium that was delimited by a high rear wall with niches (page 445). Similarly, “Building D” of the same sector presented a large frontal esplanade with a low platform in its rear limit (page 441). The very idea of a walled patio with a rear podium is also manifested in the Moche "hierarchical chambers" described earlier.

Despite these similarities, the Patio with Podium presents some design characteristics unrelated to Moche architectural forms, especially the "hierarchical chambers". First, the back wall of the podium, which clearly retains its original height, rises only 1.30 meters above the ground level. This feature would not have been high enough to support a slanted or horizontal roof. It is also significant that the designers of
Building VIII did not opt to use a ramp to connect the podium with the basal floor of the patio, especially considering that this space offered many facilities for building such a structure\(^\text{19}\). We have already seen that in Moche public architecture, ramps had more than mere functional connotations, being structures charged with deep symbolic meaning.

Even though the Patio with Podium does not replicate Moche architectural forms in an exact way, I think that the overall design of this cluster was inspired in coastal architecture. The extent and openness of the space and its relative proximity to the main entrance of the building suggest that this area was used as a space for public assembly. The specific activities that took place here remain a total mystery, given that this area, apart from not been excavated, did not have any kind of superficial evidence that could provide information on past uses.

**Two-floor Gallery Group**

The Two-floor Gallery Group occupies the northeast quadrant of Building VIII, and is one of the two major Functional Units built on the building’s lowermost support terrace. In order to reach this unit, it is first necessary to reach the eastern edge of the courtyard used as a traffic distribution area, and then descend through a narrow passageway that may contain a buried stairway (Fig. 7.28 and 7.33). Unlike the homonymous unit of Building IV, the central courtyard of this set was closed on all four sides by galleries. The southern and northern galleries are the longest (12 and 12.2 meters, respectively) and have two entrances that are perfectly aligned from opposite sides of the courtyard. Given that each gallery is partitioned by an internal wall, each

---

\(^{19}\) These facilities included not only the evenness of the terrain, but also the presence of a rock outcrop right in front of the central part of the lateral bench, which could have been easily integrated into the body of a central ramp.
access leads to an independent space. The west flank of the patio is closed by a shorter
gallery with a central access. A similar structure may have stood on the eastern flank, but
now has completely disappeared due to the collapse of the upper edge of the retaining
wall of the terrace.

Of all the galleries that make up this Functional Unit, the northern gallery would
have been the most spectacular given that it presents evidence of having borne a second
floor. This evidence is represented by remnants of two internal rows of corbels that are
still visible on the western end of the structure. In addition to this architectural feature,
the gallery presented a solid structure attached to its façade that looked like a podium
with two lateral protuberances. This structure was preliminarily interpreted as an “altar”
and was subjected to excavation. Besides the altar, we also dug the western end of the
gallery and part of the adjacent courtyard. We also opened an excavation area in the
eastern end of the gallery that stands across the patio, in order to obtain information about
the uses dedicated to the different roofed spaces of this architectural cluster.

The excavation of the two-floor gallery revealed that the internal organization of
the space replicated some design features observed in the analogous structure of Building
IV. First, it was discovered that the lateral rows of corbels rose 1.90 meters above the
level of the internal floor\(^{20}\). It was clear, then, that the lower story of both galleries were
designed with ample room for upright walking. The excavation also revealed a thick layer
of packed earth lying on top of the interior floor. This layer obviously corresponded to
the original cover of the wooden frame that supported the elevated floor structure.

More interesting than the coincidences manifested by both galleries were the
abnormal design features evidenced by this gallery. First, the internal space of the

\(^{20}\) This height was measured from the upper surface of the corbels.
structure was found to be completely clean of cultural refuse, making it clear that the occupants of Building VIII did not choose to use their two-floor gallery as a dumping area. The gallery’s floor also showed a wide 15-cm-high, elevated bench that occupied the final 2.15 meters of the structure. In other roofed spaces of the excavated buildings, similar features have been found which have been identified as sleeping benches. In all these cases, the breadth of the alleged sleeping bench is surprisingly consistent (Building IV, AU-14 = 2.1 m, Building VIII, AU-30 = 2.15 m, Building IX, AU-14 = 2.0 and AU-18 = 1.85 m), suggesting that they were dedicated a similar use.

Perhaps the most diverging design feature observed in this gallery were 25 small, shallow holes that pierced its internal floor in an orderly array. The holes were dug bordering the interior walls of the structure and also the base of the bench (Fig. 7.31). We excavated all holes and found 23 of them free of cultural debris. Two holes located near the access had unique contents, including 31 guinea pig bones (Hole 1) and a selection of highly diagnostic pottery sherds mixed together with a few carbonized corn kernels (Hole 2). The specific function of these holes is very difficult to ascertain, but they may raise questions regarding the purpose of the structure.

One possible solution to the functional dilemma posed by these holes was found in the excavation area placed in the contiguous courtyard (Fig. 7.32). The courtyard showed the same arrangement of holes bordering, sometimes in double rows, all the peripheral constructive elements of this open space. The excavation uncovered a total of 37 marginal holes, cleverly restricted to areas that would not have hampered internal traffic. The vast majority of them were found, again, clear of cultural debris. It became clear that the holes were not dug to bury offerings or other cultural materials. The final
Figure 7.31. Floor plan of Unit-30 (two-floor gallery), Building VIII (redrawn from a field original by David Oshige Adams).
Figure 7.32. Floor plans of Unit-31 and Unit-32 (patio and stairs in front of the two-floor gallery), Building VIII (redrawn from field originals by David Oshige Adams).
answer to the dilemma regarding their use was found in holes 27, 50, 60, and 62, which contained broken pottery vessels that seemed to have collapsed within their interiors (Fig. 7.32). All vessels were reconstructed to varying degrees, allowing me to identify them as Late Moche utilitarian forms. Based on this evidence, I concluded that the holes were dug to serve as supports for domestic (storage?) vessels with rounded bases. It was not possible to ascertain, however, the specific contents of the vessels, nor if all holes originally bore a vessel. The only conclusion that I could draw is that the holes gave the patio a singular aspect that was not replicated by any other architectural component of the surveyed buildings.

In addition to the gallery and its contiguous courtyard, we also excavated the structure that I had tentatively identified as an "altar". The excavation revealed that the structure was not a ceremonial feature, but an elaborate stairway that provided external access to the gallery’s second floor (Figs. 7.32 and 7.33). The structure rested on a 55-cm-high rectangular platform, which had a small central step in front of it. Two divergent flights of stairs rose on both ends of the platform, abutting the exterior face of the gallery. The western flight was the most complete; still preserving three of its four original steps (the eastern flight had only two). This entire structure bore a dense cover of fine plaster, which gave it a neat appearance. In my opinion, the external stairway was purposely given an elaborate design in order to increase the monumental character of the two-floor gallery. We even have indirect evidence that suggests that the general appearance of this access structure was further embellished. At the southwest corner of the platform that supports the stairway lies the only post hole that we could identify within the mass of shallow depressions that pierce through the patio’s floor (H-43, Fig. 7.32). This hole is
Figure 7.33. Three-dimensional reconstruction of the Two-floor Gallery Group, Building VIII.
a perfectly circular feature, 18 cm wide and up to 60 cm deep. Given that a post planted in this spot would not have served any structural function, I assume that the hole was meant to hold an ornamental mast or banner.

Finally, one last architectural component of the Two-floor Gallery Group that was excavated was the southern gallery. The excavation of its eastern end revealed an interesting sequence of occupation surfaces, which were dedicated to different uses. The lowermost floor was a perfectly-horizontal thick feature, very similar to the one found in the interior of the two-floor gallery. This surface was also found free of cultural remains. This level was apparently abandoned when a child burial was placed in its premises (see Chapter IX). A new occupation surface was created about 25 cm above the previous floor. The second mud-floor showed an irregular surface, having been carelessly poured on top of a coarse rocky fill. The new floor had up to 18 shallow holes, which revealed no regular distribution. The second floor was later covered by a rubbish dump that erased any primary evidence of its use.

Before starting the excavation of Building VIII, I was convinced that the Two-floor Gallery Group hosted the same activities of its Building IV’s counterpart. This assumption was based on the close architectural similarities that bound both clusters. Even though the Functional Unit of Building VIII contained more architectural components, both groups housed the only two-floor galleries detected at the site, which were coincidentally placed in front of a square courtyard. When the excavation revealed disparities in the contents and architectural design of the two-floor gallery of Building VIII (clean interior, holes on the floor, external staircase), I was forced to consider the possibility of different uses. The garbage dump discovered in the southern gallery now
suggests that these areas may have indeed hosted similar activities. The ceramic vessels discarded in this dump include the same morphological types detected at the two-floor structure of Building IV. Now I think that the two-floor gallery of Building VIII was kept clean because the occupants of this cluster had more peripheral spaces in which they could discard the leftovers of their feasts. Given that there was no attempt to renew the floor of the southern gallery, it is possible, however, that this space had already been abandoned when the garbage began to accumulate in its interior.

Another trait that distinguishes the contrasted Functional Units is the abundance of "vessel supports" both in the courtyard and in the interior of the two-floor gallery of Building VIII. Their disposition suggests a ritual event. Moore (1996: 139) defines ritual architecture as constructed spaces that are public, special, and unique. The architectural arrangement of the Two-floor Gallery Group and the presence of these holes confirm that this cluster might have been used for this purpose. The “sacredness” of the space is not manifested, however, in the vessels found broken on the courtyard. They were all simple utilitarian Late Moche forms. The real importance of these vessels might have been in their contents. It is possible that these vessels contained valuable foodstuffs consumed in public ceremonies. Given that we found similar vessels discarded in the interior of the two-floor gallery of Building IV, the absence of “vessel supports” in the courtyard of the latter structure does not necessarily imply that different ceremonies were held in its premises, but only perhaps that there were differences in the implementation of the same rituals.

In conclusion, the Two-floor Gallery Group of Building VIII had a functional counterpart in Building IV. Both clusters would have been conceived as public spaces,
and it is possible that they were the location of ceremonies that drew high numbers of participants. These rituals involved the consumption of foodstuffs stored in large and mid-sized utilitarian vessels, most of which were of Late Moche style. Finally, the design of the architectural space is distinctively highland.

**Walled Patio**

The last Functional Unit of Building VIII lies next to the Two-floor Gallery Group, occupying the northwestern quadrant of the structure. This unit is a huge open space walled on three sides, that I have called the “Walled Patio” (Fig. 7.28). The Walled Patio occupies an area of approximately 340 m², representing the largest walled space of all excavated buildings. Although this type of space is quite rare within the group of buildings with galleries, similar compounds are found in other monumental buildings of Cerro Chepén Alto (Chapter VI). The Walled Patio represents, therefore, an architectural link with the monumental buildings that occupy the lowest reaches of the sector.

An important design feature of the Walled Patio, the location of its access route, was never properly solved. Right behind the Walled Patio stands the Patio with Podium. On the southeast corner of the latter unit there is a portal that could have marked an entrance (Fig. 7.28). A direct connection between both units is, however, impossible, given that there is a 5 meter altitudinal gap between the surfaces of the two courtyards. My suspicion is that the Walled Patio could only have been entered from the northeast corner of the Two-floor Gallery Group. The access area, which unfortunately has disappeared due to the collapse of the frontal retaining wall of the building, may have housed a small transit room, similar to the ones present at the corners of Building IV’s
Patio-group. If this was the true access route, then the Walled Patio would have been the most distant Functional Unit of Building VIII, being totally dependent in terms of access from the Two-floor Gallery Group.

The Walled Patio was not excavated, so it hard to state anything precise about its original function. The area also lacks distinctive superficial features that might help establish comparisons with other Functional Unit that have been analyzed. The only evidence of its use detected in the area were thin, sub-surface lenses of ash and burned earth that were uncovered by a few huaquero pits dug at the rear end of the patio. Although this evidence is very tenuous, it still serves to establish functional connections with the Intermediate Terrace of Building IV. Both spaces share, besides an open configuration and the presence of burned areas, a relatively marginal position within their building. This position conferred, nevertheless, unique advantages with respect to surveillance activities. Both units also had a direct physical connection with the Two-floor Gallery Group of their respective buildings. It is possible, therefore, that the Walled Patio also housed food production activities. Given the breadth of its space, it would not surprise me if this area also held other types of activities.

Preliminary conclusions about the design and function of Building VIII

Perhaps the most striking discovery relating to the internal organization of Building VIII is the presence of Functional Units that have also been detected in Building IV. Building VIII also encompasses a Sala con Nichos, a set of Interconnected Rooms, and a Two-floor Gallery Group. It is also noteworthy that these architectural clusters hold the same relative positions within the building as the one documented in Building IV. In
this way, the *Sala con Nichos* is the most accessible space, and access becomes more restricted as we move towards the Interconnected Rooms and, finally, the Two-floor Gallery Group. In Building VIII, the Functional Unit that might have housed food production activities (Walled Patio) also lies farther away from the main entrance than any of the other three clusters, and also evidences a direct connection with the Two-floor Gallery Group. It is for these reasons that I believe that buildings IV and VIII were analogous structures that not only encompassed the same range of uses and activities, but also housed individuals of equivalent rank.

It is not possible to say, on the one hand, that both buildings were exact copies of each other. Building VIII presents notable singularities in architectural design that affected both the floor plan of individual units, and the overall ground plan of the structure. In this way, the *Sala con Nichos* is distinguished for having only one ornamented wall, two elevated lateral “seats”, and a high access podium. The Interconnected Rooms, on the other hand, include only two rooms, none of which is a gallery. Finally, the architectural cluster that accommodates the two-floor gallery is, in the case of Building VIII, a full-blown patio-group. I found it interesting that the two-floor galleries of both buildings, though different in design, did express the same idea of monumentality. Building IV’s gallery expressed this notion through its massive volume (encompassing up to 144 cubic meters of inner space). Building VIII’s gallery, though much smaller, manifested a high level of architectural elaboration thanks its complex façade that included a neatly designed external stairway.

The differences in the general layout of the structure are also striking. It is noteworthy that Building VIII does not have the elaborate façade of its northern
counterpart. To the contrary, the main entrance of the structure is quite inconspicuous, virtually hidden behind the main body of the building. Also striking are the different alternatives that the builders of the structures chose to direct internal movement. In Building IV, the internal circulation route follows a sinuous course that links all constituent Functional Units in a sequential manner. Since Building VIII has a rectangular plan, its designers decided to direct internal traffic in a different way, placing a traffic distribution area in an almost perfectly central location within the structure. Four of the five Functional Units of Building VIII can be directly accessed from this central courtyard. Finally, I cannot fail to mention the presence of an abnormal Functional Unit within the confines of Building VIII: the Patio with Podium. This is the only case of a structural component of Moche inspiration assimilated into the general plan of a building with galleries in Cerro Chepén Alto. This assimilation might indicate the closeness that the occupants of this structure still bore to the residents of Cerro Chepén Bajo.

One last question that remains to be solved is why two of the Functional Units found in Building IV (Patio-group and Area of Irregular Architecture) were not replicated in Building VIII. Were the Two-floor Gallery Group and the Patio-group units merged into one architectural cluster in Building VIII? Were craft activities relegated to the area of the Walled Patio? In order to find an answer to these questions it will be necessary to first review the general organization of the last building investigated at the site: Building IX.
Building IX

Building IX is located next to Building VIII, sharing with it one of its lateral walls. In fact, the wall that both buildings share is part of Building IX’s original enclosure, making it clear that Building VIII was erected after the primary walls of its neighboring structure were in place. The disparity in the construction sequences of both buildings does not imply, however, major inconsistencies in the occupation histories. Radiocarbon and ceramic evidence indicates that both buildings were used at the same time, allowing me to conclude that they represented an important monumental nucleus in the central part of the sector.

Building IX has four main Functional Units, distributed in something that might be called the structure’s main body (which has a rectangular layout) and a South Wing (Fig. 7.34). Despite being so close to Building VIII, none of these units replicates the design of the internal components of the northern neighbor. As mentioned in the previous chapter, the ground plan of Building IX’s main body is almost identical to the one of Building VI, making it possible that both structures had analogous functions. This coincidence creates a balanced distribution of buildings with galleries with allegedly complementary roles within the Cerro Chepén Alto sector. Just as Building IX lies next to Building VIII, Building VI was constructed in the immediate vicinity of Building IV, which, as we have seen, shares several internal components with Building IX’s neighbor.

South Wing

The South Wing is an architectural area dominated by open terraces. Here, the only structures erected with free-standing walls are two marginal square rooms with
Figure 7.34. Ground plan of Building IX showing the location of Functional Units and internal circulation route.
central doorways. These rooms stand on a high terrace at the southern end of the cluster, on the farthest side to the building’s main body (Fig. 7.34). The layout of the terraces and ancillary structures, and the circulation route that was laid between them, suggests that the South Wing was conceived as an elaborate control area for people trying to reach the main compound of Building IX.

Access into the South Wing is channeled through a rectangular depression located on top of the highest terrace in a group of central terraces (Fig. 7.34). Surprisingly, this route does not lead directly to the main gate of the walled enclosure of Building IX, but makes a turn in the opposite direction leading towards the front of the high terrace that contains the two square rooms. These rooms have an interesting design that, though simple, is reminiscent of some free-standing structures found on a few of the “hierarchical terraces” of Cerro Chepén Bajo, especially in Building H (compare with Fig. 6.36, left). It is possible that these rooms had functions related to traffic control, as we found a few river pebbles (sling shots?) in the interior of the eastern structure. The precise size of this concentration is hard to determine, given that it lies covered by wall debris. I assume that this pile may not be small precisely because it was still visible despite the debris accumulation.

It is interesting to note how minor examples of Moche-like architecture guarded the entrance to Building IX. A very similar situation was documented at Building VI that, as already described, is a twin structure of Building IX. Here, the control structure was

21 At the site of Pampa Grande, Martha Anders (1977) found a concentration of 165 river pebbles inside a courtyard that formed part of an access complex to Huaca 2. Given that the courtyard did not present any indication of having served defensive purposes, Anders (1977: 271) interpreted the pebbles as “a means for calculating the number of people or products entering the complex and also for recording the completion of certain tasks”. Whether the pebbles found on the South Wing apex room were used as counting devises or as ammunition for slings, either possibility corroborates the interpretation that these spaces served functions related to traffic control.
represented by a separate building with monumental attributes (Building V), which not only stood in front of the entrance of the building with galleries, but also held its own concentration of river pebbles (in this case interpreted as ammunition for slings). As you will recall, Building V contained a series of small rooms with benches, very similar to some found on a few hierarchical terraces of Cerro Chepén Bajo. The curious architectural configurations of the structures that guarded the entrances to Buildings IX and VI may be more than coincidental, suggesting that the design of these control posts was left to the local people to develop.

**Vestibule**

Human traffic through the South Wing was directed towards a wide frontal terrace, from where it was channeled to the north until reaching the only doorway present in the main compound of the building. Before reaching this gate, by-passers crossed an intermediate area that is bounded by the peripheral walls of both the South Wing and the rectangular compound that forms the main body of the building (Fig. 7.34). Given that this area is structurally attached to the outer perimeter of the main enclosure, I have seen fit to call it the “Vestibule”.

The Vestibule is made up of two clearly distinguishable Architectural Units. The eastern side is occupied by an elevated walkway, guarded by a low wall that protects by-passers from falling into the abyss in front of the building. This walkway leads directly to the main entrance of the enclosure. The western flank is occupied by a sunken, trapezoidal room, marked by free-standing walls on its eastern and southern flanks, and
by retaining walls of terraces on its northern and western sides. A possible lateral flight of stairs would have connected the lowermost, northern terrace with the room’s interior.

The sunken trapezoidal room was important for two reasons. First, this room has yielded some of the best examples of fine pottery vessels recorded at the site. Excavations conducted during 2006 revealed that this space was used as a dumping area, where vessels used in the interior quarters of the building were discarded. Second, excavations also revealed that this space had a singular occupation surface, represented by the natural, slanted, rocky surface of the hill. In fact, the trapezoidal room was the only Architectural Unit of Building IX that did not have an artificially leveled floor. I can not avoid comparing this room with a structural component of Building IV (the _Cuadrángulo_), which presented a similar internal arrangement. This unit also held a frontal, but peripheral, location within the building. The _Cuadrángulo_ was tentatively interpreted as a collection area for goods and products entering the building. It is possible that the trapezoidal room played a similar function before ending its days as a repository for cultural refuse.

**Frontal Terrace**

The main body of Building IX is composed by only two Functional Units: The Frontal Terrace and the Patio-group. The Frontal Terrace is a large (268 m²) open space that contains little superficial evidence of its use (Fig. 7.34). Due to its breadth and frontal location, it is possible to speculate that it was used as a reception area and gathering point for visitors (i.e. a function similar to the one inferred for the Frontal Terrace of Building IV). The collapse of the upper edge of the retaining wall of the
terrace has uncovered thin lenses of scorched earth and small carbonized materials on what would have been its original surface. I cannot rule out the possibility that this area was also devoted to other uses, like food preparation activities.

**Patio-group**

Building IX’s Patio-group is one of the most striking Functional Units of all buildings with galleries of Cerro Chepén Alto, mainly because it encompasses an interesting mixture of architectural spaces of typical highland character. The Patio-group is also unique because it is the only Functional Unit reviewed this far that was significantly remodeled during its history. Although the architectural modifications, changed the general floor plan of the cluster, they did not alter the highland design of its internal components. The main body of Building IX is, therefore, a structure that must be seriously taken into consideration when interpreting the cultural origins of the most conspicuous inhabitants of Cerro Chepén Alto.

The Patio-group was originally designed as a series of closed architectural spaces surrounding a quadrangular courtyard (Fig. 7.34 and 7.35). The courtyard itself was delineated by a high bench on three of its four sides. A double-tiered bench was placed along its western margin to compensate for dramatic slope changes and eventually cover underlying rock outcrops (Fig. 7.35). The patio was originally surrounded by galleries on its northern, western, and southern sides. Two Type III housing units of Kzanowski’s classification (2006: 28) bordered the courtyard from the east. Each gallery was roofed and had an internal dividing wall that created two separate habitation spaces. Each space had an independent doorway that opened into the central courtyard. The doors were not,
however, perfectly aligned from opposing sides of the patio, as was the case of the Two-floor Gallery Group of Building VIII.

Both of the two Type III housing units that flank the patio from the east encompassed two architectural spaces: a quadrangular antechamber and a narrow room behind it. Excavations revealed that only the rear rooms were roofed, and that the antechambers originally stood as small private patios. These houses were built on an intermediate terrace level, which was 1.4 meters lower than the central courtyard, but 1.9 meters higher than the Frontal Terrace. An external, lateral flight of stairs allowed access to the intermediate terrace level from the Frontal Terrace. Access to the inner courtyard was through the private patio of the southern housing unit (Figs. 7.34 and 7.35).

Sometime during its occupation history, the Patio-group was remodeled. Some constructive elements were added to the area of the central courtyard (Fig. 7.36). A walled enclosure was raised in front of the eastern half of the southern gallery, creating an open, quadrangular space that looked like an antechamber. The internal floor of this space was raised to coincide with the level of the lateral bench. Similarly, the bench in front of the western half of the same gallery was expanded to create a quadrangular platform that was partly walled. The intention behind these architectural modifications was to add two more Type III housing units to the layout of the Patio-group. Finally, two small cells with no evident doorways – which were possibly used as deposits – were erected in the northeast corner of the courtyard (Figs. 7.34 and 7.36).

Up to seven different excavation areas were located within the confines of the Patio-group to understand the uses dedicated to the courtyard and its peripheral spaces (Fig. 6.4). The excavated spaces included the room of the southern housing unit, the
Figure 7.35. Three-dimensional reconstruction of the first construction stage of the Patio-group, Building IX.
Figure 7.36. Three-dimensional reconstruction of the second construction stage of the Patio-group, Building IX.
southern, western and northern galleries, and the courtyard itself. The excavations allowed me to detect three different use alternatives for the evaluated spaces: habitation, public use, and something that I call “special use”. The spaces dedicated for residential use were the room of the southern Type III housing unit and the eastern half of the southern gallery. In these places, the excavations revealed basically the same thing: a perfectly clean interior space that presented a well-built internal floor and a high sleeping-bench in one of its ends.

The space reserved for public use was the central courtyard. Three lines of evidence supported this assumption: a) the openness of the space, b) the architectural embellishments, and c) the type of discarded materials. First, when cleaning some interior walls of the courtyard, we discovered traces of white paint on the mud plaster of some gallery walls. It is possible, then, that all the peripheral walls of the courtyard were painted white, an uncommon feature among all the Functional Units reviewed this far. Second, an excavation area in the northwest corner of the courtyard allowed us to detect a thin refuse layer covering its floor. This layer contained elements that were consistent with feasting activities, including llama bones and fragments of two large storage vessels and a fine drinking bowl. The latter was a beautiful kaolin, Cajamarca Cursive bowl decorated with linear motifs. Despite the small area uncovered (3.2 m², or 8.74% of the area of the late version of the courtyard) we were able to recover several fragments of these ceramic pieces, suggesting that many more may still lie buried under superficial debris.

The excavations located in peripheral roofed spaces allowed us to find two areas that were dedicated to a special use. One of them was the western half of the northern
gallery. In this room, we discovered a garbage dump lying directly above its occupation floor. After cleaning the midden, we unveiled two large sealed intrusions that pierced the room’s floor. Both intrusions ended up containing two interments of young individuals (these burials will be described in Chapter IX). It is possible that this space was abandoned soon after it was used as a burial ground. The occupants of the Patio-group saw fit later to use the unoccupied space as a dumping area.

The other area of special use was the southern half of the western gallery. This space had a neatly-built, internal floor, which had two large circular depressions (58 and 64 cm in diameter) with rounded bottoms located at a relatively central position within the gallery (Fig. 7.37). These depressions were the imprints of two large, storage vessels, now missing. Scattered on the floor, we also found tiny pieces of food waste, which included an impressive variety of animal remains. The food leftovers included remains of 11 different mollusk species, 4 fish species, 2 different types of birds (wild pigeon and cormorant), small fragments of llama bones, and shell fragments of fresh-water and sea crabs. Despite the abundance of food waste, there was no indication that these products were cooked in the gallery.

The gallery floor also yielded numerous pottery fragments, mainly of fine black, ware pieces. The fragments were notably small and were literally found embedded in the mud floor. We collected all fragments and made our best effort to reconstruct the original vessels, coming to the conclusion that we had parts of 7 different containers. Five of these constituted small open vessels, which I believe were used to extract food or liquid from the two large paicas that originally stood inside the gallery. Interestingly, we found
Figure 7.37. Floor plan of Unit-02 (west gallery) of the Patio-group, Building IX (redrawn from a field original by Bárbara Carbajal).
matching parts of four of these vessels in the garbage dump that accumulated in the sunken trapezoidal room of the Vestibule.

The ceramic evidence collected inside the western gallery constitutes the best example of “primary refuse” (*sensu* Schiffer 1977: 21) that I can think of. In my opinion, the individuals who participated in the celebrations carried out in the central courtyard would have repeatedly entered the western gallery to replenish their individual food and drink rations. In the process, some of their bowls would have fallen to the gallery’s floor and broken into pieces. The largest fragments may have been easily collected and discarded in the exterior garbage dump. The smaller fragments, on the other hand, remained lost in the darkness of the environment. These fragments would have been accidentally trampled by people who continued entering the room, generating the pattern of tiny fragments embedded on the floor.

In conclusion, Building IX’s Patio-group would have been a housing cluster that also included selected spaces dedicated to the development of public celebratory activities. Excavations have disclosed the dissimilar appearance of the areas that were used for these purposes. The cleanliness and pulchritude of the lateral rooms with internal sleeping benches contrast sharply with the untidiness of the western gallery and the central courtyard. Both public and private activities took place within an architectural setting endowed with monumental characteristics, as exemplified by the ample size and neat arrangement of the constituent spaces, and the presence of internal façades painted white. This monumentality found physical expression in architectural spaces that were built according to a typical highland design.
Preliminary conclusions about the design and function of Building IX

The most important Functional Unit of Building IX was evidently the Patio-group. This cluster included the most conspicuous housing and communal areas of the structure. All other Functional Units of the building would have served mere peripheral roles, like reception area for visitors (Frontal Terrace), temporary storage of goods and, later, waste disposal area (Vestibule), and control post for incoming traffic (South Wing). Given these characteristics, it is possible to conclude that Building IX served primarily residential functions. The monumentality of the structure indicates that its occupants belonged to the highest echelons of Cerro Chepén Alto’s society. The exogenous style of its architecture (especially in respect to the spaces of private character) suggests that these people were not native to the lower valley.

Now that I have completed the review of the functional, organizational, and architectural style of Building IX, I can move on to solve the mystery of the Functional Units missing at Building VIII. As you will recall, Building VIII, although evidencing the same general internal organization of Building IV, did not present two architectural clusters that completed the structural plan of the latter structure. These clusters were the Patio-group and the Area of Irregular Architecture. The possibility existed that these two missing units would have been integrated into the architectural layout of the adjacent structure, Building IX.

Regarding the Patio-group, I doubt that Building IX’s unit would have played an equivalent role to the corresponding Functional Unit of Building IV. Building IX’s Patio-group denotes a higher level of architectural sophistication and a different internal organization than Building IV’s cluster. It also represents the nuclear area of an entire
building. Its closest counterpart should lie in Building VI (not excavated), which is also dominated by a Patio-group cluster. I suspect that Building IX, instead of being a constructive annex of Building VIII, was an independent structure that served complementary roles. It is possible that this building was a residence to a group of notables that were closely related to a paramount figure who resided in Building VIII. These people could have been part of the personal court and/or extended family of this prestigious occupant. In conclusion, Building IX’s Patio-group can not be considered to be the missing unit of Building VIII.

As to the Area of Irregular Architecture, even though we failed to detect an architectural cluster with these characteristics within the limits of Building IX, we did find evidence that indicated craft production in this compound. The evidence was collected from the trash mound that accumulated inside the sunken room of the Vestibule, and curiously covers the same range of activities identified in the rear complex of Building IV: production of small metal objects, manufacture of shell ornaments, and production of pottery. A brief review of this evidence may serve to demonstrate that similar craft activities took place within Building IV and Building IX.

a) Metallurgy

The evidence of the production of metallic ornaments is represented by a few waste products (two discarded edges of trimmed sheets), a copper "prill", and fragments of two singular working tools: a) a fragment of a stone anvil or percussor, and b) a fragment of a concave ceramic mold used for casting metal objects. The anvil is an oblong, andesite pebble with a prepared flat working surface (Fig. 7.38). The working
surface bears numerous use marks: extensive peripheral chipping (indicating numerous impacts) and a series of striations and scratches across the working plane, suggesting that the anvil was also used to polish the edges of hammered sheets. The anvil was discarded when it suffered a massive fracture. The pottery mold fragment, on the other hand, has obvious signs of having been subjected to very high temperatures (partial heat deformation, incipient vitrification, and a charred paste). Its interior concave surface is covered with a hard brown crust that is very difficult to extract. Given the small size of the fragment, it is difficult to determine the form of the artifact that it was designed to shape. What is clear is that the fragment belongs to a univalve mold, in which liquid metal would have been directly poured (Fig. 7.39).

b) Manufacture of shell ornaments

We recovered 22 pieces of partly-worked shells from the garbage dump of the Vestibule, which include the following species: “olivas” (*Oliva peruviana*; 15 pieces), “mullu” (*Spondylus princeps*; 5 pieces), pearl shell (*Pinctada mazatlanica*; 1 piece) and “choro zapato” (*Choromytilus chorus*; 1 piece) (Fig. 7.40). Curiously enough, we were not able to detect a single worked specimen of “palabritas” (*Donax obesulus*), which, in Building IV, were commonly used to produce pendants. Although having an abundant supply of these shells (many un-worked pieces were discarded in the garbage mound), the occupants of buildings VIII and IX apparently chose not to transform them into personal ornaments. I agree that the “palabritas” shells are too ordinary to produce attractive ornaments.
In general, the same manufacturing techniques documented in Building IV were applied to these pieces. The “oliva” cones had the apex dissected most of the time and a small hole drilled through their basal section (Fig. 7.40 c). The pearl shell and “mullu” valves were apparently cut into rough quadrangular pieces that were further worked into fine-shaped geometrical pendants. Finally, the “choro” valve was abraded on all sides to create an oblong object that looks like a spoon or spatula.

Finally, the evidence of pottery production is the least conclusive of the sample, being represented by only three mold fragments (two of which seem to belong to the same piece) (Fig. 7.41). Given that these sherds, as well as all the other material evidence of manufacturing activities, were collected in a common dumping area, it is very difficult to determine the precise place where the crafting activities took place. Sherd-matching analyses only helped to establish positive connections between the Vestibule and some interior spaces of Building IX’s Patio-group. It is possible, then, that the waste disposal area only served the inhabitants of Building IX – a possibility that seems to be supported by a principle of physical proximity. One possible location for the workshop area would have been the wide surface of the uppermost central terrace of the South Wing (Fig. 7.34). Here we find wide open spaces, and a quadrangular structure with two entrances built in a rather haphazard way. If this possibility holds true, then Building IX would have held at least one of the missing Functional Units of Building VIII. Whatever the case, I find it interesting that both building clusters (IV–VI and VIII-IX) had their own independent manufacturing areas.
Figure 7.38. Fragment of a goldsmith’s stone anvil discarded in the garbage dump of the Vestibule, Building IX.

Figure 7.39. Fragment of a ceramic mold used for casting metal objects discarded in the garbage dump of the Vestibule, Building IX.
Figure 7.40. Worked shells discarded in the garbage dump of the Vestibule, Building IX: a), b), and c) small “oliva” shells, d) pearl oyster fragment, e) and f) cut “mullu” shells, and g) cut “choro” valve.

Figure 7.41. Three ceramic mold fragments discarded in the garbage dump of the Vestibule, Building IX.
Conclusions

In this work, I ascribe to the opinion voiced by several researchers who state that monumental architecture is an important means for propagating a dominant ideology, being commonly used by powerful groups as an instrument for mass indoctrination (DeMarrais 1997, DeMarrais et al 1996, Moore 1996, Morris 1998, Trigger 1990). Archeology can exploit this “educational quality” of monumental architecture to its own benefit. A detailed, stylistic analysis of the decoration and design of monumental structures can help us identify not only a particular ideology, but also the group that embraced it. We should be aware, however, that prominent ideologies often transcended political boundaries. It is known that leaders of complex societies sometimes copied the architectural style of powerful peers in order to increase their prestige (Brumfiel and Earle 1987: 3). This emulation was more prone to occur if the ideology trumpeted by the foreign leaders enjoyed notoriety at the time. The process of emulation can generate, therefore, a material outcome very similar to the one produced by events of territorial conquest: monumental structures executed in a style that is not native to the group that traditionally occupied a given territory.

The processes of emulation and territorial conquest can produce very similar architectural outcomes. In fact, I believe that many cases of "introduced buildings" that have been interpreted in Andean Archeology as the product of military invasions, could well be the result of voluntary emulations. It is for this reason that I consider it important to design a research methodology that may help us discern, based on a stylistic analysis of structures of exogenous design, which of these processes was responsible for the sudden appearance of strange architectural forms in a given territory. Skeptics may say
that it is impossible to come to universal solutions, given that situations of cultural contact tend to produce all kinds of architectural hybridizations. I believe, however, that a good starting point may be the theory of "Stylistic Behavior and Information Exchange" proposed by Wobst (1977) and endorsed by several other researchers (Braun 1985; Conkey 1978, 1980; Hodder 1977, 1982; Wiessner 1983).

When we apply the principle of differential signaling properties of highly-visible and less visible artifacts proposed by this theory (Wobst 1977) to the case of complex monumental structures, we find a way to differentiate between emulated and imposed buildings. In the first case, only the public spaces of the structure – that is, the spaces where we should expect to find stylistic (ideological) messages – will tend to reproduce the architectural style of the foreign tradition. The private spaces, which are not visible to the public that the elites are trying to indoctrinate, will tend to be executed in the local architectural style. Cases of territorial invasion operate on a different principle. Here, both the public and private spaces will reproduce the exogenous style, for the simple reason that architects brought in by the invaders would have been the ones responsible for directing the construction of the structures. These architects would have been versed in the basic characteristics of the architectural style of their native tradition. They would have also had a clear idea about the “appropriate” form, layout, and sequential order of internal components that a complex structure should contain (compare with Bawden’s [1977, 1982b] analysis of the internal organization of housing units at Galindo). As an anecdotal case, the public spaces of buildings build by foreign architects may contain architectural forms representative of the local tradition. This type of "conciliatory
architecture" is intended to express aspirations of cultural integration with the conquered group (Mackey 2003: 322).

In order to apply this discriminating principle in my case study, I found it necessary to break up the surveyed buildings into "Functional Units", and then determine which of them would have played private and public roles. The main criteria used to discriminate between these functions was the amount of internal space, the accessibility and ornamentation of the structures, and the special character of the ceramic materials and other cultural remains discarded in the Units. In order to compare the design of the spaces of public and private function with similar structures of well-known cultural traditions, I found it necessary to determine the specific type of activities that were held in these spaces to ensure that the comparisons would involve analogous structures. To determine the specific use of the surveyed spaces, I relied on both the excavated evidence, as well as on a general assessment of the internal organization of the architectural space.

In the end, I was able to conclude that both the units of public and private function of buildings IV, VIII and IX exhibited an architectural style that was typical of cultural formations that developed on the northern highlands of Peru during the studied period. In Building IV, the spaces of private function were represented by the Interconnected Rooms and the Patio-group, in Building VIII by the Interconnected Rooms, and in Building IX by some peripheral spaces of the Patio-group. All these spaces reproduce an architectural design that is native to the Upper Chicama and the Marcahuamachuco areas, and which was also adopted by the Huari tradition. The same holds true in the case of the public spaces, especially the Sala con Nichos, and some
architectural clusters that include a two-floor gallery. It is possible to conclude, then, that the four buildings that command the most advantageous position of the Cerro Chepén Alto sector were built following highland architectural canons.

Besides the evident architectural similarities that link these four buildings with known architectural traditions of the northern highlands of Perú, there are other stylistic features that help to set them apart from Moche construction patterns. At the beginning of this chapter, I mentioned the special provisions that the builders of these buildings took to conceal the natural topography of the hill under the constructions. This practice was not followed by the people who built the “hierarchical terraces” of Cerro Chepén Bajo. I also found intriguing the limited use of wooden posts as structural supports. Our excavations uncovered only three post holes, even though more than 288 m² of floor area was exposed within all three buildings. One of the three holes detected did not even offer structural benefits, for it apparently held an ornamental element. The use of wooden posts and mud-brick pilasters is, by contrast, almost obsessive in the Moche construction tradition (Alva and Donnan 1993: 49; Benavides 1997, Campana 1983, Donnan 1978: 79, Uceda 2000). I also drew attention to the total absence of ramped accesses within these structures. These architectural features, which are highly distinctive of Moche monumental structures, were intentionally avoided even though some architectural settings offered ideal conditions for their construction.

Finally, I also failed to detect wall paintings or other types of architectural embellishments that the Moche used to decorate their public spaces. In fact, many excavations – especially those deployed in the two Sala con Nichos and in some courtyards – were originally designed to test for the presence of these ornamental
additions. Even though I was not expecting to find examples of the most sublime variants of Moche mural decorations (such as complex scenes), I was hoping to detect at least simple decoration schemes that could be culturally diagnostic, such as painted "Interlocking" designs. In both cases, the search proved fruitless. On the other hand, the ceramic sample, composed of more than 20,000 sherds, did not include a single fragment of ceramic effigy mace-heads, such as the ones that the Moche commonly used to decorate the roofs of their sacred structures. Effigies of this kind have been recovered in several Moche sites that included examples of elite architecture (Benavides 1997, Bourget 2003: 253, Donnan 1978: 83, Franco 1998b: 109, Haas 1985: 407, Tello 1998: 128). In sum, the alien character of the buildings is not only supported by the evident similarities that they manifest with highland constructions, but also by the absence of highly distinctive traits of Moche monumental structures.

The functional analysis of architectural spaces was also centered on determining the specific character of the excavated buildings. I felt it important to verify if the buildings with galleries were a type of structure where we could expect to find material expressions of the group’s dominant ideology. Given that the buildings achieved monumental proportions, and that they included, among a host of specialized use areas, spaces that apparently served habitation uses (also executed on a monumental scale), I believe that the buildings were elite residences. An interesting characteristic of these residences is the variety of specialized use spaces that they integrated. All three investigated buildings included large communal kitchens, reception areas for visitors, sleeping areas, and spaces reserved for rituals and collective celebrations. At least two of them also embraced production areas dedicated to the manufacture of small personal
ornaments and possibly pottery vessels. Other possible (but not definitive) activities that took place within their precincts were short-term and long-term storage. In sum, the buildings with galleries of Cerro Chepén Alto represented truly complex, monumental structures, especially designed to accommodate a wide variety of activities.

The unexpected discoveries of the investigation were as interesting as the results of the architectural analysis that I had planned from the start. Perhaps the most surprising discovery was the corroboration of the analogous character of Buildings IV and VIII. Both buildings share a series of equivalent Functional Units that hold the same relative positions within each structure. Despite these functional and organizational coincidences, it is necessary to stress that both structures manifest evident differences, not only in their general layout, but also in the individual design of their constituent spaces. I think that the design discrepancies are due, in part, to topographical factors. I suspect, however, that some of these discrepancies may also have cultural connotations. It is possible that the buildings were erected by two different foreign groups (parcialidades?) that were bonded by the same power ideology. These groups may have shared the same general idea about the "proper design" of elite buildings and the character of the interior components that they should include. This "general idea" would have allowed, however, an acceptable level of variation within which the constructions could be executed. Only this logic explains, in my opinion, the dissimilar configurations manifested by the Sala con Nichos and the two-floor galleries of both structures. This logic also explain why the builders of Building VIII included an architectural unit of Moche inspiration (the Patio with Podium) within their structure, and why the builders of Building IV decided to design the Two-floor Gallery Group and the Patio-group as two separate units. In the first case, it is
possible that the group represented in Building VIII felt a greater need for tightening up their links with the local people. In the second case, it is possible that the group represented in Building IV felt urged to add an additional housing space to the ground plan of their structure.

Another unexpected discovery of the investigation was the corroboration of the dual organization of the buildings with galleries of Cerro Chepén Alto. Not only is Building VIII analogous to Building IV, but Building IX is a twin structure of Building VI. The latter structures not only share the same general floor plan, but also have their main accesses restricted by constructions that integrate internal spaces of Moche design. Also notable is the paired distribution of the buildings with galleries. The structures that show the greatest architectural coincidences were not erected one next to the other, but in two distinct clusters that are set more than 110 meters apart. Each cluster is composed of two adjoining buildings, and is reached by independent roads that depart from different entrances in the defensive wall. The cluster composed of Buildings VIII and IX is reached by a road that starts at the Southern Access, while the cluster composed by Buildings IV and VI can be accessed from both the Western and Eastern Accesses. This curious distribution of buildings lends further support to the theory that states that two different highland parcialidades occupied the heights of Cerro Chepén Alto. The leaders of each parcialidad occupied two residences that, though different, shared the same internal components and displayed the same basic configuration.

In sum, the architectural part of the analysis that seeks to disclose the cultural origin of the most conspicuous occupant of the Cerro Chepén Alto sector – which involved a separate, stylistic study of the spaces of private and public character of the
buildings with galleries – seems to confirm a highland origin for these individuals. The paired distribution of buildings with dissimilar layout suggests that two different parcialidades occupied the sector. Although highly suggestive, the results of the architectural analysis can not be taken as absolutely conclusive. Architectural style is one of the two main sources of information that this study employs to solve the question of cultural identity. The other source is represented by the ceramic evidence, which may confirm (or disprove) the tendencies manifested by architecture. The results of the ceramic analysis will be presented in the following chapter.
CHAPTER VIII

CERAMIC ANALYSIS

As was the case of the architectural analysis, the analysis performed on the excavated ceramic samples was aimed at obtaining information that could disclose the cultural origin of the elites who occupied the buildings with galleries of Cerro Chepén Alto. To achieve this goal, I assumed that some of the pottery vessels that were discarded in these buildings – specifically fine ceramics – represented prestige objects that were imbued with messages relative to their dominant ideology. I anticipated that a stylistic analysis of these vessels would eventually lead to the identification of the particular ideology that was being broadcasted. A comparative study of these objects would finally determine the particular territory where this dominant ideology, and the leaders who embraced it, originated.

The use of fine ceramics as a means of cultural identification presents its own set of difficulties. Specifically, fine ceramics have two properties that can cause serious errors when using them to disclose the cultural origin of the people who used them. The first problem is the fact that sumptuary pottery pieces, unlike architecture, are portable goods. Fine pottery vessels can be exchanged throughout distant regions. In the Andean Area, it was not uncommon for leaders of complex societies to amass power symbols of remote groups as a means of signaling their prestige. This practice inevitably generated some level of "stylistic contamination" of the ceramic assemblages used by regional nobles. The second problem is that fine ceramics, like monumental architecture, are
prone to be emulated. We should be aware that part of the ceramic emblems that local leaders used to express their social standing were actually copied from foreign traditions. The style of these pieces related to an ideology that had its source in a cultural area where the leaders not only did not originate, but may not even have held close knit ties.

The sample of fine ceramics excavated at Cerro Chepén Alto was subjected to five discriminating principles in order to “filter out” assimilated stylistic elements that could obfuscate the identification of the cultural origin of the elites. Before applying these principles of the ceramic analysis, I organized the sample into manageable categories according to three procedures: a stylistic classification, a process of quantification, and a verification of the contextual significance of the samples. The combined operations demonstrated that the fine ceramics repertoire of the buildings with galleries comprised five different wares, four of which were of exogenous character. Three of the five wares were not representative of the people who occupied the buildings for different reasons: one of them (Late Moche fine line ware) for occurring in negligible numbers and for showing poor contextual associations, and two others (Cajamarca Cursive and Cajamarca Red-on-Buff wares) for representing imported pieces. The two wares that dominated the local assemblage exhibited a style that was not native to the Lower Jequetepeque Valley. This style was representative of two different cultural areas of the Central Andes: the northern highlands and the central coast of Peru. Given that both styles have been know to occur in the Middle Horizon power centers of Huamachuco (J. Topic and Topic 2000: 197), it is likely that the people who built Cerro Chepén Alto were closely related to the communities that occupied these centers.
Symbolic objects as a product of ideological materialization

As is the case with monumental architecture, symbolic objects represent a category of material culture that was actively used in the transmission of ideologically-charged messages (DeMarrais 1997, DeMarrais et al 1996). In this work, I define symbolic objects as portable, crafted artifacts, whose special shape, decoration, manufacturing technique, and/or material conveys information that is socially significant. While this definition covers a wide variety of artifacts, in the specific case of objects that convey information related to elite ideology, the definition can be restricted to what is known as "prestige objects" (Schortman and Urban 2004).

Prestige objects (which include fine ceramics) can be characterized with four different parameters: a) the roles they play within the political economies of complex societies, b) the way they are produced, c) their final appearance, and d) the type of information they convey. First, prestige objects are commonly used to promote social inequalities within organized groups (Brumfiel and Earle 1987, Costin 2001: 300, Earle 2002: 144, Hayden 1998: 11). The leaders of complex societies generally used these objects as status symbols, and determined that only high rank individuals could have access to them. People who had the right to possess these objects could claim all the privileges that were pertinent to leading social positions (including the right to have access to commoners’ labor). These objects also played vital roles in maintaining the integrity of political systems. Prestige objects could be used as “political payments” to ensure the allegiance of lesser nobles and prevent the emergence of “centrifugal” (sensu Yoffee 1979) tendencies from within the core of the local hierarchical ladder (D'Altroy and Earle 1985: 196, Earle 2002: 160). These same objects could be used to build
relationships of mutual benefit with leaders of neighboring polities, establish external networks of ideological support (Blanton et al. 1996), find mates, secure allies in conflict situations, or ensure food subsidies in cases of local resource failure (Flannery 1968).

The importance these objects held in the definition of social hierarchies was such that the elites always sought to impose special restrictions on their production. Their concern was to devise ways to limit their widespread manufacture and distribution, which could have debased their value as status markers. This goal was achieved in two ways: a) by selecting scarce or difficult-to-obtain materials for their manufacture and b) by subjecting these objects to elaborate production processes, which often involved a highly specialized workforce and/or sophisticated manufacturing technology (Hayden 1998: 41, Schortman and Urban 2004: 195). The combination of these two factors resulted in pieces that evidenced very fine workmanship, and that were nearly impossible to replicate by the common layman. The artisans commissioned to produce these objects usually formed part of a select group of individuals with unique skills and technological expertise, who worked under the direct auspices and control of the elites. This group of specialists is commonly designated in the archaeological literature as "attached" (Earle 1981, Brumfiel and Earle 1987: 5, Costin 1991: 11), "tethered" (Santley et al. 1989: 108), or "patronized" (Clark and Parry 1990: 299) specialists, and in some cases these specialists were members the elite segment (Inomata 2001, Marcus and Flannery 1996: 104).

Prestige objects are also distinguished for presenting unique aesthetic qualities. Brian Hayden (1998: 13) made up a list of the most distinctive physical characteristics evidenced by these objects, both ceramic and non-ceramic. These characteristics include

---

1 Kenneth Ames (1995, cited in Costin 2001: 300) used the term “embedded specialization” to describe cases in which the specialized artisans were members of the elite segment.
light reflecting properties, vivid colors, elaborate shapes, and/or highly geometric forms. To these traits I could add, a dense decoration, special acoustic qualities\(^2\), and even apparent "magic" properties. A fine example of the latter trait is found in a Late Moche stirrup-spout bottle looted at San José de Moro. This bottle had 42 small circular holes piercing its rounded body. Despite the apparent exterior damage, the bottle did not shed a single drop of liquid when filled due to the presence of a hidden inner container (Donnan and McClelland 1999: 145). According to Hayden (1998: 12-13), prestige objects are universally appealing to humans, who tend to regard them as indicators of health and success. The "magic" properties of some devices could even give the false impression that the bearer had special powers. The validity of Hayden’s dictum is corroborated by the intense competition that modern public museums and private collectors maintain to amass these appealing pieces.

Last but not least, prestige objects also conveyed messages related to elite ideologies (DeMarrais 1997 DeMarrais et al. 1996, Inomata 2001: 331). These messages usually connected the elites with the driving forces of the cosmos, justifying their divine right to govern. The close relationship between elites and divine beings is easy readable in complex figurative iconographic systems such as the Moche, where the elites are commonly illustrated performing the same activities as Moche Gods, or even providing essential services for their sustenance\(^3\). Some authors think that the same relationship is

\(^2\) While the characteristic of “special acoustic properties” relates more directly to metal artifacts, it may also be relevant in the case of ceramic containers. Some northern cultures of Perú produced singular double-bodied vessels with a clever whistling mechanism hidden in their interior. This mechanism produced an intermittent whistle every time the vessel was tilted and liquid was transferred from one container to the other (Donnan 1992: 23).

\(^3\) This is the case of the Moche “Warrior Narrative”, in which elite individuals are shown leading the capture of human prisoners. As shown in the closely-related “Sacrifice Ceremony”, these prisoners were later delivered to Moche Gods who used their blood in balance-restoring ceremonies (Donnan and McClelland 1999: 134).
manifested by less complex ceramic traditions, in which ceramic decoration was executed with simple geometric designs. Such is the case of the Ramey Incised vessels of the Mississippi tradition. Pauketat and Emerson (1991: 934-35) have interpreted the special layout of the decoration of these vessels as cosmological messages that related the elites with the balance of the universe. A similar interpretation was offered for the decoration of the fine funerary pots of the San José Phase (1200 -1150 BC) of the Oaxaca Valley. Marcus and Flannery (1996: 95) have interpreted the geometric incised decoration of these pots as highly stylized representations of “heavenly spirits”, to which the most successful lineages of the time claimed to be related in order to gain preferential access to resources. These two notorious examples demonstrate that, in the case of sumptuary ceramics, even the most simple decorative schemes can bear a profound semantic burden.

In the case of highly elaborate sumptuary vessels, ideological information may not only be encoded in the vessel decoration, but also in the general form of the ceramic container. In Andean archaeology, an excellent example of the latter case is manifested by the highly distinctive Inca “aryballus” jars. These long-necked jars with conical bases were produced in two basic variants throughout the empire – “State Inka” and “Provincial Inka” styles – sometimes containing different decorative schemes (Morris 1995: 426). Despite the plethora of painted decorative variants, all vessels show a striking consistency in vessel shape that was expressed in the relative proportions of their constituent parts (neck-body- conical base). The aryballus jars represented state emblems that met an ideological role similar to the one performed by the Inka road (Hyslop 1984: 2). They alerted the people of the power, persistence, and unity of the state even when its most representative authorities were absent (D’Altroy 2001: 243).
In conclusion, fine ceramics represented an ideal medium for the transmission of ideological messages. By regulating the production of these prestigious goods, the elites managed to control the content of the messages. Fine ceramics, like monumental architecture, also offered several advantages for the dissemination of ideological messages and the indoctrination of individuals. While some may think that the small size of pottery vessels – in comparison with monumental buildings – represented an obstacle for the widespread transmission of information, nothing could be farther from the truth. Given that ceramic pieces are portable objects, they offered the possibility of diffusing ideological messages over distances that messages emitted through architecture could never reach (DeMarrais et al 1996: 18). Their transportability also offered the unique advantage of permitting a precise selection of the public meant to receive the message. Sumptuary vessels also played an important role in the indoctrination of masses. Moche iconography commonly illustrates elite individuals presiding official ceremonies. These individuals have, among other power insignia, fine ceramics of Moche corporate style (Fig. 8.1). A more efficient way to make ideological messages reach large audiences was through the direct distribution of vessels charged with ideological messages to individuals attending a ceremony. At the Inca regional administrative center of Huanuco Pampa, Morris and Thompson (1985) found evidence of massive state-sponsored feasts held in a series of interconnected plazas located in the eastern sector of the site. Those who attended these events were served and fed with a wide variety of ceramic containers made in the highly distinctive Inca imperial style (Morris and Thompson 1985: 90).
Figure 8.1. Detail of a Moche IV fine line scene (“The Banquet Scene”) that shows a Moche leader displaying, among other power insignia, two fancy pottery vessels. Redrawn from Larco Hoyle 2001a: 212.
Sumptuary vessels as a means for cultural identification

Given that the Andean Area (and other cultural areas of the world as well) saw the emergence of multiple elite ideologies with limited territorial distributions, and given that these traditions had, as a norm, their own set of ceramic specialists who materialized the most basic tenets of these ideologies in highly distinctive pottery forms, fine ceramics represent an ideal medium for differentiating Andean cultural traditions. In fact, archeology has traditionally relied on this type of evidence to satisfy its most elemental research goals, like delimiting political territories, defining interaction areas, and building cultural chronologies. Given the relative abundance of fine ceramic fragments on the surface of most archaeological sites belonging to past complex societies, studies of settlement patterns developed in Peru and other regions of the world have commonly relied on this type of evidence for achieving a cultural and temporal differentiation of sites.

The question we could ask is whether fine ceramics represent an infallible medium to reliably identify the cultural origin of the elites who occupied a site. This question is especially pertinent in cases of cultural contact, which may result in the appearance of vessels executed in a foreign style within a region. Do these vessels invariably point at the existence of displaced elites?

As was the case with monumental architecture, this question has no easy answer when using fine ceramics as a means of discrimination. The situation is even more problematic in this case, given that fine ceramics are not only portable objects, but also have a low weight-to-value ratio, and can be therefore transported by middlemen or other cultural agents over long distances. In fact, it was not unusual for leaders of complex
societies to engage in mutual long-distance exchanges of their most prized assets in order to add an element of “international recognition” to their power aspirations (Blanton et al 1996). This exchange of prestige goods invariably generated a certain degree of "stylistic contamination" of local ceramic repertoires. The problem of far flung ceramic imports is quite common in the Andean area, as exemplified by the presence of Middle Moche vessels at Pashash (Grieder 1978: 72), of Layzón vessels at Cerro Arena (Mujica 1984: 13), and of Recuay vessels at the Gallinazo site (Bennett 1939: 73). This problem may have become more acute during the Middle Horizon, a time period during which some authors believe cultural frontiers were opened and different materials began to circulate freely across formerly impermeable political territories (Shady 1982 1988, 1989, Shady and Ruiz 1979: 684, J. Topic 1991: 162).

Another issue that complicates the use of fine ceramics as a means of cultural identification is the principle of emulation (Hayden 1998: 33, Schortman and Urban 2004: 198). As Brumfiel and Earle (1987: 3) have cogently stated: "an individual may establish higher social rank by displaying the symbols associated with a foreign, already established elite". Even well established elite groups may seek to boost an ideological program that has fallen into disgrace by assimilating the power symbols of a prominent peer (Castillo 2003: 109). In fact, among the categories of material culture that are prone to incorporate ideological messages (DeMarrais 1997), fine ceramics may be easier to emulate. This propensity lies precisely in the portability and malleability of ceramic artifacts. To copy an exotic piece, a leader does not need travel to its area of origin, but rather, just needs to acquire an itinerant piece and send it to his dependent craft specialists to replicate.
In sum, two different cultural behaviors (acquisition of foreign trade pieces and emulation) could significantly alter the stylistic composition of the assemblage of fine ceramic pieces used by a local leader, making it look like the personal possessions of a displaced foreign dignitary. If ceramic materials are going to be used to discriminate between local and foreign rulers, a research design that relies on defining simple stylistic distinctions between vessels of “public” and “private” use would prove insufficient. First, because all fancy ceramics can be considered to have held public functions (they are display vessels by definition). Second, because nothing would have prevented foreign leaders from using “private” utilitarian vessels produced by local craftsmen to satisfy their most basic domestic needs. I also think that compositional studies do not hold great promise in solving the identity dilemma that concerns my study. As Inca archaeology has demonstrated (D’Altroy and Bishop 1990), while it is true that authorities relocated to foreign territories sometimes took with them some of their most prized ceramic assets, it is also true that, once established in their new dominions, they produced home-style status symbols with local materials.

The strategy that I propose to test for the presence of foreign intruders at Cerro Chepén Alto, through the use of ceramic materials, involves the application of five discriminating principles on the sample of fine pottery:

1. Relative proportion of exotic vessels within the local repertoire of fine ceramics.

2. Morphological richness of the sub-assemblage of exotic vessels.

---

4 Oliver Gosselain (1998) conducted a field experiment with the assistance of potters of 21 traditional communities of Southern Cameroon by distributing raw materials used by the specialists who mastered a particular manufacturing technology to individuals who were versed in different techniques. Gosselain (1998: 89) found out that all the potters were able to successfully produce their traditional pieces despite working with unknown materials.
3. Possible stylistic antecedents of the exotic vessels in the affected region.

4. Technological style of the exotic vessels.

5. Context of occurrence of the exotic vessels.

These principles evaluate stylistic, contextual, and technical characteristics of the materials that we consider to be foreign creations in order to determine if they could actually be interpreted as the product of foreign invasions. These principles also contend that the relative abundance of foreign traits in the analyzed assemblage is of crucial importance in solving the identity dilemma, and therefore rely heavily on proportional counts of local vs. introduced features to establish the discrimination. The heuristic value of these principles comes from the fact that they integrate information provided by archaeologists who have studied the composition of ceramic assemblages of introduced sites, disclosing the intricacies of their stylistic organization (Anders 1986; D’Altroy 1994, 2001a; Isbell 1977; Morris 1995; Schreiber 1992; Spence 1996). These principles also assimilate information provided by archaeologists who have studied the material outcomes of other cultural mechanisms that could generate false readings of human migrations (Esse 1992, Plog 1995, Rice 1984).

Before turning to the presentation and methodological justification of these principles, two cautionary notes are necessary. First, given that some of these principles are aimed at testing for different mechanisms that can generate stylistic contamination of local assemblages (importation of vessels versus emulation), the results of any of these principles should not be considered significant when taken in isolation. Only if all the discriminating principles show the same consistent trend could we expect to have reached a reliable identification. Second, even though I consider the selected principles to be valid
tools to solve most identity issues that may arise from cultural contact situations, a satisfactory resolution of the problem at hand will ultimately depend on a thorough knowledge of the cultural traditions involved in the transactions. I do not think that universal problem-solving recipes are applicable in archaeology. However, I believe that the probability of achieving a successful resolution will increase the better we understand the organizational features of the cultural formations we are investigating.

1. Relative proportion of exotic vessels within the local repertoire of fine ceramics

The ceramic component of the prestige objects used by leaders of complex societies may included a few atypical pieces executed in alien styles. These pieces were commonly obtained through trade relations with neighboring peers and prized as symbols of an international establishment of powerful individuals (Blanton et al. 1996). However, these vessels often represented a minor component within their personal collections of prestige wares (which were dominated by emblematic symbols of the local ideology). This trend is manifested in the fine ceramic assemblages of the two largest Late Moche sites excavated thus far (Pampa Grande and Galindo). While these sites have presented their own share of exotic vessels (Bawden 1994, Shimada 1994a: 191), these pieces represent a minority within the local assemblages of fine ceramics.

Should this premise lead us to conclude that the fine ceramic assemblages of sites occupied by foreign groups will be always dominated by pieces executed in the emblematic style of the expansionist polity? Interestingly, the answer is not always yes. Craig Morris (1995: 427-28) noted severe discrepancies in the proportion of “State Inka” style vessels in the ceramic assemblages of a group of Inka regional administrative
centers. At highland centers like Huanuco Pampa and Hatun Xauxa, on the one hand, the “State Inka” style exceeded 90% of the local ceramic sample. At coastal centers like Tambo Colorado, La Centinela, and Inkawasi, on the other hand, the same style represented 11% or less of the local ceramic repertoire. The same phenomenon of low popularity of the emblematic symbols of the expanding polity have been documented at Huari provincial centers, including some that are in close proximity to the former imperial capital. Sites like Jargampata, Azangaro, and Jincamocco have yielded surprisingly low proportions of Huari-style polychrome vessels, which only accounted for 6.4% (Isbell 1977: 106), 1% (Anders 1986: 304) and 13.6% (Schreiber 1992: 228) of the local ceramic samples, respectively. In conclusion, while relatively low amounts of intrusive pieces do not necessarily rule out the invasion theory, unusually high proportions (90% or more) will tend to confirm it.

2. **Morphological richness of the sub-assembly of exotic vessels**

This principle is based on an argument presented by Stephen Plog (1995) who suggested that, in order to support theories of extra-regional movements of people on the basis of ceramic materials, it is not only important to measure the relative popularity of the exogenous vessels, but also to pay attention to the types of containers that were allegedly introduced. If the exogenous vessels relate to a single morphological category (e.g., decorated bowls), the most likely explanation for their presence is that these vessels represented highly valued ceremonial items that were either imported or locally produced (Plog 1995: 277). The fine pottery assemblages of the leaders of complex societies were generally composed of a variety of ceramic forms, some of which held a greater value in
foreign exchange than others. If these leaders moved to a foreign territory, it is logical to expect that they would have taken with them their full array of status symbols, or would have continued their production in their new domains.

3. Possible stylistic antecedents of the exotic vessels in the affected region

This principle is based on a long-held belief in traditional archeology, which proposes that events of territorial conquest or immigration result in the sudden appearance of large numbers of foreign cultural traits in a distant territory, while cultural diffusion events generally involve the transmission of isolated and simple traits that are rapidly integrated into the material production of the recipient tradition (Bennett and Bird 1949: 184, Childe 1956: 149-155, Rouse 1953: 98-99, Spier 1921: 500, Wissler 1915: 38, quoted in Taylor 1948: 163). While modern archeology has long surpassed such simplistic equations, sudden and major changes in the ceramic components of archaeological sites (especially if these changes result in the appearance of several morphological types that have no stylistic antecedents in the affected region) can still be regarded as an indicator of territorial invasion. This situation was evidenced in the Upper Mantaro region after the Inka conquest. When this region was assimilated into the Inka Empire, the local Wanka elites of the Hatun Marca and Marca sites began organizing their traditional feasts and ceremonies using ceramics executed in a formerly unknown provincial Inka style (D'Altroy 1994: 200, 2001a: 254).

The opposite side of this argument would suggest that, if the ceramic pieces that we interpret as “intrusive” have clear stylistic antecedents in the study region, then cultural mechanisms other than invasions may be responsible for their introduction (see
Fig. 3.3). When using unexpected morphological changes in ceramic assemblages as indicators of cultural contacts, the researcher must be aware that a wide variety of cultural mechanisms (such as the ascendance of a new power group, a change in trading partners, new marriage customs, the emergence of a foreign cult center of exceptional prestige, and even new culinary practices) may affect the continuity of local production trends (see, for example, Esse 1992; Rice 1984; Webster 2002: 229). Only a detailed study of the local ceramic tradition, the breadth and character of the documented changes, and even of the traditions of neighboring regions is liable to elucidate the cultural behavior responsible for the changes.

4. Technological style of the exotic vessels

Several authors have suggested that, of all levels of material variation manifested by archaeological artifacts, technological style is the type of evidence that demonstrates the greatest degree of spatial congruity with cultural boundaries (Gosselain 1998, Lechtman 1977, Zedeño 1995, Stark 1998). These authors point out that, while the shape and decoration of pottery vessels can be easily copied, the skills necessary to master different manufacturing techniques can only be achieved after years of training. This training eventually generates special motor skills that are highly resistant to change, and that are difficult to emulate by inexperienced craftsmen (Arnold 1985: 206, MacEachern 1998: 114). When an artisan decides to replicate a piece made in a foreign style, he will proceed using the manufacturing technique with which he is familiar. A clear example of this curious behavioral trend is found in a study conducted by Olivier Gosselain (1998) on 21 communities of Southern Cameroon. Gosselain went out to test if any of the
manufacturing techniques developed by these groups was spatially congruent with ethnic territories. Of the different techniques involved in the four major production steps of pottery manufacturing (clay processing, fashioning, firing, and post firing treatments) it was the fashioning techniques that showed significant spatial correlations with linguistic territories (Gosselain 1998: 92). Gosselain (1998: 94-95) explained this correlation on two grounds: a) pottery-learning networks were established between endogamous groups that spoke the same language, and b) even though craftsmen sometimes changed residence, they did not move long distances during the course of their lives.

Based on the results of his study, Gosselain (1998) harshly criticized those archaeologists who do not consider evidence of primary shaping technique when defining cultural territories. Even though his objections are well founded, two archaeological restrictions may apply to his correlation. The first relates to the difficulties inherent in distinguishing attributes typical of different shaping techniques in archaeological pottery. As Owen Rye (1981: 58) has stated, secondary forming techniques commonly obliterate traces left by primary forming techniques, and surface treatment techniques tend to wipe out marks that are distinctive of secondary forming techniques. This problem is particularly acute in the case of sumptuary ceramics, which not only tend to carry elaborate decoration, but are also commonly subjected to intensive surface treatments. These treatments often affect the entire surface of the containers.

A second problem of using fashioning techniques to define archaeological territories relates to the fact that some primary techniques are particularly suitable for creating complex ceramic forms, being therefore liable to be shared by unrelated ceramic traditions. Such is the case of the molding technique, which is particularly useful not only
for the mass production of vessels, but also for shaping pieces with elaborate forms. The molding technique presents the additional advantage of being fairly easy to learn, and of requiring much less skill to produce highly elaborate ceramic pieces than classic hand-shaping methods (Arnold 1985: 206). In our study area, this technique was extensively exploited by Late Moche artisans (Donnan 1965, Donnan and McClelland 1999: 44-45) and was not unknown to Huari potters (Anders et al 1994: 254, Menzel 1964: 28, Pozzi Escot et al. 1994: 281). The molding technique was also typical of cultural traditions that occupied the Central Coast of Peru during Epochs 2B-3 of the Middle Horizon (Menzel 1964: 55, 1977: 32).

Given the limitations inherent in the use of manufacturing techniques for tracing ancient territories, I propose an alternative approach that focuses on the techniques used to decorate vessels. First, vessel decoration is usually one of the final steps involved in ceramic manufacture, and is therefore, the least likely to be removed by subsequent treatments (Rye 1981: 62). Second, some decorative variants of sumptuary pottery require special technical knowledge and skills that are not readily accessible to inexperienced people (including artisans of alien traditions). As is the case of the forming technique, the execution of some complex decorative designs requires special motor skills that can only be developed after years of practice (DeBoer 1990: 90, Roe 1995: 51). This last point explains why some emulated vessels are easily recognizable as local copies. As Peter Roe (1995: 31) has eloquently stated: “competence in a culture or its style can lead to elegant solutions; lack of it produces “gibberish” in art style”. Such is the case of the Huari replicas produced by the Late Moche artisans of San José de Moro. These vessels present decorative schemes that are not only simplistic but sometimes
disproportionate, being commonly rendered with lines of uneven thickness (Castillo 2000, Figs. 29-31).

5. Context of occurrence of the exotic vessels

The context criterion demands an evaluation of the specific place of occurrence of exogenous vessels within the studied site. Not every location can be considered congruent with the invasion thesis. The context criterion involves both a horizontal and a vertical level of discrimination. The horizontal level itself includes a site-wide and a structure-specific assessment scale. The site-wide scale refers to the specific area of the archaeological site where the exogenous wares are circumscribed. If the vessels are found restricted to peripheral sectors which bear no connection with the areas where the buildings of the central institutions of power are concentrated, their presence would represent factors different than foreign domination. Such is the case, for example, of the Oaxaca Barrio at the site of Teotihuacan (Spence 1996).

If the exogenous vessels abound in the buildings that were used by the central authorities of the site, the foreign domination theory becomes sustainable. But even in this case the analysis requires a finer level of discernment, aimed at verifying the character of the architectural spaces where the foreign elements are found. Here is where the distinction between “public” and “private” spaces used in the architectural analysis may come in handy. If the pieces are found only in public spaces, and fine vessels made in a local style dominate the areas of private use, it is more difficult to rule out the possibility that peaceful diffusion mechanisms were responsible for the arrival of the
exogenous pieces. If, on the other hand, the foreign pieces dominate public and private spaces alike, the argument of a foreign intrusion will gain support.

The vertical dimension of contextual analysis concerns the verification of significant stratigraphic correlations between the studied pieces and relevant occupation levels. Sites with long occupation histories may have dense stratified deposits, some of them containing ceramic pieces of foreign origin. While some of these pieces may signal the existence of violent takeovers, these events may bear no relation with the time period we are studying. It is important, therefore, to verify the validity of the contextual associations of the pieces that were introduced by invasions and the occupation surfaces that correspond to our study period. The vertical dimension of the contextual analysis should be pursued even when the studied structures report few occupation levels (as is the case in the structures of Cerro Chepén Alto). If fragments of the same style are found both in the deepest fill layers and on the few occupation surfaces of the structures, we can conclude that the same group that commissioned the construction of the building was the one that occupied its premises.

Finally, there is an additional discriminating principle that, while not liable to be tested with the ceramic materials, should be studied in conjunction with the others mentioned to confirm the validity of our results. This principle refers to the preferred type of external policy pursued by the donor polity. Two extremes can be easily identified within a continuum of possible interaction strategies: forceful assimilation through military activities (i.e. the Inka Empire), and peaceful dissemination of religious ideas as would correspond to a prestigious cult center (e.g. Pachamac during the Middle Horizon [Menzel 1964: 71]). To determine the strategy used by the donor polity to propagate its
emblematic symbols, it is always useful to refer to ethno-historical evidence and/or theories proposed by researchers who have investigated the case. But even if all of these sources point to a specific outcome, we should be aware that this result may not necessarily be applicable to our case study. Nothing prevents predatory states from establishing peaceful relations of mutual benefit with some of their neighbors. This was the case, for example, of the Tenochtitlan-Texcoco-Tlacopan alliance that catapulted the Mexica expansion (Hodge 1996: 20). Similarly, even prestigious pilgrimage centers that focus on the diffusion of peaceful ideologies could embark on their own military campaigns.

The military invasion argument may win support if there is direct archaeological evidence that points to the existence of stressful relations between the recipient and donor polities. This evidence may include, for example, fortifications raised by the harassed group along a territorial border shared with the aggressive polity. But even if direct evidence is lacking, the invasion argument may still hold, as long as there is no conflicting evidence that would totally disprove this event (e.g. the territories of the confronted polities lie far apart), and as long there is sufficient causal evidence that could justify a violent take-over (e.g. the beleaguered polity, in addition to being particularly vulnerable, controlled resources that the expansionist group deemed essential).

In sum, the five discriminating principles designed to be tested against the ceramic evidence guide my attempt to reveal the cultural origin of the occupants of the buildings with galleries of Cerro Chepén Alto. Taken alone, each of these criteria represents a poor indicator of cultural identity. Only in combination can they shed some light on the specific circumstance that led to the infiltration of exogenous traits in the
studied site. A positive identification of an event of elite replacement would depend on all principles pointing at a low prevalence of local Late Moche traits in the sample. In other words, the invasion theory will be supported if the ceramic pieces executed in a foreign style: a) dominate the local repertoire of fine ceramics, b) show a high variety of ceramic forms, c) show no significant stylistic antecedents in the study region, d) evidence a decorative technique unrelated to the Moche style, and e) are associated with significant occupation levels of spaces of public and private function of the most important buildings of the site. It is also important to demonstrate that the foreign pieces belong to a political entity that did (or could have) embarked on expansionists movements. The alternative hypothesis (the repertoire of fine ceramics is not representative of a foreign invasion) will win support if one or more of these expectations are not met.

**Sample organization**

The excavations conducted at the buildings with galleries of Cerro Chepén Alto produced a total sample of 20,220 ceramic sherds. These sherds were representative of different vessel types, vessel parts, and of a wide variety of pottery styles that embraced both utilitarian and fancy wares. In order to organize this varied sample into manageable categories, I decided to subject it to three ordering procedures that involved a stylistic classification, a quantification process, and a verification of the contextual associations of the fragments. Although these procedures were conducted independent of each other, they produced categories that could be easily combined for testing the discriminating
principles described above. It should be noted, however, that some categories generated by the different procedures were more apt for contrasting specific principles than others.

Stylistic classification

In this study, I subscribe to the view that pottery style in not only reflected in vessel shape and decoration, but also in manufacturing technique and material selection (Hegmon 1998, Lechtman 1977, Roe 1995: 31). As the name implies, the stylistic classification was aimed at identifying the different stylistic components present in the ceramic sample excavated at the buildings with galleries. The goal of the classification was to define synthetic units (sensu Steffen and Ramenofski 1997) that could be used to contrast the discriminatory principles mentioned above. Specifically, the stylistic classification was designed to evaluate the principles of “morphological variants of the sub-assemblage of exogenous pieces”, “local stylistic antecedents for the exotic vessels”, and “technological style”. The stylistic classification was also used for contrasting the two remaining principles (relative proportion of exogenous vessels within the assemblage and context of occurrence). In these cases, however, the categories produced by other organizational procedures (quantification and contextual verification) held greater discriminatory potential.

Considering the complexity of the sample and the variety of discriminating principles that I was planning to test on it, I decided to organize the classification according to a taxonomic model (Dunnell 1971). Taxonomic classifications, while ultimately result in the definition of non-overlapping categories, admit some level of

---

5 The principle of “type of external policy pursued by the donor polity” was the only one not tested against ceramic evidence. Its clarification required a thorough review of published information. The results of this inquiry will be presented in the final chapter of this dissertation.
correspondence between the contrasted units at broad classificatory levels (Dunnell 1971: 79). I surmised that both the differences, as well as the similarities, were important for solving the research problem. The taxonomic scheme that I devised includes three classification levels – technical quality, technological tradition, and vessel form – which organized the sample in categories of ever greater inclusiveness. The general scheme of this classification is illustrated in figure 8.2.

The first classification level focused on the technical quality of the vessels, and organized the sample into two broad categories: utilitarian vessels and sumptuary vessels. The main goal of the first classification was simply to isolate the sample subset that was going to be the focus of the discriminating analysis (i.e. the sumptuary vessels). Two attributes were used to establish the initial level of differentiation: a) surface treatment, and b) paste texture, in that order of importance. The selection of these attributes was based on my knowledge of North Coast sumptuary vessels. These vessels present a polished surface and a very fine paste as basic characteristics.

The differentiated ceramic categories showed major divergences in other diagnostic features. The sumptuary and utilitarian groups comprised different vessel forms and decoration techniques. The discrepancies also involved firing technique – it was evident that the utilitarian vessels were given careless treatment (surface

---

6 The evaluation of surface treatment only considered two possible attribute states: presence and absence of polished surfaces.

7 Paste fineness depends on the quantity and size of the inclusions. In order to measure this attribute, I used a 10X magnifying glass to sort out ceramic sherds according to the size of their largest inclusions. Seven size categories were defined (irregular inclusions of abnormal size were not considered in the sorting process). I later counted the number of sumptuary and utilitarian vessels that belonged to each temper size-category. The relative distribution of vessels by temper size-category is illustrated in figure 8.3. A Pearson’s chi square analysis proved that there is a significant association between surface treatment and temper size. A Cramer’s V statistic computed on the results of the chi square analysis yielded a value of 0.509, evidencing that the sumptuary and domestic ceramics differ significantly in terms of the size of their inclusions.
Figure 8.2. Schematic representation of the ceramic classification.
Figure 8.3. Relative distribution of fine and domestic pottery vessels of the buildings with galleries based on the size of their largest inclusions. Paicas have been omitted from the analysis due to their skewing properties.
discolorations, fire-clouds, charred cores, and even slight heat-induced deformations are common among the domestic sherds). But perhaps the most significant divergence manifested by these groups relates to how these vessels were produced, distributed, and used. Earlier I characterized the production processes of sumptuary vessels and their most common uses. Now I want to describe how the production and distribution of domestic ceramics was commonly organized. Although domestic ceramics are not going to be addressed in this study, this information will help us understand some odd contextual associations that were detected at the buildings with galleries of Cerro Chepén Alto.

Several authors have suggested that the processes of production and distribution of domestic vessels were established outside the control mechanisms implemented by elites (Brumfiel and Earle 1987: 4, Costin 2001: 298, Earle 2002: 132). Utilitarian vessels were commonly manufactured by "independent specialists" who belonged to the broad social substratum of common people. Given that these artisans commonly managed meager resources, and had to assume all risks involved in the production of pottery vessels, they generally opted for expeditious and economical solutions to undertake their manufacturing activities (Rice 1984: 248). Their final products, rather than displaying sophisticated forms, commonly manifested the minimal design requirements necessary to satisfy their projected function (Braun 1983: 112). However, it is interesting to see that even these simple objects were sometimes used to broadcast ideological messages (Schortman and Urban 2004: 201). Finally, the final distribution of products was established through equally unrefined mechanisms, involving the participation of the same craftsman, his close relatives, members of his community, or non-related middlemen (see Graves 1991, Longacre and Stark 1992). What is important to emphasize
here is that this distribution was seldom supervised by members of the local nobility or its officers. However, given that the local elites also required basic tools to cook, transport, and store their food, it was not unusual for them to demand a minimum share of the potter’s annual production (D’Altroy 2001a: 247). This special type of levy was responsible for the filtration of artifacts used by the common people into exclusive elite settings.

The second classification level was aimed at the identification of technological traditions. To achieve this end, the fragments of domestic and sumptuary vessels were further classified according to three additional attributes: a) surface color, b) decoration technique, and c) paste composition. The classification based on the definition of technological traditions resulted in the identification of wares (Rice 1987: 287). In total, seven wares were identified, two within the category of domestic vessels (domestic Moche and Cajamarca Coarse Red) and five within the sample of sumptuary ceramics (Late Moche Fine Line, Fine Orange, Fine Black, Cajamarca Cursive, and Cajamarca Red-on-Buff). The sorting procedure was considered to be sound because it allowed me to identify ceramic groups that were consistent with the ones defined by other

---

8 The identification of surface color was established based on broad subjective criteria.
9 The identification of decoration technique was based on the guidelines provided by Rice (1987), Rye (1981) and Shepard (1956).
10 The paste composition analysis involved a two-stage protocol: a macroscopic sorting of pastes and a microscopic analysis. In the first stage, sherds of different wares were arranged into paste-types according to differences in clay type (kaolin vs. non-kaolin) and specific characteristics of the inclusions (size, density, shape and composition). The classification of pastes was conducted with a 10X magnifying glass and was aided by the inclusion sorting charts provided by Orton. Tyers and Vince (1993). The microscopic analysis involved cutting thin sections of a small sample of the most representative paste-types of the seven wares identified, to be studied under the petrographic microscope. This analysis allowed me to define two broad paste groups, which I call “coastal group” (which comprises the domestic Moche, fancy Moche, Fine Orange, and Fine Black wares), and “highland group” (which comprises the Cajamarca Coarse Red, Cajamarca Cursive, and Cajamarca Red-on-Buff wares). The first group is characterized by the predominance of quartz macro-crystals. The second group includes two paste variants: one dominated by plagioclase feldspar inclusions and other by orthocuarcite and amphibole inclusions. The identification of mineral inclusions was assisted by Dr. Silvia Rosas of the Mining Engineering Program of the Universidad Católica.
researchers. In other words, the second classification level satisfied the principle of reliability (Steffen and Ramenofski 1997: 8). The vast majority of the identified wares were easy to differentiate because they comprised exclusive sets of ceramic shapes.

Finally, the third classification level involved the identification of the most representative vessel forms of each defined ware. Given that the analyzed sample was comprised entirely of vessel fragments, the identification of ceramic forms started with two tedious procedures. The first procedure consisted of the partial reconstruction of broken vessels. This procedure was carried forward extensively in the case of sumptuary vessels and was limited to the reconstruction of rim and neck portions in the case of domestic vessels. The second procedure involved the elaboration of a graphic register of the rim fragments and partially reconstructed vessels. The drawings were later grouped into morphological types based on evident shape coincidences. The identified vessel forms were later designated with names that sometimes sounded odd (*escudilla*, *paica*, lyre-cup, stirrup spout-bottle), but that are widely acknowledged in Andean archeology. In some cases, significant variations in neck profile, body shape, and even type of decoration (especially when the decoration affected the contour of the vessel) justified the definition of morphological variants within certain types. The final classification level proved of vital importance for the stylistic analysis, given that it produced *synthetic units* that were appropriate to test the most discriminating principles set forward by this study.

**Quantification process**

The excavated sample of 20,220 fragments was too large to allow any kind of practical handling. I was forced to devise a method to reduce this sample to a size that,
while manageable, was representative of the ceramic groups present in the buildings. Given that most discriminating principles required an assessment of relative proportions of vessel types, I decided to organize the sample through a determination of the minimum number of vessels present. The method chosen to calculate this index was inspired in the technique used by the biologists who analyzed the organic materials of Cerro Chepén Alto to quantify the samples of marine mollusks and gastropods. When analyzing shell fragments, the biologists calculated the minimum number of specimens present by counting a shell section that was relatively small, unique to each specimen, easily recognizable, and highly resistant to breakage. This section was the hinge, apex or peristoma (Vasquez Sanchez and Rosales Tham 2004b: 5). In the case of the ceramic quantification, I gave the same distinction to the rim section of the vessels.

The calculation of the minimum number of vessels discarded in the buildings with galleries began once the vessel reconstruction activities were completed, and after all rim sherds and other vessel portions were drawn. Not every rim sherd drawing was counted as a single vessel. Rim fragments that were drawn separately, and that belonged to the same morphological category, were grouped together to test for possible agreements. Different physical characteristics of the rims, as evidenced in the drawings (e.g., mouth diameter, rim contour, lip form) and in the fragments themselves (e.g., singular inclusions, errors in the manufacturing process, unique superficial marks, singularities in the surface treatment) were employed in the process of finding possible similarities. If, after checking these attributes, there was a reasonable doubt about whether two or more non-matching rim sherds could have belonged to the same vessel, they were counted as a single occurrence. The quantification process began considering the ceramic samples of
the 28 excavated units (16 in Buildings VIII and IX, and 12 in Building IV) as independent assemblages. However, these groups were later checked to find possible links (detected in 10 cases).

In the end, the sample of 20,220 fragments was organized in a minimum number of 767 vessels. Of these, 52.4% (N = 402) belonged to the domestic pottery category and 47.6% (N = 365) to the sumptuary pottery group. The identified vessels were represented by varying numbers of rim fragments (between 1 and 15). A high proportion of the defined vessels were identified by a single rim piece. However, these fragments covered varying proportions of the rim surface of the original vessels (between 5% and 100%). In no instance were other vessels parts considered in the quantification (e.g., bases). This procedure would have biased the proportional assessment of vessels to the benefit of those wares that included specimens with numerous attractive body features. The only exception to this rule was applied in the case of bottles, which could have been misrepresented in the sample, given that they present a very small lip-to-body-surface ratio. In those cases, spout fragments were also considered in the quantification.

I believe that the quantification method adopted in this study is particularly suited to organize the ceramic materials of Cerro Chepén Alto, since these materials manifest a low level of morphological standardization. When comparing the drawings of vessels that could, to a large degree, be reconstructed and that belonged to the same formal category (e.g., escudillas), the morphological differences between individual vessels became evident. The quantification method also proved valuable for characterizing the ceramic composition of some singular deposits of the buildings with galleries. The trash dumps found inside the two-floor gallery of Building IV and the sunken room of the Vestibule of
Building IX, offered ceramic samples of amazing stylistic richness. If I had chosen to quantify these samples according to other criteria – like simple sherd counts or sherd weight – I would have lost a lot of information, especially regarding the types of ceramic forms present and their relative popularity. Finally, the method is also consistent with the discriminating analysis proposed by the investigation. In particular, it provides useful information to evaluate discriminating principles 1, 2, and 3, which anticipate that: a) ceramic assemblages of foreign elites will denote a high proportion of exogenous vessels, b) imported vessels will tend to show a low richness of ceramic forms, and c) the ceramic possessions of foreign elites will show non-significant stylistic antecedents in the assimilated region.

**Verification of the contextual provenance of samples**

This operation was centered on verifying the contextual provenance of the samples and was aimed at solving the vertical dimension of the 5\textsuperscript{th} discriminating principle mentioned in this study. In short, this operation was focused on isolating the ceramic component that corresponds to the time during which the buildings were being used, separating it from components that may pre or postdate this event. In order to come up with a sample that was large enough to show consistent patterns, I had to rely on criteria broader than the mere identification of primary and de facto refuse (\textit{sensu} Schiffer 1972, 1977, 1983) given that so few vessels could be confidently ascribed to these refuse categories. I decided to organize the sample into two broad groups based on their specific stratigraphic origin. To do so, I classified all the deposits that were excavated in the buildings with galleries into nine categories with different contextual
implications. These deposits are illustrated in a simplified profile in figure 8.4, and described in Appendix A of this dissertation. In brief, four different types of deposits – floor intrusions, above-floor trash layer, sealed trash layer, and above-floor sherd concentration – contained vessels discarded by the occupants of the buildings. Four other categories – initial fill, wall fill, roof debris, and wall debris – contained fragments discarded before the structures were finished and used. The ninth category – intermediate fill – includes fill layers that were laid above the earliest occupation surfaces. The ceramic contents of these layers may relate to artifacts brought in from distant locations (possibly discarded before the buildings were occupied) and/or refuse generated by the people who used the structures.

The vertical dimensions of the contextual analysis allowed me to conclude that, from the minimum number of 767 vessels identified, 533 (69.5%) were evidently discarded by the occupants of the structures (they were found associated with deposit types 1 through 4). Of these, 231 (43.3%) were utilitarian pieces and 302 (56.7%) fine pottery vessels. The verification of the contextual provenance of the samples also proved useful in determining that the construction and use of the buildings with galleries was conducted forward by individuals who participated in the same cultural tradition. Fragments of the same types of fine vessels were found associated with occupation surfaces and with the deepest fill layers.

**Pottery function**

The identification of pottery function was not a major concern in this study. This decision was due to the fact that the resolution of the discriminating principles that guide
Figure 8.4. Simplified stratigraphic profile that shows the most important cultural deposits found within the buildings with galleries of Cerro Chepén Alto.
the cultural identification of the building’s inhabitants depended solely on stylistic information. However, functional determinations were still necessary to understand the character of the architectural spaces excavated in the studied buildings (Chapter VII). While not every vessel was subjected to a detailed functional analysis, three main criteria were employed to discern the possible use of the most conspicuous vessels discarded in occupation areas: morphological design, use marks, and character of organic contents.

The morphological design criterion is based on the principle that, in order to satisfy their intended functions, artifacts have to comply with some basic design characteristics that most prominently affect their form and size (Smith 1983). Following this premise, it was assumed that artifacts that were intended to be used as personal food and liquid containers would most probably have been designed as open vessels, small enough to have been easily held in one hand. In order to avoid spillage, some personal drinking vessels would have included a constricted container with a narrow neck or spout (Smith 1983). Given that the vast majority of bowls and bottles that were excavated in the buildings with galleries belonged to fine ware categories and were dedicated an elaborate decoration, it was surmised that these personal eating/drinking vessels were also designed as carriers of ideological messages. The areas where these vessels were discarded in great numbers were consequently identified as places where elite-sponsored feasts would have taken place.

Use-marks evidence was used primarily for the identification of cooking vessels. This identification was based on the presence of exterior and/or interior carbon deposits (Skibo 1992: 39). This study discovered that only Late Moche domestic forms were used in cooking activities. While only one morphological type showed a consistent presence of
this kind of surface accretion (suggesting a strict correspondence between vessel form and intended use), six other morphological variants showed occasional occurrences, indicating that the occupants of the buildings with galleries did not have a strict functional categorization of domestic vessels.\textsuperscript{11} Cooking pots were commonly discarded in the same areas that held large concentrations of fine ware eating and drinking vessels.

Finally, the only case in which organic contents were used to determine vessel-use relates to the case of Paica 1, which was found broken in the patio of the Two-floor Gallery Group of Building IV. As described in the previous chapter, this paica contained a thick crust of carbonized material. A sample of this interior deposit was sent to the “Centro de Investigaciones Arqueobiológicas y Paleoecológicas” of the University of Trujillo to conduct a taxonomical analysis of starch grains. The analysis detected the exclusive presence of maize starch, indicating that large quantities of maize beer were produced in the vicinity of this architectural cluster.

**Domestic Wares**

In this study, the sample of domestic vessels is not subjected to the discriminating analyses described above. I consider these vessels to be representative of the commoners’ wares, and therefore they do not help in indentifying the cultural identity of the elites. It is true, however, that the leading authorities of the site may have demanded their subjects provide an annual tribute of some of their manufactured products to satisfy their most basic domestic needs. The sample of domestic vessels found within the buildings with

\textsuperscript{11} A minimum of 67 Late Moche domestic vessels (17% of the sample of domestic pottery) presented soot deposits. These vessels belonged to seven different morphological variants: collared bowls, vessels with platform neck, vessels with undulating neck, vessels with bulge neck, vessels with out-slanting necks and thinned lips, vessels with simple necks, and paicas.
galleries of Cerro Chepén Alto can provide, therefore, valuable information about the commoner substratum that I want to summarize briefly. This information relates to the cultural identity of the commoners, the time of occupation of the settlement, and the type of relationships established with the elites. The local sample of domestic pottery also proved the existence of interregional contacts. All this information is important to reconstruct the social organization of the settlement at the eve of collapse. While only the most important conclusions of the analysis of domestic wares will be presented at this time, a detailed stylistic categorization of this ceramic group is included in Appendix B of this dissertation.

The sample of domestic pottery excavated at the buildings with galleries of Cerro Chepén Alto comprises a minimum of 402 vessels, representing the largest ceramic category within the two initially defined (domestic and fine pottery) (52.4%). Of these, 231 vessels were found within significant use areas, and had obviously been discarded by the occupants of the buildings. Two different stylistically-consistent wares comprise the group of domestic vessels: Late Moche domestic ware, which is clearly dominant (97.8% of the total number of domestic vessels) and an exogenous "Cajamarca Coarse Red" ware, represented by only 9 specimens (2.2% of the sample of domestic vessels).

The Late Moche domestic ware is purely local, as can be demonstrated on stylistic and compositional grounds\(^\text{12}\). The collection is dominated by necked jars (93.6%), that show a wide range of sizes (the size of orifice diameters fluctuates between 9 to 63 cm), and a high variability in neck shapes (which allows the distinction of numerous typological variants). These vessels were evidently designed to meet domestic functions.

\(^{12}\) Fragments of similar pottery vessels are common at Late Moche habitation sites of the valley. The Late Moche domestic vessels were tempered with quartz macro-crystals.
The high variety of vessel forms and their wide representation in the sample suggests that they were locally supplied by coastal dwellers.

Perhaps the most striking characteristic of the Late Moche domestic group is the stylistic consistency of the sample. The group is made up of vessels that share basic form characteristics (simple spherical bodies with rounded bottoms), decorative variants (simple strokes of cream paint applied along the rim or the base of the neck), technological features (smooth surfaces; vessel bodies finished with the paddle-and-anvil secondary technique), and even the same type of appendages (while strap handles are entirely lacking, some small vessels may have perforated lugs at neck of the vessel). This group is firmly anchored in the Late Moche phase, as evidenced by stylistic congruencies with the domestic assemblages of Late Moche sites of the valley, and by a (two sigma) calibrated date of AD 622-772 obtained from a charcoal sample collected at a sealed context that contained a selection of some representative domestic forms. Special stylistic features seem to indicate that the Cerro Chepén sample belongs to a late time within the Late Moche sequence. The excavated sample includes three morphological types – “New King” jars, vessels with platform necks, and vessels with simple necks and thinned lips – that represent clear temporal markers of the end of this phase in the valley (Donnan 1986a: 22, 1997: 13). The sample also includes, however, vessel forms and decoration variants that were typical of older cultural periods (Early Moche and Gallinazo). The survival of these early traits is not surprising considering how conservative and resistant to change the production of domestic ceramics tends to be (Rice 1984: 252).

Another aspect that characterizes the sample of Late Moche domestic pottery is the lack of standardization in vessel form. While the vessels share general shape
characteristics that allow sorting them into morphological types, the lack of nearly identical specimens is notable. This high level of morphological diversity may be the result of a non-specialized production of domestic pots (Rice 1991: 274). I am inclined to think that this diversity may also be the product of special taxing policies conducted by the elites. In order to avoid exerting too much strain on the production of a few artisans, the Cerro Chepén Alto elites may have opted to collect tribute from many local workshops. The collected vessels, while representative of the general Late Moche style, bore the assertive style (sensu Wiessner 1983) that was specific to individual producers.

Despite this widespread collection strategy, it was evident that the elites who occupied the two sets of monumental buildings with galleries of Cerro Chepén Alto were using the same types of vessels in similar proportions. Figure 8.5 compares the relative proportion of vessel types and morphological variants excavated in each building cluster. A Pearson’s chi square analysis indicated that these two distributions are statistically similar within a confidence level of 5%\(^\text{13}\). A Cramer’s V coefficient yielded a value of 0.148, corroborating the closeness of both distributions.

A final point I think is important to emphasize regarding the Late Moche domestic pottery is the meager role these vessels played in the diffusion of local ideologies. None of the identified vessels were decorated with themes distinctive of the Moche elite ideology. The representations of humans and animals, besides being scant, were of naturalistic character, and it is possible that the only representation of elite members available in the sample (as evidenced by the New King vessels) refers to non-Moche individuals (Donnan and Cock 1986b: 27). In my opinion, this “ideological

\(^{13}\) Due to sample size problems, all the vessels discarded in the buildings, and not only those associated to occupation surfaces, had to be considered in the calculation.
Figure 8.5. Cerro Chepén Alto: compared relative distribution of Late Moche domestic types by building cluster.
silence” is not accidental. While domestic ceramics seldom carried messages relating to elite ideologies, Moche pots occasionally portrayed mythological themes (Donnan 1978, Fig 250; Swenson 2004, Fig 7.17, center). The absence of these representations in the domestic sample of the buildings with galleries may relate to a prohibition imposed by the official occupants.

The second ware that forms part of the domestic pottery group is the "Cajamarca Coarse Red” ware. This ware is represented by a minimum number of nine vessels, all of foreign origin. The production centers of these vessels are located in the highlands of Cajamarca (Terada and Onuki 1982: 107) and in the area of Huamachuco (J. Topic 1998: 116). While the sample is too small to permit a classification, these vessels hold important information about how interregional contacts were carried forward. Six vessels of the “Cajamarca Coarse Red” group were large jars that would have reached up to 50 cm in height. Given that these vessels can not be stacked, their transportation to the site would have required a significant effort, especially if they were carried fully loaded. In the latter case, the use of beasts of burden would have been necessary.

**Fine Elite Wares**

The fine pottery sample of the buildings with galleries of Cerro Chepén Alto includes a minimum of 365 vessels, 302 (82.7%) of which were discarded by the occupants of the structures. While this group is smaller than the domestic pottery group (N = 402), it still covers a high proportion of the excavated sample (47.6%). In fact, the high proportion of fine vessels is a direct indicator of the relative importance of the buildings and the social prestige of their occupants. As noted above, two basic attributes
distinguish fine pottery pieces: a) the presence of polished surfaces, and b) a fine-textured paste. Sumptuary vessels were also characterized for having a low incidence of firing accidents. While I cannot rule out the possibility that these pieces were fired in open kilns, it is clear that they were subjected to better firing conditions than the domestic vessels.

The sample of fine pottery vessels can be organized into five different wares based on differences in surface color, paste type, and decorative treatment: a) Late Moche fine line ware, b) Cajamarca Cursive ware, c) Cajamarca Red-on-Buff ware, d) Fine Orange ware, and e) Fine Black ware. Each set includes an exclusive repertoire of decoration variants and, sometimes, vessel forms. In this work, I assume that the fine vessels were prestige objects that often carried messages related to the elite ideology in their form and decoration. The style of these vessels can be used as a guide to determine the specific type of elite ideology that was prevalent at a site, and ultimately trace the cultural origin of the leaders who subscribed to this worldview. In the following pages, I will present a detailed description of the wares that comprise the fine pottery set, including their most conspicuous vessel forms and decorative techniques. I will also establish preliminary comparisons with other known fine-ware traditions of the Andean region to solve issues relating to possible source areas, interaction spheres, and temporal framework. The chapter closes with an evaluation of the discriminating principles set forward by the investigation based on the information provided in this section.
Late Moche Fine Line ware

I would like to start the description of the Cerro Chepén fine pottery category with the Late Moche Fine Line group, given that it represents local elite ware par excellence, and therefore constitutes the standard against which all other fine pottery groups will be compared. I begin the exposition with a general overview of the Late Moche elite style, specifically the Jequetepeque Valley variant, and then turn to review how it is represented in the buildings with galleries of Cerro Chepén Alto. The overview is heavily influenced by, but not limited to, the information provided by the San José de Moro regional cemetery (only 4 km from Cerro Chepén). This cemetery has offered the largest and most complex assemblage of Late Moche Fine Line wares in the entire north coast. The description of the Jequetepeque variant of the Late Moche style focuses on three specific issues: most distinctive vessel forms, manufacturing techniques, and decorative style and technique.

There are three distinctive pottery vessel types of the Jequetepeque variant of the fine elite Moche style: a) stirrup-spout bottles with globular or angled bodies, b) sculptural vessels, and c) simple monochrome jars (Fig. 8.6). To these I could also add flaring bowls which, although commonly associated to the Moche III and IV traditions of the southern sphere, also occur, albeit in more limited numbers, in the northern Moche territories.14 The Moche commonly used the stirrup-spout bottles as "canvases" to portray their characteristic complex scenes executed with very fine brushes. The sculptural pottery, on the other hand, is common in the San José de Moro cemetery, and was used to

14 Shimada (1976: 359) reported having found four Late Moche flaring bowls during his excavations at Pampa Grande. All specimens have crenellated rims and were decorated with fine line geometric designs on the interior surface of the rims. I have found rim fragments of similar vessels at Cerro Chepén and in the surface of a Late Moche site of the Huaca Blanca hill (Jequetepeque Valley). Smaller and cruder versions of these flaring bowls have been found at the burial of the second “Moche Priestess” of San José de Moro.
Figure 8.6. The most distinctive vessel types of the Jequetepéque variant of the Late Moche fancy style: a) stirrup-spout bottles, b) sculptural vessels, c) simple jars, and d) flaring bowls. Redrawn from Donnan and McClelland 1999, Fig. 5.5; Ubbelohde-Doering 1983, Fig. 56.3; Castillo and Donnan 1994b, Fig. 117; and Castillo 2003, Fig. 18.15.
render full-body representations of Moche mythological beings and deities. Finally, the simple monochrome jars are the most common funerary type in this cemetery (Castillo 2003: 91). Notwithstanding the simplicity of the vessel form, this type is highly appealing due to the wide variety of surface colors and the fine luster of the outer surface (Castillo and Donnan 1994b: 174).

With regard to manufacturing technique, a notable aspect of the Late Moche fine ceramic tradition is the obsessive use of molds. Even the simplest ceramic forms, such as the globular bodies of jars and bottles, were made with bivalve molds. Donnan (1965: 119) suspected that flaring bowls were manufactured in a similar way, in this case using a finished vessel as a univalve mold. The use of molds is more evident in the case of the sculptural pottery. In cases of unusually complex, three-dimensional representations, different parts of the vessel were made with separate molds, and later joined together when the clay achieved a leather-hard state. In respect to firing technique, while Moche vessels were traditionally fired in oxidizing atmospheres, a consistent trend towards the use of reducing atmospheres has been documented for the Late Moche phase (Donnan and McClelland 1999: 162).

The Late Moche ceramic decorative techniques fall into two main variants: a) fine brush painting and b) three-dimensional molded decoration. The first technique is perhaps the most representative of the style and was mainly executed on stirrup-spout bottles, although it was also rendered on simple jars in the interior rim of flaring bowls. The decoration was applied before the firing, and invariably involved the use of an ocher mineral pigment – liquid clay with high iron content – that was applied above a white-slipped vessel surface (Donnan 1965: 125). Given the reducing conditions of the firing
atmosphere, the ocher pigment often attained a black or dark-grey color, and the white background of the design field often showed a grayish shade (Donnan 1976: 62).

The designs were drawn with a brush of unusual thinness. Modern craftsmen of San José Moro, who produce replicas of Late Moche vessels, found out that the best way to reproduce the narrow width of the lines was by using brushes made with hairs of their youngest children (Julio Ibarrola 2004, personal communication). Two thematic variants are seen in the Late Moche painted decoration: a) naturalist-figurative motives, which involve the representation of terrestrial and marine mythological beings, and b) geometric designs, which were commonly repeated in linear patterns forming decorative bands. These bands were placed one on top of the other until the entire external surface of the vessel’s body was covered. The painted figurative art is particularly outstanding. It denotes an exceptional ability to render minute, realistic figures that, no doubt, required special motor skills. The decor is excessive. The spaces between the central figures were commonly filled with small "floating" elements, generating an artistic effect of horror vacui. The pictorial representations were developed following special conventions (e.g., heads in profile, eyes in front view) that were never broken (Donnan 1976: 21-34). The strict adherence to artistic conventions suggests a high degree of training of the ceramists.

The three-dimensional decoration of vessels was commonly executed with carved molds. The molds were used to produce both full-round sculptural representations, and relief designs on vessels with globular bodies (mold-pressed designs). The figures depicted in the mold-pressed designs are mostly naturalistic (e.g. eagle carrying a cup, duck warrior, deer wounded with a dart) (Castillo and Donnan 1992, Figs. 47c, 47d, 48b, 51a, 54a). The same technique was also used to produce geometric designs similar to the
ones present in the painted bands (Castillo 2003, Fig 18.15). In some rare cases, the three-dimensional and fine line painted decoration styles were combined in the same vessel (Castillo et al 1997, Fig. 7).

Finally, to close up the general description of the Jequetepeque variant of the Late Moche fine elite ceramic style, it should be stressed that the Late Moche fine ceramics from San José de Moro manifest a strong influence of Huari artistic cannons. This influence resulted in an expansion of the repertoire of ceramics forms (e.g. double spouted bottles with bridge handle), an expansion of the range of pigments used in the pre-firing painted decoration (up to five different colors in the same design), a variation of slip color used as background for the painted decoration (red instead of white), and an expansion of the collection of painted designs (including new Huari and Huari-related icons) (Castillo 2000, Donnan and McClelland 1999: 154-160).

Turning now to the sample of Late Moche Fine Line vessels excavated at the buildings with galleries of Cerro Chepén Alto, the first thing that caught my attention was the limited size of the sample. I was only able to identify 4 vessels, three of them represented by fragments of stirrup-spouts, and one by a flaring bowl rim (Fig. 8.7). Besides these diagnostics fragments, we retrieved thirteen body fragments (presumably of stirrup-spout bottles) decorated with fine line motifs (Fig. 8.8). Most of the painted fragments (ten body sherds and the rim fragment of the flaring bowl) bore geometric designs. Only three of the body fragments showed naturalistic representations. The size of these sherds was, however, too small to aid in the identification of the specific scene and character depicted. The sample of fine pottery vessels from the buildings with
Figure 8.7. Cerro Chepén Alto: vessels of the Late Moche Fine Line ware.
Figure 8.8. Cerro Chepén Alto: body fragments of Late Moche bottles decorated with fine line motifs.
galleries did not include a single example of Moche sculpted vessels, nor of polychrome Huari-influenced pieces.\footnote{Several fragments of a polychrome vessel decorated with Moche designs were recovered, however, in a midden located right in front of the entrance of Building VII (Fig. 8.40).}

Another singular feature of the sample of Late Moche Fine Line ware of Cerro Chepén Alto is the imperfect stratigraphic association that it manifests with significant occupation levels. The sherds were not only small, but were mostly recovered from non-significant discard deposits such as “wall collapse”, “intermediate fill” and even “initial fill” layers. The largest sherd concentration – which included the best preserved stirrup-spout portion and up to eight painted body fragments – was detected in a fill layer located right above the first occupation surface of the Area of Irregular Architecture of Building IV. Only a stirrup-spout fragment and three painted body sherds were found in “above-floor trash layers”. The scarcity of significant associations between the Late Moche Fine Line ware pieces and occupation surfaces of the buildings with galleries does not mean that this ware predates the occupation of the structures. In fact, a significant number of fragments were discarded in Building IV when the structure was already in use. What this lack of associations means is that the Late Moche style simply was not representative of the elites who lived in these structures.

**Cajamarca Cursive Ware**

The Cajamarca Cursive ware is made up of imported pieces. This pottery had its homeland in the Cajamarca Valley of the northern highlands of Perú, and was produced during a cultural phase that is known as "Middle Cajamarca" (ca AD 450 to 900) (Matsumoto 1994: 185). The most distinctive vessel type of this ware is a small (ca. 15-
20 cm in orifice diameter) ring-base bowl made of white kaolin clay. The bowls carry a dense, internal, painted decoration, commonly organized in panels and executed with very fine brush strokes (Figs. 8.9 and 8.10). Alfred Kroeber dubbed this decoration *cursive* “because the fine brush strokes with which they [the motifs] were painted were similar to the movements of the pen in rapidly running handwriting” (1944: 69). The decoration is commonly executed in two colors – dark brown and ocher – that stand out on the white background of the vessel’s surface (Julien 1988: 78). Commonly, these colors were used to create special chromatic effects, alternating identical designs painted with different colors in adjoining panels. Finally, in addition to the ring-base bowls, there are two other ceramic forms typical to this style: spoons and tripod-legged bowls (Terada and Matsumoto 1985: 78) (Fig. 8.10). All these ceramic pieces were apparently manufactured with the coiling and hand modeling techniques.

The sample of Cajamarca Cursive ware of the buildings with galleries is represented by a minimum of 28 vessels, 26 of which are bowls and two are spoons. The bowls are mostly small-sized vessels with ring bases (N = 22). The bowl sample includes, however, a vessel of unusual dimensions (mouth diameter of 34 cm), and three tripod-legged pots, two of which are miniature vessels (mouth diameters of 9 and 12 cm). The Cajamarca Cursive sample also includes a dozen excavated fragments belonging to an unidentified number of pots, and surface pieces of five additional vessels (4 bowls and one spoon). All the vessels of the sample belong to the "Cajamarca Floral Cursive" sub-style, which differs from the other cursive sub-styles of the Middle Cajamarca Phase for presenting thicker lines and more free space between decorative designs (Terada and Onuki 1982: 114).
Figure 8.9. Cerro Chepén Alto: bowls of the Cajamarca Cursive ware.
Figure 8.10. Cerro Chepén Alto: bowls and spoons of the Cajamarca Cursive ware.
A remarkable aspect of the excavated sample of Cajamarca Cursive vessels is that most of its constituent pieces (N = 26) were recovered from deposits associated with occupation surfaces, particularly the sequential refuse layers of the two-floor gallery of Building IV (N = 7) and the garbage dump of the Vestibule of Building IX (N = 13). But even more remarkable is the presence of fragments of two pots in deposits that predated the occupation of the structures. Vessels VIII(13) V-1 – the rim fragment of a bowl – and IX(14) V-1 – a spoon fragment – were collected from deposits that could be clearly identified as "wall collapse". Several fragments of other unidentified vessels were found in initial fill layers. This evidence indicates that examples of this exogenous ware had been discarded at the site before the construction of buildings with galleries was completed.

Another notable feature of this ware, which contrasts sharply with a case that will be described below, is the stylistic uniformity of the sample both within and between buildings. This homogeneity is manifested mainly in the repertoire of decorative designs. The Cajamarca Cursive bowls were commonly decorated on both their exterior and interior surfaces. The repertoire of external designs is very limited, being basically restricted to two motifs (Julien 1988: 78)\textsuperscript{16}. The repertoire of internal decorative designs is, on the other hand, extremely varied, suggesting the existence of several artistic sub-traditions within this ware. In the sample of the buildings with galleries of Cerro Chepén Alto, however, the repertoire of internal designs is rather limited, being dominated by a decorative pattern that combines a large spiral and several parallel comma-like signs.

---

\textsuperscript{16} These decoration variants include a design formed by a series of continuous, horizontal lines (sometimes drawn with alternating colors), and a design that Thatcher (1975: 116) called the “spoke motif”.

(Figs. 8.9 a, b, d, 8.10 a, f). In all, 12 bowls distributed among both Building IV (N = 5) and Building IX (N = 7) shared this combination of motifs.

What does this consistency in decoration variants suggest about the use patterns of exogenous pottery by the elites of Cerro Chepén Alto? In the previous chapter, I indicated that the buildings with galleries of Cerro Chepén Alto were organized in two groups that probably reflected a social division of parcialidades. The stylistic consistency of the cursive vessels found in these two sets of buildings suggests that the leaders of these parcialidades were basically exploiting the same sources of Cajamarca ceramics. This pattern replicates the use trend of domestic ceramics. A possible transgression was conducted, however, by the elites who occupied Buildings VIII and IX. Two decoration variants present in these buildings have not been reported in Building IV. These variants include a complex design composed of a "checkerboard motif" flanked by triangular panels filled with small curved designs (Fig. 8.9 d, 8.10 b), and a design that involves one large central spiral surrounded by panels that include a series of miniature spirals (Fig. 8.9 c). Apparently, the occupants of Buildings VIII and IX also participated in a distribution network that was unknown or inaccessible to their peers of the neighboring parcialidad.

Finally, I conclude the description of the Cajamarca Cursive vessels with a brief discussion about the cultural implications of this imported ware. Specifically, do these imported vessels offer enough evidence to support the theory of a military invasion?

While the topic of the preferred external policy of the donor polity is going to be developed in depth in the final chapter of this dissertation, I believe it is important to
revise the Cajamarca case at this moment, given that it clearly demonstrates that the
diffusion of foreign pottery was not always accomplished through forcible means.

To begin with, it is important to stress that Cerro Chepén is not the only non-
Cajamarca site that reported this type of ware. During the Middle Horizon (ca. AD 600
- 900), Cajamarca ceramics, especially the Floral Cursive sub-variant, were widely
distributed in the Andean area. Vessels of this style were reported at several power
centers of remote regions, including some lying more than 1100 km away from the place
of origin (McEwan 1996: 181, Menzel 1964: 39) (Fig. 8.11). The vast majority of these
pieces were found on sites linked to the Huari expansion (Anders 1986: 531, Bennett
1953, Isbell 1977: 118, McEwan 1996). At these sites, even local copies of this
prestigious ware were produced (Julien 1988: 226, Menzel 1964: 44-45). A few trade
pieces also made their way into important Moche sites of the North Coast, such as Pampa
Grande (Shimada 1976, Fig 88 C, D, 1994a: 253), San José de Moro (Disselhoff 1958b,
Bernuy and Bernal 2005), and Cerro Blanco (Kroeber 1925a, Plate 63 n, p). These pieces
were also found in the Santa Valley (Wilson 1988, Fig 256). In some cases, it is clear that
complete vessels were transported long distances (see, e.g., Isbell 1977, Plate 18 AD). In
others, it is possible that even fragments were transported. Finally, a preferred destination
of the Cajamarca Floral Cursive ceramics was Marcahuamachuco and its satellite sites
(Thatcher 1975: 118). In fact, the Cajamarca ceramics are so abundant in this area that
Lumbreras (1974: 147) did not hesitate in suggesting that Huamachuco and Cajamarca
constituted a unified cultural area during the Middle Horizon.

The evidence related to the international diffusion of this pottery style does not
support an invasion argument. Rather, the Cajamarca Floral Cursive vessels seem to have
Figure 8.11. Map that shows the location of Andean Middle-Horizon sites that have yielded examples of imported Cajamarca Floral Cursive vessels.
represented prestige goods that were avidly sought by leaders of distant groups. In the specific case of the Cerro Chepén Alto, there are three lines of evidence that suggest that these pieces were coveted for their high intrinsic value:

a) Vessel repair efforts. Of the 20,220 pottery fragments recovered in the excavation of the buildings with galleries, only two present post-use circular holes pierced along their broken edges. These two pieces are rim fragments of two different Cajamarca Floral Cursive bowls (Fig. 8.12). The holes were evidently drilled to mend cracked or broken pots. This evidence means that, of all the ceramic vessels that the elites had at their disposal, they considered that only the Cajamarca Cursive bowls were worth repairing. It is clear that the elites of Cerro Chepén Alto not only valued their Cajamarca vessels, but also did not anticipate a prompt replacement of damaged pieces.

b) Treasured fragments. Evidence recovered at the buildings with galleries indicates that the Cajamarca vessels might have been valued even after broken. On the floor of the small transit room into the Patio-group of Building IV, we found a large painted sherd of a Cajamarca Floral Cursive bowl. The bowl was originally decorated with the figurative design of a mythological animal, whose head was perfectly preserved in the broken piece (Fig. 8.13). It was evident that the sherd had been intentionally saved and placed in a room corner as if it were some kind of offering. At Cerro Chepén Alto, only single sherds of Cajamarca pieces were used as offerings, suggesting that the ancient occupants of the structures regarded highly decorated Cajamarca sherds of equal value to complete vessels.
c) Offerings to architecture. In addition to the case described above, we have an example of a highly decorated Cajamarca bowl fragment placed in an (empty) architectural space. In this case, the bowl was decorated with abstract designs (Fig. 8.9 c), and was found in one of the niches of the Sala con Nichos of Building VIII. While the Cajamarca Cursive ware was not the only type of pottery that was used as offerings (see below), this bowl fragment represented the only object that we found associated with any of the several niches that we excavated.

The prestige of the Cajamarca Cursive ware is also demonstrated by the near perfect association index that its constituent vessels showed with significant occupation levels (Fig. 8.38). Cajamarca vessels were mostly found in areas of public use where their display potential would have been great. The only vessel of the sample that did not comply with this pattern was found in the elongated room of the Patio-group of Building IV.

### Cajamarca Red-on-Buff Ware

The Cajamarca Red-on-Buff ware is represented by 21 vessels, mostly concentrated in Building IV (N = 16), but also present in the sunken room of the Vestibule of Building IX (N = 5). This ware consists mainly of hemispherical bowls with ring bases, although we have a single case of a tripod-legged bowl. All vessels are small with mouth diameters ranging between 13 and 24 cm. These pots are decorated with linear designs painted with red color on a light background. The light hue of the background may correspond to the color of the paste or to a cream slip that was poured
Figure 8.12. Two rim-sherds of Cajamarca Cursive bowls with repair holes.

Figure 8.13. Fragment of a Cajamarca Cursive bowl that shows the representation of a stylized viscacha head.
on the interior surface of some red-paste vessels. The red color of the decoration is very similar to the exterior slip of the domestic pots of the Cajamarca Coarse Red group. The decoration is always restricted to the inner surface of the bowls. There are two technological variants within this ware that evidence different decorative trends.

One of the technological variants, represented by 10 specimens, includes vessels with clear beige-orange paste that has a strong (but not pure) kaolin composition (Fig. 8.14). The paste of these bowls has a typical lamellar structure, suggesting that the vessels were manufactured with the slip casting technique (liquid clay was repeatedly poured inside a concave mold). The ring base was later added as a solid clay coil to the pot when it attained a leather-hard state. The decoration of these vessels was done with a thick brush. The decor is composed of solid motifs (volutes, semi-circles) that hang from the lip, or by two broad straight bands that cross the interior surface meeting perpendicularly at the center of the container. Typically, the interior lip of the bowls is delineated with a red line. These bowls have only their interior surfaces polished.

The second technological variant, represented by 11 specimens, includes vessels with brick-red paste (Fig. 8.15). These bowls were apparently manufactured with the coiling technique, and commonly have a thickened outer rim. The vessels that characterize this variant have a dense internal white kaolin slip that sometimes got mixed with the red clay of the paste, acquiring an orange hue. The slip was clearly poured on the vessel interior and tends to be so thick that it is easily visible in cross-section on the broken edges of fragments. It was not uncommon for the slip to overflow unevenly onto the outer surface of the bowls. These vessels also present an intensively polished interior surface. The exterior surface was sometimes polished with rough dispersed strokes.
Figure 8.14. Cerro Chepén Alto: bowls of the first technological variant of the Cajamarca Red-on-Buff ware.
Figure 8.15. Cerro Chepén Alto: bowls of the second technological variant of the Cajamarca Red-on-Buff ware.
The decoration of the second technological variant of the Cajamarca Red-on-Buff ware was drawn with a thin brush. The most common decorative element was a band composed of a wavy line enclosed between two straight lines. The band was drawn in two preferred ways: a) as a long continuous spiral that descends from the lip to the bottom of the bowl (Fig. 8.15 a, b), or b) as several undulating bands that descend from the lip meeting at the center of the bowl (Fig. 8.15 c, e). We have a few examples of additional motifs, formed by decoration bands composed of two straight lines enclosing a row of dots, and of simple parallel lines. In the Vestibule of Building IX, we recovered a bowl fragment in which the decoration was created by burnishing off the cream slip of the internal surface (Fig. 8.15 f).

The Cajamarca Red-on-Buff ware is related to a ceramic style of common occurrence on the north Peruvian coast that is called “Cajamarca Costeño”. The name comes from the assumption that this ware encompasses local imitations of highland Cajamarca bowls (Rucabado and Castillo 2003: 24). The "Cajamarca Costeño" style is actually a very complex phenomenon that includes several regional variants (Julien 1988: 228) that extend along different time periods (Bernal and Bernuy 2005, Ravines 1982: 91). There is no denying that some of its regional manifestations have a coastal origin (see, for example, Montenegro 1993). No one has ever been able to prove, however, that the whole tradition was native to the coast.

I doubt that the Cerro Chepén Alto sample of “Cajamarca Costeño” bowls were made locally. The paste of its constituent vessels is not tempered with the same igneous particles present in the Moche domestic, Late Moche Fine Line, Fine Orange, and Fine Black pottery groups. The thin sections analysis revealed a predominance of minuscule
orthoquarcite inclusions, which are also present in the paste of imported Cajamarca Coarse Red jars. This evidence suggests that this ware was native to the highlands, although its precise point of origin still remains to be determined\textsuperscript{17}. For now, very similar (apparently imported) vessels have been found at other Late Moche sites of the valley. They are relatively common, for example, at San José de Moro, where they were even included as offerings in the most lavish Late Moche elite tombs recorded to date (Castillo and Donnan 1994: 135). I was able to find a few surface pieces of this style at the local Late Moche sites of Cerro Calera and San Mateo de Talambo. Their recurrent presence at Late Moche sites corroborates that the studied variant of the "Cajamarca Costeño" style was contemporary with the Late Moche phase.

The vessels that make up the Cajamarca Red-on-Buff ware are, then, prestige objects of apparent highland origin. In temporal terms, they are at least partially contemporary with the Cajamarca Floral Cursive and the Late Moche styles. An indication of the importance that these vessels held for the occupants of the buildings with galleries of Cerro Chepén Alto is manifested in their contexts of occurrence. Sixteen of the 21 vessels that make up this ware were recovered from deposits associated with occupation surfaces. Twelve of these were found in public areas (two-floor gallery of Building IV, Vestibule of Building IX), two in private rooms, and two in the Area of Irregular Architecture of Building IV. The most interesting finds were made in the small transit room to the Patio-group of Building IV (an area assumed to be of private

\textsuperscript{17} Daniel Julien (1988: 22) speculated that a “Cajamarca Costeño” sub-variant of the Lower Jequetepeque Valley may have originated in the cis-Andean region of Cajamarca. Bernuy and Bernal (2005: 69), on the other hand, suggested that there are close similarities between the vessels that compose my Cajamarca Red-on-Buff ware and some pottery types of the site of Kuelap, located on the eastern Andean watershed. While this evidence is insufficient to propose an eastern Andean origin for this ware, it proves that this pottery style had a spatial distribution that went beyond the coastal flatlands.
character). Here, we discovered fragments of two bowls in different stratigraphic positions. Fragments of one of the bowls (which belonged to the second technological variant) (Fig. 8.15 c) were discarded in a small pit excavated on the room’s floor. The fragments of the second vessel (which belonged to the first technological variant) (Fig. 8.14 a) were scattered on the terrace fill before pouring the mud floor of the room. This last find is highly significant, since it represents an offering made to the architecture before the structure was finished. As a side comment, I would like to mention that this behavior may suggest that the structure was built by outsiders, given that there is no known case of Moche people offering exogenous vessels to their own residential structures.

**Fine Orange Ware**

The Fine Orange ware is the second largest ceramic group within the fine pottery category of Cerro Chepén Alto (85 vessels). The vessels that make up this ware are distinguished for having light orange surfaces that were finely polished. This peculiar surface treatment gave the vessels a striking appearance, comparable to any kind of painted or plastic (three-dimensional) decoration. In fact, a large proportion of these vessels (44.7% of the sample) had no additional ornamentation. The vessels of the Fine Orange ware were mostly tempered with quartz macro-crystals, and therefore are strong candidates for having been locally produced. These vessels form a consistent stylistic unit that manifests close affinities with ceramic components of other Andean Middle Horizon sites, especially those of the northern and central Peruvian highlands (although stylistic influences of the Central Coast are also found). Three are the most distinctive ceramic
forms of this ware: *escudillas*, bottles, and hemispherical bowls with ring bases (in that order of popularity). At least two of these forms have no stylistic antecedents in the study region. In the following pages, I will describe the most salient characteristics of these forms, and of a fourth category that includes vessels with peculiar shapes.

**Escudillas** (Figs. 8.16-8.19)

*Escudilla* is a Spanish word for flat-base bowls with straight flaring sides. The *escudillas* are the most common ceramic form of the Fine Orange ware (65.9%), and also the most popular fine elite vessel type of the entire sample. While most of the specimens have perfectly flat bases, we have a few occurrences of vessels with slightly convex or concave bottoms, and two unique cases of vessels with tripod supports. The sample of 56 specimens shows a very regular gradation of sizes, expressed in mouth diameters, that range from 14 to 25 cm. All the *escudillas* of the sample have both their interior and exterior surfaces intensively polished. This surface treatment erased all surface marks that could have been used to identify the manufacturing technique of the vessels.

One issue worth highlighting is that this vessel type has no Moche stylistic antecedents. This form was relatively popular among coastal traditions of the Late Formative Period that belonged to the "White-on-Red Horizon" (Willey 1945, 1948, see also Ford 1949, Fig 6-31; Palacios 1988, Fig 48; Stothert and Ravines 1977, Figs. 13 k-l, Wallace 1986, Willey 1943). During the ensuing Early Intermediate Period (ca. AD 0 - 600), this form was discontinued on the north coast, but remained in use on the south coast as part of the Nasca ceramic repertoire (Kroeber 1998, Figs. 92-121). This ceramic form was later adopted as a prestige symbol by the elites of the nascent Huari highland
tradition (Menzel 1964: 16), who were responsible for its wide diffusion throughout several highland regions, including the area of Huamachuco (Thatcher 1975: 116). This ceramic form became so popular in Huari and Huari-related sites that in many of them it represented the dominant type of eating/drinking vessel (Anders 1986: 392, Isbell 1977: 75).

The escudillas of the Fine Orange ware of Cerro Chepén Alto are not only striking because of the singularity of their shape and the fineness of their surface treatment, but also because some vessels have unique decorative patterns. Twenty-nine vessels of the sample show interesting decorative techniques and designs that, while uncommon for the Moche tradition, manifest close stylistic affinities with vessels of contemporary cultural formations of the northern and central highlands of Peru. The decoration of the escudillas can be organized into three types: a) painted decoration with organic pigments, b) painted decoration with mineral pigments, and c) plastic decoration that involves the use of ornamental (modeled) appendages.

Nine vessels recovered in both Buildings IV and IX were decorated with an organic pigment (Fig. 8.17). The decoration was restricted to the interior surface of the bowl, and presented a most distinctive feature – a decorative band that crosses the entire surface of the vessel across the center. The band functions as a symmetry axis for solid thick and thin bands that are placed on the lateral walls of the bowls. The design of the central symmetry band is different among the specimens recovered in Buildings IV and IX. In three specimens from Building IV, the band takes the form of a "string of beads" (a row of circles connected by short straight lines). In three specimens from Building IX, the central band is a chevron line. While the sample is still too small to establish reliable
spatial correlations, additional information provided by post-firing designs scratched on the surface of several vessel types (see Chapter IX) suggests that this peculiar distribution pattern may not have been accidental. As a preliminary conclusion, I surmise that the "string of beads" and the "chevron" designs may have represented social emblems of the parcialidades that occupied the two sets of buildings with galleries of Cerro Chepén Alto.

Seven other vessels were decorated with designs painted with mineral pigments (Fig. 8.18). The colors employed were cream and dark purple, and sometimes were combined in the same design field. The decoration could be both internal and external. The most common internal decorative design consisted of blocks of vertical, wavy and straight lines placed on opposing sides of the bowls. The vertical wavy lines are commonly flanked by one or two sets of straight lines. The only escudillas with tripod supports of the sample were decorated with these motifs.

Finally, the third decoration variant of the escudillas, which gives the sample a unique character, consisted of modeled clay appendages. At least eleven different vessels were decorated in this way. The appendages were modeled human heads that were attached in pairs to the exterior sides of the vessels, possibly to serve as handles (Fig. 8.16 g). The heads were hollow and often had a large hole connecting them to the interior of the bowls. Within the group of escudillas decorated with modeled head appendages there is a special type of vessel, which I call "head-star escudilla", which combines the painted and plastic decorations (Fig. 8.19). In these vessels, the human heads were outlined with star designs painted dark orange and delineated with thin cream lines. On the inside, two semicircular bands that combine the same colors – composed of rows of dots enclosed by straight lines – hung behind the heads. Double blocks of vertical, wavy
Figure 8.16. Cerro Chepén Alto: plain escudillas of the Fine Orange ware.
Figure 8.17. Cerro Chepén Alto: escudillas of the Fine Orange ware decorated with organic paint. Left column: escudillas found in Building IV; right column: escudillas found in Buildings VIII and IX.
Figure 8.18. Cerro Chepén Alto: escudillas of the Fine Orange ware decorated with mineral pigments.
Figure 8.19. Cerro Chepén Alto: “Head-star” escudilla of the Fine Orange ware.
and straight lines, also painted dark orange and cream, were found on the inner lateral sides of the vessels. In total, I have recovered fragments of a minimum of 8 “head-star escudillas”, all confined to occupation levels of Building IX. I have not located, in the published literature of Andean pre-Hispanic ceramic types, any vessels similar to these. This evidence is a clear indicator of the singularity of the Fine Orange ware of Cerro Chepén Alto.

The escudillas of the Fine Orange ware are a rarity in the Lower Jequetpeque Valley and in the North Coast in general. I found only two related specimens in an elite chamber tomb of San José de Moro assigned to the "Transitional Period" (M-U615) (Castillo 1999: 181). The most likely origin of these two San José de Moro vessels is, however, Cerro Chepén. To find pieces comparable to those of Cerro Chepén Alto, we have to revise the ceramic components of archaeological sites located on the northern and central highlands of Peru. In the area of Huamachuco, for example, fine orange pottery proliferates during the Amaru Phase (ca. AD 600-800). One of the most characteristic ceramic forms of this pottery is precisely the escudilla, which sometimes appears decorated with curvilinear motifs painted with black organic paint (Thatcher 1975: 116-17). The Cerro Chepén escudillas painted with mineral pigments, on the other hand, are strikingly similar to medium-quality pottery of the Ayacucho area, especially belonging to the Huamanga style (Anders 1986, Fig 7.28; Ochatoma and Cabrera 2001: 171; see

---

18 The closest coastal site to Cerro Chepén in which escudillas are well represented is Chimu Capac. Chimu Capac is a Middle Horizon regional cemetery located in the Supe Valley (approximately 500 km south of Cerro Chepén, on the northern fringes of the Central Coast). In fact, this type of ceramic form is the second most popular within the local repertoire of funerary vessels (Kroeber 1925b, Table 1). While some of Chimu Capac’s escudillas are also oxidized vessels painted with mineral pigments, the vast majority of them (53.8%) were decorated with mold-pressed designs. Given that this type of decoration is absent at Cerro Chepén, and that the Chimu Capac escudillas do not present organic paint or modeled head appendages, this Central Coast site can not be regarded as possible source of origin of the Cerro Chepén Fine Orange wares.
also Isbell 1977, Fig 22). The coincidences go beyond surface color and vessel shape, they are also manifested in the form of decoration schemes. Finally, the Huamanga style *escudillas* also present modeled head appendages. In these cases, however, the plastic representations allude to feline heads, and the modeling is flat, roughly executed, and applied at the rim of the bowls (Anders 1986: 564, Fig 7.58 e-g; Pozzi-Escot et al. 1994, Figs. 1A and 1B). *Escudillas* bearing modeled heads that are more consistent with the Cerro Chepén examples have been found by Juan Paredes and his associates (2000) in the funerary chambers of the Pampirca site, located in the Callejon de Huaylas. In these cases, however, the modeling still represents animal heads.

Finally, it is clear that the *escudillas* of the Fine Orange ware were a preferred type of eating/drinking vessel used by the elites of Cerro Chepén Alto during both public and private occasions. Altogether, 49 specimens (87.5% of the *escudillas* sample) were found associated with occupation levels of the buildings with galleries. Notable among them was a set of 3 Fine Orange ware *escudillas* that were discarded inside the rear gallery of the cluster of Interconnected Rooms of Building IV. The sherds of these *escudillas* were collected from the thin refuse layers that were concealed by a short sequence of occupation floors.

**Bottles** (Fig. 8.20 and 8.21)

Fourteen vessels of the Fine Orange ware sample were classified as bottles. The bottles are characterized as constricted vessels with a single straight spout, which is relatively short and narrow. The orifice diameters of the spouts range between 2 and 4 cm. Body fragments indicate that these specimens commonly had a flat base, bullet-
shaped body, and two small perforated lugs located on the vessel shoulders or at the base of the neck. All specimens appear to have been made in molds.

The bottles can be further classified into two groups based on the shape of the spout. Five pieces have simple tubular peaks. This particular vessel form is reminiscent of Moche domestic pieces. The nine remaining bottles are distinguished for having sculpted spouts (Fig. 8.21). In eight of them, the representation alludes to human heads. Only one spout is shaped in the form of a feline head. Some of these specimens present singular stylistic features that are worth highlighting. Two bottles, made from the same mold (one found in Building IV and the other in Building and IX), bear the representation of a woman with her arms resting on her chest. In both bottles, the sculptural details of the representation (woman’s head, arms, and breasts) were highlighted with organic black paint (Fig. 8.21 a). Another unique spout has a tapering form and bears simple facial features. The spout apparently had a tubular handle attached to its back and is reminiscent, both in form and decoration, to some fancy bottles of the Central Coast Pachacamac style (Menzel 1964: 57) (Fig. 8.21 b). The other effigy-spouts are highly fragmented, and in most cases only preserve a sculptural representation of a human ear. Bi-lobed ears are common in the sample. These features are excellent stylistic indicators of the Middle Horizon, Early Tanguche Phase in the Santa Valley (Wilson 1988: 69). One of the specimens presents an ear that ends in a pointed projection, which is a distinctive feature of the “Sicán Lord” representations that decorate the peaks of the "Huacos Rey" of the Sicán style (Cleland and Shimada 1992, Fig 5) (Fig. 8.21 e). Finally, the peak shaped in the form of a feline face can be related to the Moche tradition.
Figure 8.20. Cerro Chepén Alto: Bottles with simple tubular spouts of the Fine Orange ware.
Figure 8.21. Cerro Chepén Alto: Bottles with effigy-spout of the Fine Orange ware.
Some bottles of the Fine Orange ware manifest strong stylistic affinities with the Moche ceramic style. Bottles with simple tubular spouts, for example, seem to be fine ware versions of Moche domestic vessels. Similar bottles are found in the Jequetepeque repertoire of Early Moche funerary pottery (Donnan 2006, Fig. 15; Donnan and McClelland 1997: 49, 102, 104, 122, 135) and continued to be produced locally during the Late Moche phase (Castillo 2003, Fig 18.15). It should be noted, however, that this type of bottle is also characteristic of non-Moche central coast traditions that are commonly assigned to Epochs 2B-3 of the Middle Horizon (Carrión Cachot 1959; Kroeber 1925b, Plate 76 t; Proulx 1973, Plate 8 A-C). For the moment, it is difficult to discern which would have been the source of stylistic inspiration for the bottles with tubular spouts of Cerro Chepén.

Bottles with effigy spouts, on the other hand, have no Early Moche stylistic antecedents. Most of them show close stylistic affinities with different regional styles that developed in the Central Coast and northern Peru during the Middle Horizon (Menzel 1977, Fig 95; Proulx 1973, Plate 9 CD; Shimada 1990, Fig 10; Wilson 1988, Figs. 247-248). The two bottles that combined the figurative and organic decoration are unique pieces that defy stylistic correlations. As to the contextual associations of these pieces, all 13 specimens were found associated with occupation levels of public character.

**Ring base bowls (Fig. 8.22)**

The last ceramic form of common occurrence in the Fine Orange ware relates to hemispherical bowls, two of which were complete enough to show the presence of a ring base. We have seven specimens with mouth diameters ranging between 15 and 20 cm.
Figure 8.22. Cerro Chepén Alto: Ring base bowls of the Fine Orange ware.
Besides the finely polished surfaces, none of them have any kind of decoration. In our sample, all specimens come from significant discard deposits.

The ring base bowls have no stylistic antecedents in the Moche pottery of the valley, whether in its domestic or fine ware variants. These vessels seem to be Fine Orange versions of the typical Cajamarca bowls. In fact, it is possible that this ceramic form originated in this highland area where it was produced since the Early Cajamarca phase (pre AD 450) (Terada and Matsumoto 1985: 72). At various North Coast sites, ring base bowls began to proliferate during the Middle Horizon, during a cultural period that is considered to be post-Moche (Bennett 1939: 139, Donnan and Mackey 1978: 219, Montenegro 1993: 142, Proulx 1973: 60, Wilson 1988: 69). At these sites, the ring base bowls were typically decorated with mold-pressed designs (see Donnan 1990a, Fig 7 c, d; Donnan and Mackey 1978: 237, 255, 265; Kroeber 1925a, Plate 65 f-i; Wilson 1988, Fig 241 f, g). The absence of this type of decoration in the sample of Cerro Chepén Alto suggests that the diffusion mechanisms that were responsible for the arrival of this ceramic form at these coastal sites did not operate at Cerro Chepén.

**Other forms** (Fig. 8.23)

The sample of Fine Orange ware is completed with 8 vessels that, due to the singularity of their forms, could not be grouped into any of the types described above. This group of miscellaneous forms includes the following vessels:

a) A jar with a complex neck contour that bears an elaborate painted design executed with black organic paint on its shoulder. The design consists of a
horizontal, serrated band flanked by three thin parallel lines on its upper and lower sides (Fig. 8.23 a).

b) A fragment of a tall simple neck, which may belong to a simple, monochrome Moche jar (Fig. 8.23 b).

c) A portion of a molded neck shaped in the form of a llama head, which may represent a copy of a ceramic type common to the Late Moche domestic ware (Fig. 8.23 c).

d) Two small neck fragments of what seem to have been an effigy-neck sculpted in the form of a human head. The Fine Black ware sample includes a complete specimen of similar design (Fig. 8.23 d).

e) The rim of what appears to have been a necked vessel with a wide orifice aperture

f) A fragment of an angle-rimmed bowl (Fig. 8.23 e).

g) Several fragments of a lyre-cup (Fig. 8.23 f).

The last specimen is absolutely remarkable. Its walls do not exceed 3 mm in width, and its outer surface had been polished to a fine gloss. The vessel was decorated with black organic paint with the “negative technique” (the decoration field is restricted to the few areas that were not completely covered with black paint). The decoration consist of two vertical bands: one shows a row of dots and the other a line of chevrons. In spatial concordance with the escudillas that bore chevron designs, this vessel was found in Building IX.

Lyre-cups were a stylistic innovation of the Huari tradition, originating early in their cultural history (Chakipampa B Phase) (Menzel 1964: 16). This form was
Figure 8.23. Cerro Chepén Alto: other vessel shapes of the Fine Orange ware.
introduced in the Huamachuco area during the Amaru Phase. Here, local potters reinterpreted this ceramic type, producing several copies according to their own artistic canons (T. Topic and Topic 1984: 52). John Thatcher (1975: 65) illustrated the rim fragment of a lyre-cup, found in the Huamachuco area, that is, in many ways, very similar to our specimen. The vessel not only evidences a fine orange paste, but also a decoration executed with dark organic paint representing a horizontal chevron band. This piece, along with others that make up the Fine Orange ware of Cerro Chepén Alto (escudillas) proves the existence of direct links between the coastal site and the Huamachuco power centers.

**Final comments about the Fine Orange ware**

The Fine Orange ware is one of the most important components of the category of fine elite wares of Cerro Chepén Alto. The pieces that form part of this ware were commonly tempered with quartz macro-crystals (possibly river sand) and are therefore strong candidates for being coastal products. As will be shown below, this same trend is evidenced by the Fine Black ware, which is clearly dominant at the site.

When I began the description of the Fine Orange ware, I indicated that it represented a unit of stylistic consistency. This consistency is expressed both in the form of the vessels and in their decoration. First, the forms are mostly characteristic of ceramic traditions that developed on the northern and central highlands of Peru during the Middle Horizon. Ring base and tripod-legged bowls apparently originated in the Cajamarca area and have no stylistic antecedents in the Lower Jequetepeque Valley (Terada and Matsumoto 1985: 72, T. Topic and Topic 1984: 52). The same applies to the escudillas
and to the lyre-cup, which apparently had their homeland in the central highlands of Peru. These last two forms were produced, however, in the Huamachuco area during the Amaru Phase (ca AD 600 -800). The bottles with simple tubular spouts are the only ceramic form that could be related to the Moche tradition. It should be stated, however, that similar vessels were also characteristic of Central Coast traditions, which also produced bottles with effigy-spouts.

The decoration of the vessels that comprise the Fine Orange ware contains several technological variants, including modeled appendages, mineral pigments, organic pigments, and molded vessel necks. In terms of technological solutions, they offer little scope for discrimination, given that both the Moche and their highland neighbors practiced all these techniques. When I review the style of the representations, however, obvious differences are noted. With the exceptions of the bottle that bears a feline head representation and the jar neck molded in the shape of a llama head – which could be local copies of Moche domestic pieces – all the representations are clearly non-Moche. In terms of both vessel form repertoire and decorative patterns, the Fine Orange ware manifests significant distances from the Moche art, and exhibits stylistic proximity to highland traditions.

**Fine Black ware**

The Fine Black ware is the most popular elite ware of Cerro Chepén Alto and can, therefore, be considered the most representative of the site. The Fine Black ware includes a minimum of 227 vessels, representing 62.2% of the total corpus of fine pottery. Given its large size, the sample includes a greater variety of ceramic shapes, and offers more
opportunity for establishing interesting stylistic comparisons. The vast majority of these vessels were local products. In fact, Fine Black ware has the same inclusion types that characterize the Moche domestic and Fine Orange wares. Even the most common forms of the latter fine ware – escudillas, ring base bowls, and bottles – are replicated in nearly identical form in the Fine Black ware sample. The main difference between the Fine Black and Fine Orange pottery is technical character: the vessels of the Fine Black ware were fired in a reducing atmosphere and later subjected to a smudging treatment. This treatment gives the pots a dark grey to black surface color. This same treatment also limits the gamut of decorative variants that could have been applied on the vessels, making it impracticable to implement chromatic effects, as represented by the use of organic and mineral pigments.

Some of the vessels that constitute the Fine Black ware, on the other hand, could have been brought in from other places. By those I mean, above all, singular vessel types that are represented in the local repertoire of ceramic forms by one or two occurrences. A few vessel forms – such as the double spout bottles with angled bodies – are typical of other contemporary sites (e.g. Chimu Capac) which may well be their original diffusion centers. However, as long as the macroscopic characteristics of the paste do not offer possibilities for discrimination (the pastes show the same range and proportion of igneous inclusions), little or nothing can be concluded about the existence of possible trade pieces. The same problem affects some vessels that make up the Fine Orange ware.

In addition to the vessel forms that the Fine Black ware share with the Fine Orange group, this ware encompasses an expanded repertoire of morphological types, some of which are of exclusive character. There are eight most common vessel types of
this ware (in order of popularity): *escudillas*, ring base bowls, bottles (which include three morphological variants), *cuencos*, cups, effigy-neck jars, jars with "Transitional Necks," and tumblers. In the following pages, I will describe the basic stylistic characteristics of these pieces.

**Escudillas** (Fig. 8.24 and 8.25)

As was the case with the Fine Orange ware, the *escudilla* is the most common ceramic form of the Fine Black ware (98 specimens, representing 43.2%). The specimens of both wares not only manifest clear coincidences in vessel morphology, but also in vessel size parameters. The orifice diameters of the Fine Black *escudillas* range between 14 and 26 cm, and the size distribution of the pieces is very regular.

The most interesting coincidences between the light paste and dark paste *escudillas* are expressed in decoration variants. While there are no cases of painted decoration, at least seven vessels of the Fine Black ware sample show evidence of having had lateral appendages shaped in the form of human heads. Three vessels of this small group showed an additional singular decorative treatment. Besides being nearly identical in form and sharing the same paste, these vessels bore incised designs organized in two linear bands that crossed the interior surface of the *escudilla*, meeting at right angles at the center of the vessel. The bands represent the "string of beads" design, and were created with a series of circular impressions (made with canes or small tubular bones) that were joined together with short incisions (Fig. 8.25).

---

19 Complete examples of these human head appendages have been, however, extremely difficult to find. Interestingly, these three vessels may represent imported pieces. A microscopic analysis of thin sections taken from a sherd of one of the specimens revealed a prevalence of plagioclase feldspar inclusions, which also characterize some vessels of the “Cajamarca Coarse Red” group.
Figure 8.24. Cerro Chepén Alto: plain escudillas of the Fine Black ware.
Figure 8.25. Cerro Chepén Alto: Fine Black ware escudilla with modeled head appendages and interior incised designs.
The style of the interior designs of these three vessels has two further cultural implications that are worth highlighting. The first relates to their similarity with a decorative design (in this case, executed with organic paint) present in some escudillas of the Fine Orange ware. As stated above, I interpreted this design as a “social emblem” of the parcialidad leaders that occupied Buildings IV and VI. In fact, the two best preserved Fine Black escudillas that presented the “string of beads” design were found in the sequential refuse layers of the two-floor gallery of Building IV. The third specimen, however, was found in the garbage dump of the Vestibule of Building IX. While the singular location of the third specimen does not support the alleged emblematic character of the “string of beads” design, the fact that the same design was executed with different techniques on vessels belonging to different pottery groups highlights the stylistic unity of the two most popular elite wares of Cerro Chepén Alto.

The second issue concerns the origin of this curious decoration technique. Decoration designs that comprise several repetitions of small circular impressions are common to Middle Horizon ceramic traditions of the nearby highlands. We find them, for example, on some domestic pots of the “Cajamarca Coarse Red” and “Cajamarca Light Colored” wares of the Cajamarca area (Terada and Onuki 1982: 107). This type of decoration is also common to the “Huamachuco Impresa” ware of the Upper Chicama Valley (Krzanowski 2006: 34). In fact, the closest stylistic counterpart to all the Fine Black ware escudillas of Cerro Chepén Alto is found in the Huamachuco region, where these vessels were not only manufactured in orange paste, but also in fine black ceramics (Thatcher 1975: 117). Escudillas of this type are totally strange, on the other hand, to Moche territories.
The escudillas of the Fine Black ware represented the most popular type of eating/drinking vessel of the people who occupied the buildings with galleries of Cerro Chepén Alto. The vast majority of the excavated specimens (92 vessels) were found associated with significant occupation levels. This ceramic type would have been a typical example of a "display vessel", given that almost all the specimens that were discarded on occupation surfaces came from public areas.

**Ring base bowls** (Fig. 8.26)

Ring base bowls represent the second most popular ceramic form of the Fine Black ware. We have a minimum of 39 specimens, representing 17.2% of this ware. These bowls are rather small vessels with orifice diameters ranging from 14 to 20 cm. The rim sherds of these bowls can be easily differentiated from the rims of *escudillas* because they are more curved and show a marked outward tilt. The vessels that could be largely rebuilt presented evidence of a ring base, and it was not uncommon to find isolated fragments of these bases in the excavation units. In general, these vessels bear no additional decoration, and their form is very similar to the one of the homonymous type of the Fine Orange ware.

Even though ring base bowls are not a Moche ceramic form, Shimada (1994a: 194 and Fig 8.9) reports having found black-ware vessels with this curious base form at Pampa Grande. These vessels represent, however, a rarity at this site, and Shimada thinks that they were inspired by the shape of the gourd containers that the Moche used to eat (ibid.). The abundance of Cajamarca bowls with ring bases in the buildings with galleries
Figure 8.26. Cerro Chepén Alto: ring base bowls of the Fine Black ware.
leads me to conclude that the Fine Black ware bowls of Cerro Chepén Alto may be local imitations of the prestigious highland pieces.

The ring base bowls of the Fine Black ware were another type of eating/drinking vessel commonly used by the residents of the buildings with galleries in their festivities. Nearly 78% of the specimens came from contexts associated with occupation surfaces, mostly related to spaces of public character.

**Bottles** (Fig. 8.27-8.30)

Bottles represent the third most popular morphological type of the Fine Black ware (32 specimens or 14.1%). These vessels have mold-made, constricted bodies topped with narrow spouts (orifice diameters typically range between 1 and 4 cm). The sample of bottles of the Fine Black ware includes three morphological variants, two of which are also present in the Fine Orange ware: a) vessels with simple tubular spouts, and b) bottles with effigy-spouts. The third variant is exclusive to this ware, and involves double-spout bottles with bridge handle.

a) **Bottles with simple tubular spouts** (Fig. 8.27)

Eleven bottles of the sample have simple tubular spouts. As was the case with the bottles of the Fine Orange ware, these vessels have a flat base and a pair of perforated lugs placed either at the base of the spout or on the shoulders of the bottle. One spout fragment was found in Building IV (two-floor gallery), and the remaining ten in Buildings VIII and IX (nine concentrated in the garbage dump of the Vestibule of Building IX). All vessels yielded a perfect correspondence with above-floor trash layers.
One of the most notable features of these bottles is the total lack of decor. The closest stylistic counterpart to these vessels lies in contemporary central coast traditions. Here, vessels with very similar morphological characteristics were produced during Middle Horizon Epochs 2A-3. Yet, those vessels commonly have profusely decorated exterior surfaces with mold-pressed designs (see Carrión Cachot 1959, Menzel 1977, Figs. 60, 61, 64, 65; Tello 1956, Figs 142-146). While this evidence may rule out the central coast pieces as possible source of inspiration for the Cerro Chepén bottles, it should be stated that fine black, single-spout bottles with mold-pressed designs are quite common at the nearby cemetery of San José de Moro (see Castillo Rucabado and 2003, Fig 1.5). To me it is a total mystery why this type of pottery, which is perfectly contemporary with the occupation of the buildings with galleries, did not proliferate at Cerro Chepén Alto. We have, though, a few infiltrated pieces, which were coincidentally found concentrated in one single architectural cluster of the site. The Patio-group of Building IV is the only Functional Unit excavated at Cerro Chepén Alto that has yielded examples of Fine Black ware bottles whose bodies were decorated with mold impressions. The sample includes a near-complete vessel body decorated with a band of geometric designs, and fragments of two different vessels that seem to have had a naturalistic “Moon Animal” motif.21 Perhaps more significant than the vessels themselves is their specific spatial association, which supports my assumption that the Functional Units of the buildings with galleries did play very different functions.

21 Given that these three vessel portions lacked a rim fragment, they have not been considered in the sample of eleven bottles.
Figure 8.27. Cerro Chepén Alto: Bottles with simple tubular spouts (a-d) and fragments of bottles decorated with mold-pressed designs on their bodies (e-f), Fine Black ware.
b) Bottles with effigy spouts (Fig. 8.28)

Our sample includes fragments of at least 14 different effigy spouts. Five were found in Building IV, and the rest in Buildings VIII and IX (six inside the refuse dump of the Vestibule). As was the case of the tubular spout bottles, most specimens were found associated with significant occupation levels (only two specimens came from initial fill deposits).

As was the case of the corresponding type of the Fine Orange ware, most of the sculptural representations on the spouts relate to human heads. Only one specimen depicts a feline head. Among the human figures, we find common representations of the bi-lobed ear (four clearly recognizable cases). Bottles with very similar stylistic characteristics have been found in different regions of the North Coast, including the Chicama Valley (Franco and Gálvez 2005, Fig 12), the Santa Valley (Wilson 1988, Fig 247), Nepeña Valley (Proulx 1973, Plate 9 D), and, of course, San José de Moro (Castillo and Rucabado 2003 Lamina 1.4 f). All these specimens may have been diffused by central coast traditions, and are traditionally assigned to post-Moche times (Middle Horizon, Epochs 2-3).

c) Double-spout bottles (Fig. 8.29 and 8.30)

Double-spout bottles are exclusive to Fine Black ware. These bottles are distinguished for having relatively long (7-8 cm), slightly conical spouts that have highly polished surfaces. The spouts were connected by a flat, curved bridge-handle, whose upper surface was commonly decorated with small relief figures. The Cerro Chepén Alto sample of double spout bottles includes seven specimens, three of which were collected
Figure 8.28. Cerro Chepén Alto: Bottles with effigy-spout of the Fine Black ware.
at Building IV and four at Building IX. Most of the bottles were identified based on single spouts, which often still have a portion of the bridge-handle attached to them. Only in one case (Vestibule of Building IX), two bottles were identified based on the presence of three nearly-identical spouts.

The double-spout bottles of Cerro Chepén Alto relate to a ceramic type of wide distribution in Middle Horizon sites of the central and north coasts. These vessels have a typical angled body with mold-pressed designs commonly decorating the upper half of the vessel. The top of the container is usually crowned with a round relief design that seems to represent a basketry ring. The three-dimensional figures that decorate the bridge-handle of these bottles generally include a central figure of a human head wearing a conical (Rucabado Castle and 2003, Fig 1.4 d) or four-pointed hat (Shimada 1990, Fig 12). The central figure is flanked by small ancillary figures of frogs, monkeys, reptiles, and flat conical elements that may represent seeds or univalve marine mollusks. The list of coastal sites that have yielded examples of these bottles includes Ancón (Ravines 1981a: 99), Chimú Capac (Menzel 1977, Fig. 51), Castillo de Huarmey (Prümers 2000, Fig. 6), the Santa Valley (Wilson 1988, Fig 250), San José Moro (Rucabado and Castillo 2003, Fig 1.4 d), and Batan Grande (Shimada 1995, Fig 117). This type of bottle apparently relates to a provincial Huari vessel that originated in the central coast (Menzel 1964: 41). Of special importance to my argument is that this vessel type has also been reported at Middle Horizon highland sites (Flores Espinoza 1959, Photo 6; Paredes et al. 2000, Fig.11 a).

The excavations conducted at the buildings with galleries of Cerro Chepén Alto yielded, besides the spout fragments that aided in the identification of a minimum number
of vessels, several handle and body sherds of these bottles. Some of the bridge-handle fragments still carried a few molded decorative figures attached to them. Unfortunately, we were not able to detect a single case of a central figure. Our sample includes only a small subset of subsidiary figures, which includes the odd-looking flat triangular elements and a curious cylindrical motif that may represent a spinal column (Fig. 8.29).

The sample of fragments of the body of the bottles recovered in the excavations has enabled me to distinguish three different body forms for the local double-spout bottles. These forms are of utmost importance for establishing stylistic and temporal correlations with other north coast and highland sites. One of these variants relates to a typical angled-body specimen, like the ones described above (Fig. 8.30 a). This specimen was represented by several fragments recovered in the garbage dump of Building IX’s Vestibule, and was decorated with a mold-pressed motif very similar to one found on a double-spouted bottle of San José de Moro (Rucabado and Castillo 2003, Fig 1.4 d). Given that this specific bottle form is very common among Andean sites, this specimen could have been brought in to the site from almost anywhere.

Another morphological variant consists of a bottle with a cubical body form that, instead of having eight pointed corners, has eight swelled, rounded bulges (Fig. 8.30 b). This shape seems to depict the effect that we get when we tie a Lagenaria fruit with tight cross-tied lashes while still growing (Yacovleff and Herrera 1934: 314). I have found body fragments of three such vessels in different public spaces of the excavated buildings. The most complete specimen was found among the remains of Paica 1, in the front patio of the Two-floor Gallery Group of Building IV. Fragments of two other vessels were found in open courtyards of Building VIII, one at the Sala con Nichos and
Figure 8.29. Cerro Chepén Alto: Spout and bridge fragments of double-spout bottles, Fine Black ware.
Figure 8.30. Cerro Chepén Alto: body forms of Fine Black ware double-spout bottles.
other in the central patio of the Two-floor Gallery Group. The consistent association with open, public areas speaks to the importance of this vessel form.

In fact, an important aspect of this singular ceramic form is that it helped me establish a chronological correlation between Cerro Chepén Alto’s Fine Black ware and the Late Moche and Huari traditions. This form has been detected at some notable north coast funerary contexts which yielded mixed-style assemblages. One of them is Late Moche chamber burial M-U26 of San José de Moro (Castillo and Donnan 1992, Fig. 53). This burial chamber included a double-spout bottle with this curious body form, but decorated with Moche designs (arms bundle) executed with the Huari polychrome technique. The second burial is a simple Late Moche pit grave found at Huaca Lucía, Batan Grande (La Leche Valley) (Shimada 1994a, Figs. 9.19, 9.20). The bottle, which in this case bears a stirrup-spout, is decorated with a painted Moche motif (spider) but again in an unusual technique (thin black lines over a white background) (Shimada 1994a: 243). These interesting contexts serve to place this highly distinctive bottle form within the Late Moche Phase.

Finally, the third morphological variant was detected at the garbage dump of the Vestibule of Building IX. Several fragments of two different bottles repeat the same body form. This form resembles a "flying saucer" with a broad, rounded groove running horizontally along its center (Fig. 8.30 c). The two vessels have short, vertical, linear relief designs inside the groove, which imitate the typical appliqué designs that decorate the Cajamarca Coarse Red vessels of the nearby mountains. Despite an intensive search, I was not able to find vessels with similar forms in the published literature. It appears that this morphological variant is unique to the site, a probability that is reinforced by the
curious combination of coastal (Fine Black ware double-spout bottle) and highland (imitation of appliqué designs) stylistic elements.

**Cuencos** (Fig. 8.31)

*Cuenco* is a Spanish word for a simple bowl with curved walls and a rounded bottom. In the Cerro Chepén Alto sample, the orifice of the *cuencos* is sometimes slightly constricted, and sometimes corresponds to the vessel’s maximum diameter. Our sample includes a minimum of 16 specimens, all of them relatively small (orifice diameters range between 10 and 17 cm). We have, though, two oversize specimens that are 19 and 22 cm wide. The *cuencos* are distinguished for having very thin walls and lustrous surfaces, both inside and out. *Cuencos* do not present any additional type of decoration.

The *cuencos* are another exclusive vessel form of the Fine Black ware. Curiously, this is the only ceramic type of this ware that can be confidently assigned to the Late Moche tradition. Pieces of similar vessels have been found at Galindo (Bawden 1977: 347) and Pampa Grande (Shimada 1994a: 194-95), and I have seen several whole pieces in the excavated assemblages of San José de Moro (not published). The technical quality, relative rarity, and unique contextual associations of the vessels recovered at Pampa Grande, led Shimada (1994a: 195) to suggest that the local Fine Black ware *cuencos* were elite vessels.

Half of the sample of *cuencos* of Cerro Chepén Alto were recovered from fill deposits. Some of the vessels in the other half, nevertheless, manifested excellent

---

22 It is likely that some of the double-spout and bridge handle bottles found at Cerro Chepén were manufactured at the site. As stated in Chapter VI, Building VII had a small garbage dump containing fragments of up to ten different molds. One of these molds was a two-piece bridge-handle mold decorated with a central figure of a human head wearing a conical hat and ancillary figures of flat conical elements (see Fig. 6.25).
Figure 8.31. Cerro Chepén Alto: cuencos of the Fine Black ware.
contextual associations. This was the case of three bowls that were partially
reconstructed, which were found in direct association with the occupation floors of the
galleries of Buildings VIII and IX.

**Cups** (Fig. 8.32)

Cups are small drinking vessels that are slightly taller than wide. The maximum
diameter of these vessels is invariably located at the level of the rim. The Fine Black
ware sample encompasses at least 12 of these specimens, all of them evidencing a narrow
range of mouth diameters (from 8 to 11 cm). The predominant type of cup (8 vessels)
presents a composite contour that resembles a "badminton shuttlecock". These cups show
a marked constriction in the middle of the vessel that divides the cup in two sections: a
lower, rounded container, and an upper section with out-slanting walls that resembles a
funnel (Fig. 8.32 a). The cup’s exterior and the interior surfaces of the upper section of
the cup’s bodies are intensively polished.

This curious type of vessel was first identified in the sequential refuse layers of
the two-floor gallery of Building IV. Here, a vessel that could be almost completely
rebuilt opened the possibility of identifying similar vessels in the sherd samples of all
three excavated buildings. Building IX yielded three “shuttlecock” cups decorated with
relief designs. Two cups have their exterior rims decorated with a row of human heads
that carry ear ornaments and semi-circular headdresses (a motif of possible coastal origin)
(Fig. 8.32 c, d). The third cup has a series of mold pressed circles on the shoulder of the
small round container (Fig. 8.32 b).
Figure 8.32. Cerro Chepén Alto: cups of the Fine Black ware.
While the origins of this ceramic form remain obscure, “shuttlecock” cups were produced by Early Intermediate Period cultural traditions of the central (Goldhausen 2001, Fig. 9) and south coasts (Donnan 1992, Fig 88; Lavalle 1986: 164). During the Middle Horizon, this curious form was present at the central coast site of the Necropolis of Ancon (Ravines 1977: 383). Contextual information allowed us to place this vessel type within the Late Moche phase. In the Santa Valley, Christopher Donnan (1973) retrieved a batch of looted vessels that were supposedly extracted from the same burial. This group contained, among other pieces, a Late Moche stirrup-spout bottle decorated with geometric fine line motifs, and two Fine Black ware "shuttlecock" cups with polished surfaces (Donnan 1973, Plate 7). Similar cups have been found at San José de Moro, where they are temporally assigned to the "Transitional Period" (Rucabado and Castillo 2003, Fig 1.6 c).

In addition to the “shuttlecock” form, the Cerro Chepén Alto cup sample includes two other distinctive forms. One is the already mentioned “lyre-cup”, in this case represented by two rim fragments recovered in fill deposits of Building IX. These fragments have very thin walls and highly polished surfaces. Finally, the refuse dump of Building IX’s Vestibule yielded several fragments of two different cups shaped in the form of human heads (Fig. 8.32 e). Sculpted Fine Black ware cups representing human heads were also found by Paredes and his associates (2000) at the site of Piquijirca, in the Callejon de Huaylas (2000, Fig 11b).
**Jars with effigy-neck** (Fig. 8.33)

A minimum of six mold-made jars had a tubular neck shaped in the form of a human head. The mouth diameters of these necks ranged from 6 to 9 cm. Unfortunately, we were only able to retrieve one complete neck, which was found fragmented in the refuse layers of the two-floor gallery of Building IV. All other specimens came from Building IX and were represented by bits and pieces that do not allowed us to visualize all the details of the representation. The portrayed individuals seem to be of high social status, judging by the presence of ear spools and a tubular headdress (which makes up the rim of the neck) (Fig. 8.33 a). Sometimes, the hair of the individual is depicted at the back of the vessel neck as a series of parallel grooves.

This vessel type is significant because it is highly representative of several Middle Horizon sites of the central coast and southern section of the north coast. Many of these sites have already been mentioned in previous pages and include Ancón (Menzel 1977, Fig. 109A), Chimu Capac (Kroeber 1925b, Plate 71 b), Castillo de Huarmey (Prümers 2000, Fig. 7), Nepeña Valley (Proulx 1973, Plate 9), Santa Valley (Wilson 1988, Figs. 247-49) and Cerro Blanco (Kroeber 1925a, Plates 64 and 66 c). Many of these vessels show remarkable similarities with midsize face-neck jars of the Huari tradition, and it is possible that this particular vessel type had its origin in the Ayacucho style (see Donnan 1992, Figs. 157, 158; Menzel 1968, Fig. 19). In the case of the Fine Black ware vessels of Cerro Chepén Alto, which replicate the form and decoration of the coastal sub-styles, it is more likely that this form was diffused from the central coast than from the nearby highlands.
Figure 8.33. Cerro Chepén Alto: jars with effigy-neck of the Fine Black ware.
Jars with "Transitional Neck" (Fig. 8.34 a-d)

Jars with "Transitional Neck" are vessels with wide orifice diameters and spherical bodies that resemble cooking pots, except that they have intensively polished, smudged surfaces. These vessels have a highly distinctive neck with a composite silhouette23 that I identified for the first time during the stratigraphic excavations that I conducted at San José de Moro (Rosas 1995). Vessels with similar neck forms – in this case of utilitarian character – abound in the occupation layers of the “Transitional Period”; hence the name of this particular type.

Our sample includes five specimens, three from Building IV and the remaining two from Buildings VIII and IX. Four vessels were recovered from refuse deposits associated occupation surfaces. Even though the sample remains small and scattered, the constituent vessels display an amazing level of morphological uniformity. None of these jars have any additional form of decoration.

Tumblers (Fig. 8.34 e-h)

Tumblers are a special form of drinking vessel that has a flat base and tall straight walls that slant out slightly. The excavations carried out at the buildings with galleries allowed me to find fragments of at least 4 different vessels of this type in Building IV. These vessels had highly consistent orifice diameters, ranging between 10 and 12 cm. Their total height would have varied between 10 and 14 cm. These tumblers have highly polished outer surfaces and a single decorative element consisting of a raised band that surrounds the entire circumference of the tumbler, just a few centimeters below the rim.

---

23 The neck consists of two sections of similar height: a bottom section that shows a marked inward inclination, and an expanded upper section, which is straight or slightly concave.
The most interesting fact about this ceramic form relates to its origin. Tumblers are totally alien to the north coast, being stylistically related to the Tiahuanaco tradition. As was the case of several other ceramic forms described in the text, the Huari adopted this vessel type early in their cultural sequence (Menzel 1964: 22). The particular Tiahuanaco form of midsize kero decorated with a raised band was reproduced by the Huari in two sub-styles that are temporarily confined to the time when this culture undertook its second expansion: the Viñaque Style, and the Black Decorated “C” Style (Menzel 1964: 40, 44). In the Peruvian coast, red-paste tumblers with painted decoration are common to several central and north coast sites of the late Middle Horizon. Monochrome tumblers decorated with mold-pressed designs (which include the raised band) are, however, unique to Chimú Capac (Kroeber 1925b, Plates 75f, 76q, r, 78 m). The Cerro Chepén Alto pieces lack the dense mold-pressed decoration of the Chimú Capac vessels, and this evidence may help us discard the latter site as their possible source of origin. The Cerro Chepén vessels are, on the other hand, similar in form to the highland "Black Decorated" pots (see Fundación El Monte 2001: 359, Lumbreras 1974, Fig 170; Ochatoma and Cabrera 2001: 101; Pozzi-Escot 1991, Fig 9). Fine Black ware tumblers decorated with a raised band have been reported in the area of Huamachuco (McCown 1945, Plate 21, e).

For the moment, it is very difficult to pinpoint the center responsible for the diffusion of this curious pottery form to the Jequetepeque Valley. In this coastal region, Fine Black ware tumblers, very similar to the ones reported at Cerro Chepén Alto, have also been found at San José de Moro, both in burials of the Late Moche phase and of the “Transitional Period” (Rucabado and Castillo 2003: 28).
Figure 8.34. Cerro Chepén Alto: jars with “Transitional Neck” (a-d) and tumblers (e-h) of the Fine Black ware.
**Other forms** (Fig. 8.35)

The repertoire of the Fine Black ware pottery included 15 additional specimens that were not useful for developing an appropriate stylistic characterization of this ware because of infrequent or simple forms. This residual category included the following vessels:

a) Fragments of three vessels with wide tubular necks (Fig. 8.35 a).

b) Fragments of simple out-slanting necks of four vessels with constricted bodies.

c) Rim fragments of two possible over-size plates (Fig. 8.35 g).

d) Fragments of two-stirrup handles, which may represent Moche vessels or imitations thereof (Fig. 8.35 b).

e) Three pottery forms that imitate Moche domestic vessels. These included a mold-made jar-neck with the sculpted representation of a llama head (Fig. 8.35 c), a portion of a vessel with bulge neck (Fig. 8.35 d), and part of a collared bowl (Fig. 8.35 e).

f) Finally, the list of unusual ceramic forms ended with a curious double-bottomed bowl (Fig. 8.35 f). The bowl had the overall shape of a simple *escudilla*. A series of quadrangular holes connect the bottom of the visible bowl with an underlying hidden container. Interestingly, fragment of this vessel were found dispersed in two different Architectural Units of Building IX: the western gallery of the Patio-group, and the refuse dump of the Vestibule.
Figure 8.35. Cerro Chepén Alto: other vessel shapes of the Fine Black ware.
Final comments about the Fine Black ware

The Fine Black ware is the most popular elite ware of Cerro Chepén Alto, and can therefore be regarded as the most representative of the site. It covers a wide variety of ceramic shapes, some of which are also represented in the Fine Orange ware. The Fine Black ware of Cerro Chepén Alto is singular because it manifests a certain level of stylistic ambivalence. On the one hand, as was the case of the Fine Orange ware, it also represents stylistical consistency. Virtually all its constituent forms are related to ceramic styles that developed during Epochs 2B-3 of the Middle Horizon, a time period that some authors think postdates Moche developments (Menzel 1964, 1977; Rucabado and Castillo 2003). On the other hand, this stylistic consistency is distorted by the presence of several regional variants of late Middle Horizon styles.

In fact, it is extremely difficult to pinpoint a single diffusion source for the pottery forms that make up the Fine Black ware. On the one hand, this ware manifests strong ties with traditions of the neighboring highlands. The *escudilla* bowl, for instance, dominates the elite pottery assemblages of contemporary highland sites. Bowls with ring bases were the most common prestige vessels used in the neighboring Cajamarca Mountains. We should not forget the tumblers and lyre-cups which, although scarce, are clear highland derivatives. Together, the first two forms make up more than 60% of the sample of Fine Black ware. These two ceramic forms represented the preferred type of eating/drinking vessels used by the occupants of the buildings with galleries, both in their daily activities, as well as on special occasions.

The vessel repertoire of the Fine Black ware also manifests strong stylistic links with Middle Horizon coastal traditions. Black paste, mold-made pottery is rare among
highland sites, but pretty common on the coast. This type of pottery dominates, for example, the collection of Middle Horizon pottery recovered by Uhle at Platform A of Huaca del Sol, at the site of Cerro Blanco (Kroeber 1925b: 241). Cerro Chepén Alto’s Fine Black ware includes several pottery forms that are typical of coastal sites of the time. The list includes all the bottle variants, the jars with effigy-neck, and the cups shaped like shuttlecocks.

Finally, the Fine Black ware also evidences stylistic proximity to the local Late Moche tradition. The *cuencos* can be readily assigned to this tradition. The same holds true for at least five isolated forms that make up the category of miscellaneous vessels (including the two stirrup-spout bottles, and the three vessels that imitate Late Moche domestic forms). There is also a possibility that the bottles with simple tubular spouts came from this tradition, although very similar vessels form part of the ceramic assemblages of central coast Middle Horizon 2B-3 sites. All these stylistic similarities suggest that Cerro Chepén Alto’s Fine Black ware is perfectly contemporary with the Late Moche phase. This temporal congruity was also evidenced in the composition of funerary assemblages of some notorious north coast funerary contexts described above. To the latter examples, we could add the tomb of the first Moche priestess of San José de Moro, which included its own batch of fine-ware, reduced-fired pottery (Castillo 1996)²⁴.

In order to trace the stylistic origins of the Fine Black ware sample, it may be useful to review evidence relating to pottery decoration. Based on this evidence, I find it impossible to establish direct connections with the ceramic corpus of southern Middle Horizon coastal sites (i.e. Chimu Capac, Castillo de Huarmey, Platform A of the Huaca

---

²⁴ Sixteen of the 73 ceramic vessels found in this burial were polished black ware pieces. Some of them reproduce forms that are similar to the vessel types that comprise Cerro Chepén Alto’s Fine Black ware (Castillo 1996: 11).
del Sol). The ceramic components of these sites manifest a widespread use of the mold-pressed technique. In the Cerro Chepén Alto sample, the use of this technique was mostly limited to the decoration of the tubular necks of a few bottle and jar forms. Nor can I establish direct connections with the Moche tradition, given that the typical Moche iconography is totally absent from the sample. Some representative vessels of the Fine Black ware manifest decorative patterns that seem close to highland traditions. Such is the case of the three escudillas decorated with incise designs, and the two “flying saucer” double-spout bottles that presented imitations of appliqué designs. To my knowledge, no similar decoration variants have ever been documented among other north coast Middle Horizon sites.

In sum, evidence relating to vessel shape and decoration leads me to conclude that the Fine Black ware of Cerro Chepén Alto is a unique phenomenon in north coast archeology. It manifests, on the one hand, strong stylistic connections with highland traditions. It also assimilates central coast influences, which were clearly reinterpreted into local patterns. At this moment, two possible scenarios may explain the origin of this curious ware: a) the ceramic influences that reached Cerro Chepén came from a single site, which already manifested an amalgam of coastal and highland stylistic trends or, b) the ceramic influences arrived at Cerro Chepén from different sites, both from the coastal flatlands and from the high mountains. Whatever the correct alternative, contextual associations documented at other north coast sites indicate that these stylistic influences crystallized during the Late Moche phase.

25 The nearest site that manifests a similar amalgam of Central Coast and highland styles is Cerro Amaru (J. Topic and Topic 2000: 197).
**Evaluation**

Having completed the description of the five wares that compose the fine pottery group of Cerro Chepén Alto, it is time to move on with the evaluation of the discriminating principles that guide the ceramic analysis. Recapitulating, these principles were designed to determine the cultural origin of the elites who occupied the buildings with galleries based on selected characteristics of their most precious ceramic possessions. Two possibilities were open for discrimination: a local Moche origin or a foreign highland origin.

The evaluation is exclusively centered on the fine pottery sample. I believe there is sufficient evidence to conclude that these vessels were power emblems that carried, embodied in their form and decoration, messages relating to the dominant ideology promoted by the elites. These vessels meet three of the four characteristics that Hayden (1998: 13) considers typical of prestige objects (brightness, color, complex shapes)\(^\text{26}\). To these I could add an elaborate decoration, which is clearly manifested by the vessels that comprise the Late Moche fine line, Cajamarca Cursive, and Cajamarca Red-on-Buff fine pottery groups, as well as some *escudillas* of the Fine Orange and Fine Black wares. Second, it is clear that these vessels were the result of tedious production processes, as manifested by the fine textured paste, even firing, and neat surface finish of the specimens. Finally, I must mention that the vast majority of these vessels were eating/drinking implements with a high potential to be seen. Their particular provenance contexts demonstrate that they were commonly used on public occasions, being possibly displayed to a large number of observers. The fine pottery vessels of Cerro Chepén Alto

---

\(^{26}\) The fourth characteristic, “geometric forms”, is difficult to apply to ceramic containers.
represent, in sum, an ideal medium for inquiry about the cultural origin of the elites who occupied the site.

1. Relative proportion of exotic vessels within the local repertoire of fine ceramics

The first discriminating principle that guides the evaluation proposes that the cultural origin of the elites may be derived from the relative proportions of culture-specific power symbols. Figure 8.36 illustrates the composition of the fine pottery group in terms of ware categories. The Late Moche fine ware, which alone represents a minority, barely reaches 5.5% of the sample even if we add to it the cuencos of the Fine Black ware. Even if we insist on inflating this category with vessels of miscellaneous character that reproduce Moche forms27 (which may well be local copies of Moche domestic vessels), the percentage is increased to only about 8% of the sample. Given that the Late Moche share of the fine pottery group is so small, I find it difficult to assign the site’s fine ceramic corpus to this cultural tradition. Something that is clear to me is that the elites who occupied the buildings with galleries did not use this classic coastal style as an ideological emblem of their power.

The most popular wares, on the other hand, are the Fine Orange and Fine Black. Together they make up 85.5% of the fine pottery sample (78% if we subtract the vessels that were assigned to the Moche group). As I mentioned above, these two pottery wares represent a stylistic unit, given that they manifest clear similarities in vessel form, decorative designs, manufacturing technique, and even paste inclusion types. These two

27 These miscellaneous vessel forms include: a single-spout bottle with the peak molded like a feline head, a jar with a neck molded like a llama head, and a simple jar with tubular neck, all from the Fine Orange ware, plus two similar effigy-neck vessels, two stirrup-spout bottles, and three fancy vessels that imitate Moche domestic forms, all of the Fine Black ware.
Figure 8.36. Cerro Chepén Alto: composition of the fine pottery group in terms of wares.
pottery groups comprise mainly non-Moche ceramic forms. In the case of Cerro Chepén, then, it is the “exogenous wares” that dominate the local repertoire of fine pottery pieces.

2. Morphological richness of the sub-assembly of exotic vessels

The second evaluation criterion is inspired on an argument presented by Stephen Plog (1995: 277), who suggested that imported pottery (or copies of thereof) will tend to be represented by a limited variability of ceramic forms. Figure 8.37 illustrates the most representative ceramic types of the five fine pottery wares of Cerro Chepén Alto. Considering the diversity of vessel forms per ware category, the main candidate to represent a non-local pottery style is the Cajamarca Red-on-Buff ware. This ware is represented basically by only one type of vessel form (ring base bowls). The exogenous character of this ware is reinforced by compositional evidence, given that its constituent vessels are tempered with Orthoquartzite particles (the same type present in some vessels of the Cajamarca Coarse Red group).

Interestingly, a second candidate for an imported ware is the Late Moche Fine Line. This ware is also represented in the sample by basically one ceramic form (stirrup-spout bottles). Excavations conducted in the Jequetepeque Valley and other Moche territories indicates that the Late Moche fine line style was commonly used on other vessel types like simple jars (Castillo and Donnan 1992, Figs. 34a, 47a) and flaring bowls (Shimada 1976: 359). At San José de Moro, this distinctive decoration style was occasionally rendered on non-Moche forms apparently diffused by Central Coast traditions, like doble-spout bottles (Castillo 2003, Fig. 18.23; Shimada 1994a, Fig. 9.2). It is true, however, that in all Late Moche territories, stirrup-spout bottles remain the most
Table showing the most distinctive vessel forms of the five fine pottery wares at Cerro Chepén Alto. The table includes illustrations of bowls, bottles, and other vessels for each ware type (Cajamarca Cursive, Cajamarca Red-on-Buff, Late Moche Fine Line, Fine Orange, Fine Black). The diagram is labeled with the respective vessel types and includes a scale indicating 20 cm.

Figure 8.37. Cerro Chepén Alto: the most distinctive vessel forms of the five fine pottery wares (only forms with two or more occurrences are illustrated).
conspicuous exponent of this style. It is precisely this fact what made have made these vessels precious assets desired by foreign elites who wanted to exhibit physical proof of their international connections.

A third ware that, in terms of vessel form variability, satisfies the requisite of imported goods is the Cajamarca Cursive ware. This ware is represented in the sample by three vessel forms (ring base bowls, tripod-legged bowls and spoons). Unlike the Red-on-Buff variant, which may also have been imported from the nearby highlands, there are two interesting aspects about this ware that evidence intimate connections between Cerro Chepén and highland populations. The first aspect relates to the unusual abundance of fine kaolin pieces at the site. Earlier, I mentioned that the Cajamarca Floral Cursive bowls reached a wide geographical distribution in the Central Andes during the Middle Horizon. In fact, these small vessels were transported up to 1100 km from their production centers. It is clear that these vessels represented prestige goods that were avidly sought by leaders of different regional polities. However, most non-Cajamarca regional centers that have yielded examples of this foreign ware have done so in extremely low numbers (only a handful of sherds). At Cerro Chepén Alto, on the other hand, this ware comprises 7.6% of the fine pottery sample. This value rises to 8.6% if we restrict our analysis to the vessels found associated to occupation surfaces. The only other place outside the Cajamarca Valley where this particular style is represented in significant proportions is the Huamachuco area\textsuperscript{28}. Another site that has shown a significant presence of Cajamarca Floral Cursive pottery is San José de Moro (Bernuy

\textsuperscript{28} According to Thatcher (1975: 116) cursive decoration became dominant in the Huamachuco area during the Amaru Phase.
and Bernal 2005). I think, however, that most of the Cajamarca vessels that reached this regional cemetery were channeled through Cerro Chepén (see Chapter X).

The second aspect refers to a domestic pottery component present in all highland sites that have yielded large quantities of Cajamarca Cursive bowls (Julien 1988: 102). This is the Cajamarca Coarse Red ware which is represented at Cerro Chepén Alto by a few trade pieces. The presence of Cajamarca Coarse Red vessels at Cerro Chepén not only expands the repertoire of Cajamarca-native forms at the site, but also indicates that special transport arrangements were implemented to bring the foreign pieces to the coast. The kaolin bowls are relatively small vessels that can be easily stacked and loaded in a simple back-pack. Some vessels of the Cajamarca Coarse Red group, on the other hand, would have reached up to 50 cm in height and weighted several kilograms, if transported full. Their presence at the Cerro Chepén implies the existence of formal communication networks, which perhaps involved the use of caravans of human porters or llamas.

Finally, among the sites illustrated in figure 8.11 that have yielded examples of imported Cajamarca Floral Cursive ceramics, Huamachuco is the only location where oversized Cajamarca Coarse Red vessels have also been found (McCown 1945, Fig 18 h; Topic 1998: 116).

In summary, three types of evidence – a comparatively high proportion of Cajamarca Floral Cursive vessels, the high diversity of Cajamarca ceramic forms, and the presence of large ceramic containers – suggest the existence of close (although not necessarily frequent) relationships between the leaders of Cerro Chepén and inhabitants of the nearby mountains. These relationships may have been directly established with Cajamarca populations, or through settlements that formed part of the Marcahuamachuco
interaction sphere. These foreign connections may have also been responsible for the arrival of Cajamarca Red-on-Buff vessels at the site, although the precise diffusion centers of this ceramic style remain unknown.

Finally, the diversity of ceramic forms validates the local character of the Fine Orange and Fine Black wares. These two wares together comprise most of the 13 different vessel forms that make up the fine pottery category of the buildings with galleries (Table 8.1). The only morphological variant that may be elusive to these wares is the tripod-legged bowls, although it should be stated that two escudillas of the Fine Orange ware sample had tripod supports.

3. Possible stylistic antecedents of the exotic vessels in the affected region

This evaluation criterion is based on the assumption that sudden territorial invasions will tend to bring in ceramic products that have no clear stylistic antecedents in the affected region. If, on the other hand, the allegedly foreign vessel types manifest close stylistic links with the ancestral ceramic tradition of the locality, then the process responsible for their appearance may be due to local factors. To evaluate the criterion of stylistic continuity of pottery forms, I proceeded to identify the most important vessel types of the fine pottery sample, and then to isolate those forms that could manifest Moche antecedents. The most important morphological variants of the fine pottery group are summarized in table 8.1. Figure 8.38 illustrates the proportional composition of the fine pottery group in relation to vessel types irrespective of wares.

29 To simplify this table, I decided to consider the morphological variants that show more than two occurrences in the sample (irrespective to ware). This criterion led me to ignore two escudillas with tripod supports of the Fine Orange ware, two spoons of the Cajamarca Cursive ware, and two cups shaped like human heads of the Fine Black ware, among others.
Table 8.1. Absolute and relative frequencies of the most common ceramic forms of the five fine pottery wares of Cerro Chepén Alto. Only vessel forms with more than two occurrences have been considered.

<table>
<thead>
<tr>
<th>Vessel Form</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Escudillas</td>
<td>154</td>
<td>42.2</td>
</tr>
<tr>
<td>Bowls</td>
<td>93</td>
<td>25.5</td>
</tr>
<tr>
<td>2. Ring base</td>
<td>89</td>
<td></td>
</tr>
<tr>
<td>3. Tripod-legged</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Bottles</td>
<td>51</td>
<td>14</td>
</tr>
<tr>
<td>4. Tubular spout</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>5. Effigy-spout</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>6. Double-spout</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>7. Stirrup-spout</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>8. Cuencos</td>
<td>16</td>
<td>4.4</td>
</tr>
<tr>
<td>Jars</td>
<td>13</td>
<td>3.5</td>
</tr>
<tr>
<td>9. Effigy-neck</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>10. &quot;Transitional neck&quot;</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Cups</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>11. &quot;Shuttlecock&quot;</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>12. &quot;Lyre&quot;</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>13. Tumblers</td>
<td>4</td>
<td>1.1</td>
</tr>
<tr>
<td>Others</td>
<td>23</td>
<td>6.3</td>
</tr>
<tr>
<td>Totals</td>
<td>365</td>
<td>100</td>
</tr>
</tbody>
</table>


Figure 8.38. Cerro Chepén Alto: composition of the fine pottery group in terms of vessel forms.
Of the thirteen main morphological types present at the buildings with galleries, only four can be considered to have Moche antecedents. These vessel forms are: a) stirrup-spout bottles, b) bottles with simple tubular spouts c) cuencos, and d) effigy-neck jars. Together, these four types cover a little over 30% of the identified morphological variants, but just over 12% of all the fine ware vessels of the sample. These percentages may drop if we consider that the effigy-neck jars of Cerro Chepén Alto show closer stylistic parallels to vessels typical to Middle Horizon 2B-3 central coast traditions (which are assumed to be local derivatives of Huari provincial occupations [Menzel 1968, 1977]). The same holds true for the bottles with simple tubular spouts of the Fine Black Ware.

The survey of stylistic antecedents for the most representative Cerro Chepén Alto vessel forms has led me to foreign regions. At this point, two possible influence areas can be clearly identified: the northern highlands and the central coast. The northern highlands group is represented by five pottery forms: escudillas, lyre-cups, tumblers, ring base bowls, and tripod legged bowls. The first three types were vessels that the Huari assimilated from other traditions and later introduced in several regions of the northern highlands. One of these regions was Huamachuco, where Huari influences were strongly felt during the Amaru Phase (ca. AD 600-800). The last two pottery forms may be native to the Cajamarca highlands.

The second major diffusion center appears to have been the central coast. This area may have contributed four vessel types: “shuttlecock” cups, bottles with molded spouts, effigy-neck jars, and some double-spout bottles. The first form was typical to the Lima and Nasca traditions, and made a late reappearance at the Necropolis of Ancon
cemetery during Middle Horizon Epoch 2B-3 (Ravines 1977: 383). Two fine examples of this exotic form were found far to the north in the Santa Valley (Donnan 1973, Plate 7). The three last forms seem to be local derivatives of Huari vessels. As explained earlier, these forms commonly appear densely decorated with mold-pressed designs in their original central coast settings. The rarity of this decoration technique at Cerro Chepén Alto may rule out southern coastal settlements as direct diffusers of these pottery types.

When classified according to the area of origin, the thirteen vessel types of the fine pottery sample show the following proportional distributions: Jequetepeque Moche, (3 forms) 10.14% of the vessels; northern highlands (5 forms) 69.6% of the vessels; and central coast (4 forms) 12.6% of the vessels. The jars with “Transicional Neck” (whose parent tradition eludes me), and other infrequent ceramic forms not listed in table 8.1 make up a residual category that amounts to 7.7% of the sample. The proportional distribution of vessel forms identifies the northern highlands as the most important donor area of the ceramic influences manifested by the fine pottery wares of Cerro Chepén Alto.

4. Technological style of the exotic vessels

As explained at the beginning of this chapter, the concept of technological style refers to both the specific technique used in the decoration of the vessels, and the quality of final rendition. This discriminating principle, designed to detect the presence of emulated pieces, is based on two assumptions – one technological and other artistic character. The technological argument suggests that specialized craftsmen, who dominate a limited set of decorative techniques, will tend to use these techniques when emulating
pieces of foreign styles (Gosselain 1998). In these cases, the emulated pieces will be easily detectable if the technique used in their decoration differs markedly from the one of the original pieces. The artistic argument suggests that craftsmen who, after years of practice, developed the motor skills necessary to render the decorative designs that characterize their native tradition, will show “sloppiness” when imitating the designs of a strange cultural entity (Roe 1995: 31). In these cases, the counterfeits will become more evident if the complexity or intricate layout of the designs of the original products challenges the ability of the craftsmen.

To evaluate the criterion of technological style in the sample of decorated vessels of Cerro Chepén Alto, we start by identifying the ceramic component that could comprise emulated pieces. We must exclude all the vessels that compose the Cajamarca Cursive and the Cajamarca Red-on-Buff wares from the start, given that they constitute imported goods. The evaluation should focus, therefore, on the decorated vessels that belong to the Fine Orange and Fine Black wares. Within these two groups, we find two variants of pottery decoration: a) mold-made decoration (effigy-neck jars, bottles with sculpted spouts, some double-spout bottles, some cups), and b) painted, incised, and modeled decoration (escudillas).

The first pottery decoration variant does not leave too many opportunities for discrimination. Earlier, I specified that the Late Moche made obsessive use of molds, not only for manufacturing, but also for decorating their finest ceramic pieces. Unfortunately, the same holds true for some Middle Horizon central coast traditions, whose distinctive style is mirrored in some fancy vessels of Cerro Chepén Alto. We can not assume that the most distinctive effigy-neck jars and mold-pressed bottles of the Fine Black ware were
made by Moche potters just because the representations are naturalistic or because they were manufactured with molds. Such judgment would be as absurd as assigning the most representative sites of the Middle Horizon central coast traditions (e.g. Ancon, Chimú Capac, Castillo de Huarmey) to the Late Moche sphere.

The *escudillas* also offer little room for establishing clear-cut distinctions. The problem here has two ramifications. First, the decoration techniques applied on these vessels (painting, incising, modeling) are too basic to have been unknown to Moche potters. For example, even though the designs rendered with organic paint and incisions are definitively non-Moche, these two decoration techniques, while seldom used, were not banned by the Moche (Donnan 1992: 65). Nothing would have prevented a creative Moche ceramist from experimenting with these rarely-used techniques. Second, the character of the representations tends to be too simple to have been impossible to master by artisans trained in drawing extremely complex, fine line scenes or sculpting life-like clay figures. In a different vein, it would be a mistake to freely assign the best renditions of human head appendages of the *escudillas* sample to Moche artisans just because they manifest a skillful usage of sculpting techniques. Such a judgment involves an unacceptable prejudice against non Moche potters that does not stand any scientific test.

The evaluation criterion of technological style has led to a virtual stalemate. I think that the best way to solve this dilemma is by comparing the fine pottery wares of Cerro Chepén Alto with equivalent assemblages of contemporary Moche sites that were showing an unusual trend towards the emulation of exogenous pieces and a concurrent abolition of the local style. At Galindo, for example, Bawden (1996, 2004, 2005) detected a curious "iconoclastic trend" in fine ceramic production that involved a conscious
suppression of representations of mythological beings of the traditional Moche pantheon. Galindo elites chose to express their social transcendence through a ceramic corpus that included several vessel forms adopted from foreign traditions and new simple decoration schemes. It should be noted, however, that the Galindo elites continued using typical Moche ceramic forms (e.g. stirrup-spout bottles) (Bawden 1977, Figs 90, 91.). The motifs that composed the new decoration schemes, although simple, were still Moche (e.g. interlocking design) and were sometimes rendered on vessels that had foreign forms (Bawden 1994, Figs. 6.2-6.6).

A more illuminating case occurred at the site of San José de Moro. At the end of the Late Moche sequence, local elites implemented an ideology revitalization program that led them to adopt the most representative power symbols of the Huari tradition (Castillo 1993, 2000). Local artisans were instructed to emulate classic Huari pieces in vessel form, iconography, and even decoration technique (polychrome painting). Despite this severe case of “artistic reprogramming”, the representation of typical Moche themes was not completely abolished. Local artisans continued representing traditional Moche deities sometimes on new Huari vessel forms and with Huari decoration techniques (Fig. 8.39). There are even a few cases of Huari motifs rendered on typical Moche pots (Castillo 2000, Figs.25, 30). I find it absolutely remarkable that, despite the physical proximity between San José de Moro and Cerro Chepén, this new revitalization current did not reach the hilltop site. Not a single sherd of the typical polychrome "Mochica-Huari" ceramic style has been found in the excavation of the buildings with galleries. Cerro Chepén Alto has yielded, nevertheless, a single specimen of a polychrome Moche pot, represented by seven fragments found in a midden located right in front of the main
access to Building VII (Fig. 8.40). This specimen remains, however, an isolated find that may well be allocated to the local Late Moche Fine Line ware.

In conclusion, two Late Moche sites (Galindo and San José de Moro) that embarked on a wide-scale program of reproduction of foreign pieces, still maintained a profuse production of Moche power symbols (expressed in both iconography and vessel forms). The same process was not experienced at Cerro Chepén Alto. Here, the two most likely candidates to represent emulated pieces – the components of the Fine Orange and Fine Black wares – manifest a strict suppression of Moche iconographic themes, and a low representation of Moche traditional ceramic forms. This evidence indicates that the elites of Cerro Chepén Alto did not substantiate their power aspirations in the Moche ideological agenda. If the artisans who created these ceramic pieces were part of the elite segment\(^\text{30}\) – as may have been the case of several Maya sites (Inomata 2001) – this evidence would indicate that Chepén Cerro Alto was not governed by Moche rulers.

5. Context of occurrence of the exotic vessels

The context criterion stipulates that there is an internal logic in the spatial distribution of “exogenous vessels” within sites commanded by foreign elites. This criterion involves two evaluation levels, one established on a horizontal dimension and the other on a vertical dimension. The test established on a vertical dimension involves verifying the validity of the association between the studied materials and occupation surfaces that correspond to the time period under scrutiny. The test established on a

\(^{30}\text{One of the lavish Early Moche tombs of Dos Cabezas contained metal working tools as funerary offerings (Donnan 2007: 113). Similar implements were found in two high-status Early Moche burials of San José de Moro (del Carpio 2008: 89). This evidence suggests that Moche elites did indeed participate in the manufacture of prestige objects.}\)
Figure 8.39. Mochica-Huari polychrome vessel looted from San José de Moro. The vessel bears a typical Late Moche motif.

Figure 8.40. Fragments of a Mochica-Huari polychrome vessel found in a midden located next to Building VII (“Hallazgo 9”), Cerro Chepén Alto.
horizontal dimension searches for meaningful correlations between the spatial
distribution of the introduced vessels and architectural settings that are deemed to have
special significance for unveiling the cultural identity of the site’s leaders. The horizontal
test involves two scales of resolution, one established at a site-wide level and one
established at a structure-specific level.

In respect to the wider level of horizontal resolution, it seems significant to me
that the fine ware sample analyzed in this study, which is clearly dominated by non-local
styles, was found within the confines of the buildings with galleries of Cerro Chepén
Alto. As stated in Chapter VI, these buildings occupied an unparalleled, advantageous
position within the sector that may very well correspond to structures with command
functions. On the one hand, these structures occupied the best defensive positions within
a sector planned with clear defensive purposes. On the other hand, these buildings also
enjoyed a preferential view of the totality of the site and its immediate surroundings. The
buildings were, therefore, ideal locations to effect monitoring activities of the site’s
inhabitants. Based on these location advantages, it is safe to conclude that the buildings
with galleries housed the most notable individuals of the site. The corpus of fine ceramics
discarded in their interior represents the luxury goods that these individuals used to
broadcast their emblematic ideology.

The less extensive level of the horizontal evaluation involves the determination of
the specific area of occurrence of the introduced pieces within the confines of the
buildings that held command functions. In line with the principles outlined in the
architectural analysis, I suggest that vessels used and discarded in public spaces hold a
different cultural meaning than vessels used and discarded in private spaces. Public
spaces are theatrical settings where alienated elites might have found a unique opportunity to display symbols that were not consistent with their cultural background. Private spaces, on the other hand, are not open to stranger’s eyes, and it is likely that the peace and seclusions that they offered prompted the elites to exercise a more authentic behavior (possibly encouraging them to use objects with which they felt most familiar). Private spaces are, then, the specific locations where we should expect to find the power symbols that were consistent with the true cultural identity of the leading elites.

In the previous chapter, I identified the private spaces of the buildings with galleries that were subjected to excavation. The list includes the Functional Units of the Interconnected Rooms and the Patio-group of Building IV, the cluster of Interconnected Rooms of Building VIII, and some housing units that surround the central courtyard of Building IX’s Patio-group. Unfortunately, these private spaces were not areas in which cultural materials were commonly discarded. In fact, the areas interpreted as sleeping quarters excavated in Buildings VIII and IX were found virtually free of cultural debris. The private areas of Building IV, by contrast, offered a few remarkable ceramic pieces in direct association with occupation surfaces. Most of these pieces could be rebuilt to a large extent, indicating that they were not just isolated sherds that were accidentally introduced into the interior of these rooms. The list of vessels found in significant locations includes the following:

- An escudilla, a tumbler, and a cuenco of the Fine Black ware.
- Three escudillas of the Fine Orange ware.
- A ring-base bowl of the Cajamarca Cursive ware.
- Two ring-based bowls of the Cajamarca Red-on-Buff ware.
The latter two vessels were highly significant, given that they represented ceramic offerings that were dedicated to the building’s architecture. In sum, what this small, but significant, sample indicates is that the same host of fine ceramic vessel types that were used in areas of public assembly were also used in areas of restricted access. This sample is dominated by wares of exogenous character, with the Late Moche Fine Line group conspicuously absent.

The vertical dimension of the contextual analysis verifies the significance of the stratigraphic provenance of the evaluated materials. At the beginning of this chapter, I identified four different types of deposits – floor intrusions, above-floor trash layer, sealed trash layer, and above-floor sherd concentration – that contained materials discarded by the occupants of the structures. Figure 8.41 compares the five ware categories in terms of percentages of vessels recovered from significant deposits. Figure 8.42 provides the same comparative information, but this time relating to the most distinctive ceramic forms. Figure 8.41 corroborates that the four wares of exogenous character are the ones that show the best indexes of stratigraphic association with occupation surfaces. Within this group, the Cajamarca Cursive vessels surprisingly showed the highest score. The Late Moche fine line ware, on the other hand, showed the lowest index of stratigraphic association with occupation levels. This poor level of stratigraphic association is verified in the evaluation established by vessel form, in which the most representative Moche forms – stirrup-spout bottles and cuencos – ranked among the three ceramic forms with less reliable associations (Fig. 8.42). This curious trend does not mean, evidently, that the Late Moche fine wares were disappearing from the
Figure 8.41. Cerro Chepén Alto: percentages of fine vessels associated with significant deposits of the buildings with galleries by ware category.
Figure 8.42. Cerro Chepén Alto: percentages of fine vessels associated with significant deposits of the buildings with galleries by vessel form category.
valley when the occupation of Cerro Chepén Alto began. This evidence simply means that the Late Moche style is poorly represented at the buildings with galleries.

Finally, an unexpected result of the contextual analysis relates to the discovery of an uneven distribution of some pottery types and decoration variants among buildings. Notable was the case of the central designs of the Fine Orange ware *escudillas* that were painted with organic pigments. The specimens discarded in Building IV displayed a "string of beads" design, while the vessels discarded in Buildings VIII and IX were decorated with a chevron band. Also illuminating were the cases of the “Head-star” *escudillas* of the Fine Orange ware, and the Fine Black ware tumbles, which were found restricted to Buildings VIII and IX, and to Building IV, respectively.

Finally, the Cajamarca Cursive wares also showed inconsistent distribution patterns of their most distinctive decoration designs. While the occupants of all buildings were importing basically the same sets of decorated Cajamarca vessels, the inhabitants of Building IX were able to obtain some vessels decorated with unusual designs. The occupants of Building IV may have tried to balance the unequal distribution of prestige goods by acquiring larger quantities of Cajamarca Red-on-Buff bowls (Fig. 8.43)\textsuperscript{31}.

The differential distribution of fine ware ceramic types may suggest the existence of exclusive lines of supply of imported goods (in the case of the Cajamarca Cursive wares), and/or a clear intentionality of delivering messages of social distinctiveness. In an initial section of this chapter I noted that, in the case of sumptuary ceramics, even the simplest decorative schemes can bear a high semantic burden. It is possible that the two

\textsuperscript{31} A Pearson’s chi square test, similar to the one performed on the sample of Late Moche domestic types, was used to test if the distribution of fancy pottery types in both building clusters was statistically similar. The analysis proved the existence of dissimilar distributions. A Cramer’s V test yielded a result of 0.335, corroborating a low level of statistical similarity of the fancy ceramic components of both clusters.
Figure 8.43. Cerro Chepén Alto: compared relative frequencies of fine pottery wares by building cluster.
parcialidades that occupied the buildings with galleries of Cerro Chepén Alto used the simple “string-of beads” and “chevron band” symbols as emblems of their social identity. What I find interesting is that these messages of social distinctiveness were delivered respecting the stylistic consistency of the sample. In other words, both parcialidades expressed their uniqueness without inducing aberrant combinations of unrelated styles (as would be, for example, a Late Moche emblem depicted on an escudilla).

**Conclusions**

The five discriminating principles tested on the fine pottery sample to determine the cultural origin of the elites that commanded Cerro Chepén Alto yield a consistent result. This result diminishes the local importance of the Late Moche style. First, the archetypical Late Moche sumptuary pots represent a minority within the sample of fine pottery pieces, accounting for only a 7.9% of the total. This percentage may experience a significant reduction if only the vessels associated with occupation surfaces are considered in the quantification. I cannot suggest, moreover, that the fine pottery repertoire of the site is Moche-derived, given that 82.5% of the ceramic forms do not manifest stylistic antecedents in the region. At the buildings with galleries, Moche vessels are not represented within architectural spaces for private use, where elites would have felt free to use the goods with which they felt more familiar. Finally, the suppression of Moche themes is not only manifested in ceramic forms, but also in the iconography that is characteristic of this culture.

The stylistic composition of the fine ware pottery groups of Cerro Chepén Alto indicates that the elites who occupied the buildings with galleries – and, therefore,
commanded the sector – did not use the Moche ideology to support their power aspirations. Considering the notable suppression of Moche decorative themes in the vessels used as prestige symbols – which was not even attested at Late Moche regional occupations that undertook complex emulation programs – it is also viable to conclude that the elites did not hire the labor of Moche artisans. While this evidence does not suffice to state conclusively that the governors of Cerro Chepén Alto had a non-Moche origin, the impression that I get is that these individuals were not native to the north coast. The question we could ask ourselves now is whether the ceramic evidence offers enough information to detect a possible place of origin for these leaders outside the Lower Jequetepeque Valley. The architectural evidence suggests an origin in the northern highlands, specifically in the Huamachuco area. Does the ceramic evidence concur with this territorial identification?

Earlier, I specified that the two most popular elite wares of the sample – the Fine Orange and Fine Black wares – manifested clear stylistic connection with pottery traditions of the northern highlands and of central coast sites assignable to Middle Horizon Epochs 2B-3. Regarding the latter, although black ware pots are strongly represented at these sites, most of these vessels bear complex decorative designs on their bodies executed with the mold-pressed technique. This decoration variant is extremely unusual at Cerro Chepén Alto. In addition, Cajamarca Cursive wares, which represent a significant component of the Cerro Chepén Alto sample, are seldom present at these sites. Finally, the ceramic forms that are most typical to these sites still represent a minority within the repertoire of fine ware ceramic types of Cerro Chepén Alto (12.6%).
In the area of Huamachuco, on the other hand, some of the most emblematic vessel forms of the Fine Orange and Fine Black wares – as is the case of the *escudillas*, the ring base bowls, the tumblers and the lyre-cups – are common. Together, these vessel forms represent 69.6% of the fine pottery sample of the buildings with galleries. All these forms are peculiar to the Amaru Phase (ca. AD 600-800), to which the Fine Orange vessels decorated with organic black paint also belong (Thatcher 1975). Cajamarca ceramics are also widespread at Huamachuco, both in their fine kaolin and in their domestic variants (Thatcher 1975: 116, J. Topic 1998: 116). Finally, black-ware mold-made pieces with figurative representations, which have a direct stylistic correlation with Middle Horizon 2B-3 sites from the coast, are also present in this highland area, although in low numbers (McCown 1945: Plate 20 c, e, gg; J. Topic and Topic 1985, Figs. 6 and 7, 2000: 197).

In conclusion, if I were asked to designate a specific site or area of origin for the elites of Cerro Chepén Alto based on the information provided by the fine pottery sample, this location would be the Marcahuamachuco cultural sphere. The inconsistencies that are still evident in the stylistic composition of the fine pottery assemblages of both locations (Cerro Chepén and Marcahuamachuco sphere) should not invalidate this judgment. If the elites of Cerro Chepén Alto were actually displaced huamachuquinos, nothing would have prevented them from launching their own program of interregional contacts once established in their new coastal stronghold. This new interaction strategy might have been responsible for the arrival of Cajamarca Red-on-Buff vessels at the site. These vessels, although of highland origin, are not represented in the ceramic sample of Huamachuco. It is also possible that the leaders of Cerro Chepén
Alto may have established new contacts with central coast polities, from which they received significant ceramic influences. These influences were locally materialized in a central coast-like black-ware ceramic style that ended up dominating the repertoire of prestige vessels. A further possibility is that the Cerro Chepén Alto elites came from an intermediate site that already integrated the ceramic influences of Huamachuco, Cajamarca, and the Central Coast. This alternative will be evaluated in the final chapter of this dissertation.

Finally, I want close this chapter by commenting on two important issues revealed by the ceramic analysis. The first issue relates to an apparent chronological incongruity that was unexpectedly revealed by the ceramic associations. The traditional cultural sequence of the North Coast anticipates a subdivision of the cultural period known as the Middle Horizon into four evolutionary stages (Epochs 1 to 4). Traditionally, it was thought that the Late Moche Phase was stylistically restricted to Epoch 1, while the black-ware, mold-pressed styles that developed on the central coast were supposed to post-date Moche developments. These styles were concurrently ascribed to Middle Horizon Epochs 2B-3 (see Menzel 1964, Plate I; Shimada 1990: 319). Yet, the evidence of associations detected at the buildings with galleries indicates that all these styles (Late Moche, mold-pressed) occurred intermixed in the same occupation layers and within the same use contexts. Additional radiocarbon evidence corroborates a Late Moche phase placement for the central coast-related styles that were commonly ascribed to late Middle Horizon stages (see Chapter X). Undoubtedly, the information recovered at Cerro Chepén will force us to undertake a thorough revision of the accepted chronological schemes.
used in north coast archaeology, and possibly redefine what were always thought to be static cultural areas.

The second issue refers to a further inconsistency (this time of apparent nature) evidenced by the disparate character of the wares that dominate the fine pottery and domestic pottery samples. The domestic pottery group, which contains 52.4% of the studied vessels, is clearly dominated by the Late Moche style. In fact, this ware represents 97.8% of this ceramic category. Does the prevalence of this style conflict with the possibility of a highland origin of the Cerro Chepén Alto elites?

The answer is obviously negative. At the beginning of this chapter, I specified that domestic and fine ceramics can not be treated as equivalent entities given that their production, distribution, and use spheres were established in independent channels. Domestic ceramics are commonly produced by independent specialists, who tend to belong to the commoner substratum. The organization of the production of these vessels is ruled by economic (and not political) concerns, and the distribution of the products is established through close communal circles (Brumfiel and Earle 1987).

If Moche domestic vessels abound in the buildings within galleries, it is because the elites required them to satisfy their basic sustenance needs (prepare meals, carry water to the top of the hill, store liquids and provisions). The vessels were not valued for their symbolic connotation, but for their functional properties. In fact, the low value manifested by the domestic vessels as reliable cultural indicators is evidenced by their distribution patterns. Unlike the fine pottery vessels, which manifested unequal distributions of decoration variants and vessel types, the different vessel form variants and decoration modes of the domestic group were uniformly distributed among the two
sets of monumental building that occupied the heights of Chepén Hill (Fig. 8.5). The domestic vessels made their way to the hill-top buildings most likely as tribute goods extracted from the local populations.
CHAPTER IX

OTHER DIAGNOSTIC INDICATORS OF CULTURAL TRADITION

This chapter is dedicated to reviewing additional types of material evidence that may shed some light on the cultural origin of the elites who occupied the buildings with galleries of Cerro Chepén Alto. Specifically, seven different types of material indicators are addressed: a) food remains, b) human burials, c) small Spondylus offerings, d) wooden artifacts, e) small artifacts used in textile production (spindle whorls), f) metal artifacts, and g) curious marks that were scratched on the surface of ceramic containers. These categories are examined from the perspective of the results offered by the architectural and ceramic analyzes; that is, that the elites who occupied the buildings with galleries were originally from the neighboring highlands.

As will be shown below, at least three different types of material evidence (human burials, small Spondylus offerings, and scratches on ceramic pots) offer additional support to the theory of the highland origin of the elites of Cerro Chepén Alto. Two categories that seemingly yield conflicting results (food remains and small artifacts used in textile production) have a logical explanation considering the economic strategies that the newcomers might have implemented once established in their new coastal redoubt. Finally, wooden and metal artifacts failed to provide any significant stylistic information. However, I found equally significant that two artifact categories that the Moche avidly exploited to broadcast ideological messages did not reproduce Moche cultural forms. In
any case, the sample of wooden and metal artifacts is presented to allow other investigators to draw their own conclusions.

The information offered by the seven categories of materials reviewed in this chapter is not limited to addressing the question of the cultural affiliation of local leaders. Evidence offered by macrobotanical remains hints at the particular social and/or environmental conditions that prevailed in the region on the eve of the abandonment of Cerro Chepén. Other categories of materials provide valuable information about the social organization of the site, the presence of women, and additional manufacturing activities that took place within the interior spaces of the buildings with galleries. Finally, the designs of the post-firing marks scratched on ceramic vessels provide comparative information that allows a preliminary identification of the sites where the highland intruders may have originated. In sum, the topics covered in this chapter are of vital importance in reconstructing the overall picture of the regional collapse. This reconstruction will be presented in the final chapter of this dissertation.

**Food remains**

The study of food remains was, along with the analysis of architectural and ceramic evidence, one of the major concerns of the Cerro Chepén Archaeological Project. The main objective of this study was to identify the most important ecological niches that were exploited by the occupants of the buildings with galleries. Given that these occupants might have had a highland origin, I wanted to explore the possibility that high-altitude products may have been introduced to the site. This strategy would have resulted in the presence of non-local species (especially cultigens) in the archaeological deposits
of the buildings with galleries. As illustrated in figure 9.1, the list of the most important plant species domesticated in the Central Andes includes species adapted to different altitudes. The high-altitude crops that could have been transported to the site include a special variety of cucurbit, as well as a limited assortment of tubers and grains.

The study of food remains was aided by the excellent condition of archaeological botanical remains at the site (Figs. 9.2 and 9.3). The arid environment of the hill’s summit presented the possibility that even tubers – that do not have cellulose-rich parts that are highly resistant to decay – could have survived relatively intact in the archaeological deposits of the excavated buildings. The search for highland species was conducted with the strict understanding that a positive identification would have not provided definitive proof of the invasion theory. At best, such discoveries could have served to suggest sporadic contacts and exchanges between coastal and mountain populations. The detection of highland comestibles would have represented, on the other hand, an absolute novelty among the few Moche sites where paleoethnobotanic studies have been conducted (Lockard 2005, Pozorski 1982, Shimada and Shimada 1981, Vásquez and Rosales 2004a). This evidence would have also challenged the widespread notion that all Moche occupations remained “land-locked” in their coastal territories (Shimada 1982, 1987). Finally, as a cautionary note, I want to emphasize that the taxonomic analysis conducted at the site did not attempt to reconstruct the paleodiet of its ancient occupants. The reasons that justify this omission will be presented during the exposition and discussion of the results of the analysis.

During the two excavation seasons that were dedicated to the buildings with galleries, we collected a total of 14,104 organic remains (12,199 faunal remains and
Figure 9.1. Altitudinal growth ranges (in meters above sea level) of the most important Andean cultivars. Data on plant growth ranges taken from Moseley 1978a, Table 11.1, except for (*) taken from N.R.C. 1989, and (**) from Thomas Andres 2008, personal communication.
Figure 9.2. 1200-year-old cotyledons and endocarp fragment of a *Lucuma obovata* fruit found in Building IX.

Figure 9.3. Maize cob fragments from significant occupation contexts of the buildings with galleries.
1,905 botanic remains). These remains were organized in 614 collection samples that were retrieved from the nine different types of archaeological deposits described in the previous chapter. The sample collection strategy was inspired by (but not literally copied from) the one implemented by George J. Gumerman (1991: 19-20) at the Chimú site of Pacatnamú. This strategy focused on the archaeological deposits that were immediately associated with occupation floors, without leaving peripheral deposits that could be indicative of previous occupations (e.g. initial fills) totally unattended.

The strategy involved a quick removal of the superficial debris accumulated on patios, rooms, and galleries until coming in close proximity with the occupation floors of the structures. The organic materials contained in the superficial layers were collected without using special equipment. A 10-cm-deep “sampling horizon” was left intact above the surface of the floors. The organic materials contained in this layer were later subjected to a detailed collection strategy. This strategy involved sifting the whole layer through a 5 mm screen. The cultural materials that remained on the screen (typically ceramic sherds and large organic elements) were hand-picked and bagged in the field. A sample of the materials that passed through the 5 mm screen (generally 1 liter per m² of excavated area) was later sifted through a 1 mm mesh. The coarse fractions remaining on the fine screen were bagged in the field and taken to the field laboratory to undergo a delicate dry selection of organic elements using brushes, pliers, and magnifying glasses. If the excavation revealed primary contexts in direct association with the floors (refuse pits, hearths, surface trash accumulations, other types of intrusions) the whole contents of these features was sifted through the 1 mm screen. No soil samples were saved for further retrieval of minute organic fractions.
Early during the first excavation season, I noticed that the collection strategy was being affected by a major problem, and implemented some immediate corrections. The problem was that some of the excavated rooms were free of cultural refuse, and the 10-cm-deep “sampling horizon” that was left intact on their floors was basically comprised of roof debris. Given that the mud that was used to build the roofs contained its own share of organic refuse¹, it became very difficult to determine which of the organic materials retrieved during the sifting operations had been actually discarded by the room’s occupants. While the screening of “clean” spaces continued during the two excavation campaigns, I paid more attention to architectural spaces that could have contained above-floor trash layers. These layers were clearly distinguishable from surrounding debris accumulations by their grayish color (due to their high ash content) and their high concentration of cultural refuse. If the excavator met with one of these layers when digging up his unit, he was instructed to wipe its surface clean, and then proceed to sift its whole contents through the two sets of screens. This operation was repeated several times in cases when sequential refuse layers were detected during the excavation.

Given that my main interest was centered on identifying the variety of species that were consumed by the occupants of the buildings with galleries, only the organic samples retrieved from three types of deposits – above-floor trash layers, sealed trash layers, and floor intrusions – were considered in the final analysis. To these samples I also added the contents of three hearths, located in the elongated room of the Patio-group of Building IV, the Area of Irregular Architecture of the same building, and the internal courtyard of

¹ The grayish mud used in the construction of the roofs seems to have been collected at the northern base of Chepén Hill, where dense accumulations of fine sediment with high clay content are visible.
the Patio-group of Building IX\(^2\). Restricting the analysis to the contents of the significant deposits meant considering only 284 of the 614 collection samples in the final analysis. These samples came from half of the 28 excavated units (see table 9.1). The reduction of the study sample, though dramatic, did not affect the results of the analysis. The taxonomic identification demonstrated that all the botanical species documented in the general sample were also present in the significant deposits. In the few cases in which the non-significant deposits contained remains of an animal species that had not been detected in the significant deposits, this species was native to an ecological niche that was widely represented in the primary study sample.

The taxonomic identification of species was entrusted to the members of the Centro de Investigaciones Arqueológicas y Paleoecológicas Andinas “Arqueobios”, directed by Victor Vásquez Sánchez and Teresa Rosales Tham. This center, located in the north-coast city of Trujillo, is currently responsible for analyzing the organic materials of the vast majority of archaeological projects that take place on the North Coast and northern highlands of Peru and its members have extensive experience in the field. These investigators conduct the taxonomic identifications of specimens through the use of reference collections and identification manuals. They also implement their own quantification strategies, which commonly depend on the specific characteristics of the sample and the type of remains studied. I conducted, however, the density calculations of specimens per building cluster. I took into consideration the results of their quantifications and a rough estimate of the volume of the excavated deposits (the measuring unit was established at 1000 liters).

\(^2\) All these hearths also yielded organic samples that were subjected to radiocarbon determinations.
Table 9.1. Location, description, and approximate volume of archaeological deposits associated with the occupation floors from which organic samples were retrieved.

<table>
<thead>
<tr>
<th>UNIT</th>
<th>DESCRIPTION</th>
<th>VOLUME (liters)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Building IV</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AU-14</td>
<td>Sequence of sealed trash layers inside the rear gallery of the “Interconnected Rooms”.</td>
<td>2303.1</td>
</tr>
<tr>
<td>AU-15</td>
<td>The contents of two holes on the last occupation floor of the patio of the two-floor gallery.</td>
<td>32.5</td>
</tr>
<tr>
<td>AU-16</td>
<td>Sequence of sealed trash layers inside the two-floor gallery.</td>
<td>6051.3</td>
</tr>
<tr>
<td>AU-25</td>
<td>The contents of seven pits on the last occupation floor of the elongated room of the “Patio-group”.</td>
<td>678.1</td>
</tr>
<tr>
<td></td>
<td>The contents of a hearth and an above-floor trash layer associated with the first occupation floor of the elongated room of the “Patio-group”.</td>
<td>312.1</td>
</tr>
<tr>
<td>AU-35</td>
<td>Above-floor trash layer accumulated on the last occupation floor of the large enclosure of the “Area of Irregular Architecture”.</td>
<td>91.7</td>
</tr>
<tr>
<td></td>
<td>A hearth associated with the first occupation floor of the large enclosure of the “Area of Irregular Architecture”.</td>
<td>2.9</td>
</tr>
<tr>
<td>AU-39</td>
<td>Small middens accumulated on the southeast limit of the “Area of Irregular Architecture”.</td>
<td>63.3</td>
</tr>
<tr>
<td></td>
<td><strong>Sub-total</strong></td>
<td><strong>9535</strong></td>
</tr>
<tr>
<td><strong>Building VIII</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AU-13</td>
<td>Above-floor trash layer accumulated on the final occupation floor of the largest lateral room of the “Salón con Nichos”.</td>
<td>128</td>
</tr>
<tr>
<td>AU-30</td>
<td>The contents of twenty-five shallow holes on the last occupation floor of the two-floor gallery.</td>
<td>133.5</td>
</tr>
<tr>
<td>AU-31</td>
<td>The contents of thirty-six shallow holes on the central patio of the “Two-floor Gallery Group”.</td>
<td>108.7</td>
</tr>
<tr>
<td>AU-35</td>
<td>Above-floor trash layer accumulated on the final occupation floor of the southern gallery of the “Two-floor Gallery Group”.</td>
<td>386.7</td>
</tr>
<tr>
<td></td>
<td>The contents of eighteen holes on the final occupation floor of the southern gallery of the “Two-floor Gallery Group”.</td>
<td>83.6</td>
</tr>
<tr>
<td></td>
<td>The contents of five pits on the first occupation floor of the southern gallery of the “Two-floor Gallery Group”.</td>
<td>70.6</td>
</tr>
<tr>
<td></td>
<td><strong>Sub-total</strong></td>
<td><strong>911.1</strong></td>
</tr>
<tr>
<td><strong>Building IX</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AU-02</td>
<td>Above-floor trash layer accumulated inside the western gallery of the “Patio-group”.</td>
<td>182.7</td>
</tr>
<tr>
<td>AU-03</td>
<td>Above-floor trash layer accumulated inside the burial room of the “Patio-group”.</td>
<td>360.3</td>
</tr>
<tr>
<td>AU-09</td>
<td>Above-floor trash layer accumulated on the central patio of the “Patio-group”.</td>
<td>124.5</td>
</tr>
<tr>
<td>AU-29</td>
<td>Dense refuse concentration filling-up the trapezoidal room of the “Vestibule”.</td>
<td>3507.2</td>
</tr>
<tr>
<td></td>
<td><strong>Sub-total</strong></td>
<td><strong>4174.7</strong></td>
</tr>
</tbody>
</table>
In general, the sample of species consumed at Cerro Chepén Alto can be classified into six major biological groups: mollusks, crustaceans, fish, mammals, other terrestrial vertebrates and cultivated plants. In the following pages, I will describe the taxonomic composition of each of these groups, highlighting both the relative frequencies of species for all buildings, and their recorded density by building cluster. The assessment is mainly directed at the identification of exploited niches, indicating if the detected species are local to the Lower Jequetepéque Valley or if they are typical to other altitudinal settings or coastal latitudes. The Cerro Chepén Alto paleozoological and paleoethnobotanical sample is compared to similar remains recovered at other Moche sites, in order to detect incongruous patterns that may require an explanation. Besides the identification of exploited niches, the taxonomic analysis also offers valuable information about the socio-political organization of the valley’s populations, possible events of social or environmental crisis, singular cultivation strategies, and even curious waste disposal behaviors.

**Mollusk taxa**

The sample of edible mollusk taxa comprises 30 different species (total sample), of which 25 are of marine origin, three are land snails, and two freshwater snails. Table 9.2 summarizes the absolute and relative frequencies of species detected in the significant deposits of the buildings with galleries. Figures 9.4 and 9.5 illustrate the

---

3 The sample of marine mollusks does not include 8 species of ornamental applications (some of them typical to warm water environments) that were imported in low quantities to the site for the production of personal adornments. These species are: *Spondylus princeps, Pinctata mazatlanica* (mother-of-pearl), *Olivella columellaris* (“olivita”), *Oliva peruviana* (“oliva”), *Malea ringens* (“pututo”), *Sinum cymba* (abalone), *Prunum curtum* and *Trivia solandri*.

4 The quantification of shellfish was established according to minimum number of individuals.
relative frequencies of species for all buildings and their compared densities (MNI per
1000 liters of excavated sediments) by building cluster.

The sample of edible marine shellfish collected within the significant deposits of
the buildings with galleries yielded a total of 2,081 individuals representing 23 different
species. As can be seen in figure 9.4, only eight species occur in significant numbers, the
most popular being a gastropod (*Prisogaster niger*) and a bivalve (*Semimytilus algosus*). However, when we observe the compared densities of mollusk remains per building
cluster (Fig. 9.5), two significant differences come to light. The first is the unparalleled
abundance of marine mollusks in Buildings VIII and IX. The second is the disparate
popularity indexes of the recorded species in each building group. In fact, the dissimilar
frequencies of mollusk remains are so significant that we seem to be looking at two
different sites. As I shall explain later, it is possible that these dissimilar distributions of
mollusk taxa are less the result of true consumption patterns than of singular disposal
strategies.

What conclusions can be drawn based on the evidence of discarded marine
shellfish remains? The first interesting result is the wide variety of sea species present in
an inland agricultural site. An explanation for this unexpected trend will be presented
below. Second, it is important to stress that the eight most popular species of the sample
are local to the Jequetepeque coast, and continue to be exploited by modern fishermen of
local communities like Chérrepe, Puémape, and Pacasmayo. In other words, the local
sample of consumed mollusk species does not indicate the existence of supply networks
established with remote regions, or of abnormal marine conditions (El Niño). Finally, I
also found intriguing the relatively small size of the retrieved sample. If we consider that
<table>
<thead>
<tr>
<th>Taxa</th>
<th>Spanish name</th>
<th>MNI Building IV</th>
<th>MNI Build. VIII-IX</th>
<th>MNI Total</th>
<th>MNI Percent Building IV</th>
<th>MNI Percent Build. VIII-IX</th>
<th>MNI Percent Total</th>
<th>MNI per 1000 L Building IV</th>
<th>MNI per 1000 L Build. VIII-IX</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Polyplacophora</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chiton sp.</td>
<td>barquillo</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0.18</td>
<td>0</td>
<td>0.05</td>
<td>0.1</td>
<td>0</td>
</tr>
<tr>
<td>Enoplachiton niger</td>
<td>barbón</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0.18</td>
<td>0</td>
<td>0.05</td>
<td>0.1</td>
<td>0</td>
</tr>
<tr>
<td>Acanthopleura echinata</td>
<td>barbón</td>
<td>0</td>
<td>7</td>
<td>7</td>
<td>0.44</td>
<td>0</td>
<td>0.33</td>
<td>0</td>
<td>1.38</td>
</tr>
<tr>
<td><strong>Gastropods</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fissurella crassa</td>
<td>lapa</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>0.25</td>
<td>0</td>
<td>0.19</td>
<td>0</td>
<td>0.79</td>
</tr>
<tr>
<td>Fissurella maxima</td>
<td>lapa</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0.36</td>
<td>0</td>
<td>0.09</td>
<td>0.21</td>
<td>0</td>
</tr>
<tr>
<td>Fissurella sp.</td>
<td>lapa</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>0.18</td>
<td>0.19</td>
<td>0.19</td>
<td>0.1</td>
<td>0.59</td>
</tr>
<tr>
<td>Tegula atra</td>
<td>caracol negro</td>
<td>69</td>
<td>189</td>
<td>258</td>
<td>12.34</td>
<td>11.95</td>
<td>12.06</td>
<td>7.24</td>
<td>37.16</td>
</tr>
<tr>
<td>Tegula euryomphalus</td>
<td>caracol negro</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0.06</td>
<td>0</td>
<td>0.05</td>
<td>0</td>
<td>0.2</td>
</tr>
<tr>
<td>Prisogaster niger</td>
<td>caracol turbinado</td>
<td>67</td>
<td>391</td>
<td>458</td>
<td>11.99</td>
<td>24.73</td>
<td>21.4</td>
<td>7.03</td>
<td>76.88</td>
</tr>
<tr>
<td>Littorina peruviana</td>
<td>caracolito</td>
<td>0</td>
<td>53</td>
<td>53</td>
<td>0.35</td>
<td>0</td>
<td>2.48</td>
<td>0</td>
<td>10.42</td>
</tr>
<tr>
<td>Polinices uber</td>
<td>caracol blanco</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>0.72</td>
<td>0.25</td>
<td>0.37</td>
<td>0.42</td>
<td>0.79</td>
</tr>
<tr>
<td>Concholepas concholepas</td>
<td>pata de burro</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>0.36</td>
<td>0.13</td>
<td>0.19</td>
<td>0.21</td>
<td>0.39</td>
</tr>
<tr>
<td>Thais chocolata</td>
<td>caracol</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0.18</td>
<td>0.06</td>
<td>0.09</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>Thais haemastoma</td>
<td>caracol</td>
<td>13</td>
<td>172</td>
<td>185</td>
<td>2.33</td>
<td>10.88</td>
<td>8.64</td>
<td>1.36</td>
<td>33.82</td>
</tr>
<tr>
<td>Xanthochorus buxea</td>
<td>caracol</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0.18</td>
<td>0.06</td>
<td>0.09</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Pelecyphoda (bivalvia)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choromytilus chorus</td>
<td>choro zapato</td>
<td>34</td>
<td>87</td>
<td>121</td>
<td>6.08</td>
<td>5.5</td>
<td>5.65</td>
<td>3.57</td>
<td>17.11</td>
</tr>
<tr>
<td>Perumytilus purpuratus</td>
<td>chorito playero</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0.18</td>
<td>0.13</td>
<td>0.14</td>
<td>0.1</td>
<td>0.39</td>
</tr>
<tr>
<td>Semimytilus algosus</td>
<td>chorito playero</td>
<td>122</td>
<td>341</td>
<td>463</td>
<td>21.82</td>
<td>21.57</td>
<td>21.64</td>
<td>12.79</td>
<td>67.05</td>
</tr>
</tbody>
</table>

Table 9.2. (page 1 of 2)
<table>
<thead>
<tr>
<th>Taxa</th>
<th>Spanish name</th>
<th>MNI Building IV</th>
<th>MNI Build. VIII-IX</th>
<th>MNI Total</th>
<th>MNI Percent Building IV</th>
<th>MNI Percent Build. VIII-IX</th>
<th>MNI Percent Total</th>
<th>MNI per 1000 L Building IV</th>
<th>MNI per 1000 L Buid. VIII-IX</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pelecypoda (bivalvia)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aulacomya ater</td>
<td>choro común</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0.13</td>
<td>0.09</td>
<td>0</td>
<td>0.39</td>
</tr>
<tr>
<td>Protothaca thaca</td>
<td>almeja</td>
<td>83</td>
<td>125</td>
<td>208</td>
<td>14.85</td>
<td>7.91</td>
<td>9.72</td>
<td>8.7</td>
<td>24.58</td>
</tr>
<tr>
<td>Spisula adamsi</td>
<td>almejita</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>1.07</td>
<td>0</td>
<td>0.28</td>
<td>0.63</td>
<td>0</td>
</tr>
<tr>
<td>Donax obesulus</td>
<td>palabritas</td>
<td>96</td>
<td>86</td>
<td>182</td>
<td>17.17</td>
<td>5.44</td>
<td>8.5</td>
<td>10.07</td>
<td>16.91</td>
</tr>
<tr>
<td>Semele corrugata</td>
<td>almeja</td>
<td>15</td>
<td>91</td>
<td>106</td>
<td>2.68</td>
<td>5.76</td>
<td>4.95</td>
<td>1.57</td>
<td>17.89</td>
</tr>
<tr>
<td><strong>Fresh water snails</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helisoma sp.</td>
<td>caracol</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0.18</td>
<td>0.06</td>
<td>0.09</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>Drepanotrema sp.</td>
<td>caracol</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>0.54</td>
<td>0.06</td>
<td>0.19</td>
<td>0.31</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Land snails</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scutalus proteus</td>
<td>caracol de loma</td>
<td>36</td>
<td>17</td>
<td>53</td>
<td>6.44</td>
<td>1.08</td>
<td>2.48</td>
<td>3.78</td>
<td>3.34</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>559</strong></td>
<td><strong>1581</strong></td>
<td><strong>2140</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
<td><strong>58.59</strong></td>
<td><strong>310.88</strong></td>
</tr>
</tbody>
</table>

Table 9.2. Absolute and relative frequencies of mollusk taxa found in the significant deposits of the buildings with galleries.
Figure 9.4. Relative frequencies of mollusk taxa found in the significant deposits of the buildings with galleries.
Figure 9.5. Compared densities of mollusk remains (MNI per 1000 liters of excavated sediment) from the significant deposits of the southern and northern building clusters.
the largest specimens of the two predominant species – Prisogaster niger and Semimytilus algosus – yield between 0.8 and 1.8 grams of meat, then the 458 and 463 specimens collected would have yielded a minimum of 0.74 kg and a maximum of 1.66 kg of food. This quantity of food would not have been sufficient to feed even five people for one day.

The low incidence of marine shellfish remains in the significant deposits of the buildings with galleries can be ascribed to one or more of the following factors: a) marine shellfish was not favored as a dietary supplement (a possibility that could be discarded based on the wide variety of species present, and the equivalent low densities of other food remains), b) a small number of occupants and a very short occupation span of the structures (which would lead to the absurd conclusion that the buildings were occupied for only a few weeks), c) sampling problems, and d) singular waste disposal strategies. This last probability, to which I am strongly inclined, would suggest that not all the leftovers of the meals that were consumed at the buildings with galleries were discarded inside the structures. In fact, indirect evidence indicates that different disposal strategies were used with different food items. On the floor of the access room to the Patio-group of Building IV, for example, we found a pile of 597 Donax obesulus shells. This pile is evidence of a large mollusk shipment arriving at the site, whose leftovers were incidentally discarded at a single location. While this pile was the largest concentration of a single edible product detected at the site, I do not think that such massive shipments of selected food items would have been unusual during the time the buildings were occupied. Given that fresh shells emanate a foul odor a few days after being processed,

---

5 The individuals that made up this concentration were not considered in the quantification of mollusk taxa given that they would have substantially distorted the proportions of identified species.
the leftovers of similar shipments could have been discarded at a distance from the occupation area, distorting the picture of the true contribution of marine mollusks to the diet of the occupants of the buildings with galleries.

The mollusk sample recovered from the significant deposits of the buildings with galleries also includes two species of small freshwater snails – *Helisoma sp.* and *Drepanotrema sp.* – and a land snail – *Scutalus proteus*. The first two are not significant in terms of human diet, not only because they occur in low numbers (six individuals), but mostly because they are parasites of brackish water reeds (*Scirpus californicus* and *Typha angustifolia*) (Vásquez and Rosales 2004b: 32). In other words, these specimens may have been inadvertently introduced when shipments of *totora* reeds were brought to the site. In any case, their presence is indicative of the exploitation of natural resources typical of a "humedal" ecozone.

The only species of land snail detected in the occupation levels of the buildings with galleries – *Scutalus proteus* – was, to the contrary, a traditional food source in ancient Peru. In fact, several Moche sites report evidence of its consumption (Shimada and Shimada 1981, Table 2, Vasquez et al 2003: 42), and these snails were especially abundant in the middens of elite residences at Galindo (Lockard 2005: 199). Southern Moche iconography illustrates expeditions mounted to collect “loma snail” in semi-arid hill environments, a practice that was apparently imbued with a ritual significance (see Larco Hoyle 2001a, Fig 409). There was a probability, however, that the Cerro Chepén specimens were not artificially introduced to the site given that the hill was (and still is) a natural ecosystem for land snails (Fig. 5.4). At first, I was inclined to think that the 53 specimens collected during the excavations were wild animals that had invaded the
abandoned structures. In fact, land snails are the only mollusk species that occurs in equivalent densities at both building clusters (Fig. 9.5). However, 41 of these specimens were retrieved from sealed occupation contexts, including the sequential refuse layers of the two-floor gallery of Building IV (22 specimens). It is possible to conclude, then, that land snails formed part of the diet of the occupants of the buildings with galleries.

**Crustacean taxa**

The general sample of crustacean taxa of the buildings with galleries of Cerro Chepén Alto comprises six different species, four of them of marine adaptation and two of riverine ecosystems. All these species are represented to a greater or lesser degree within the significant deposits of the structures (Table 9.3). Given the fragmentary character of the specimens, the crustacean remains were quantified according to the number of individual specimens (NISP) (Vasquez and Rosales 2004b: 5).

In general, the crustacean sample shows the same distribution trend manifested by the mollusk sample (higher concentration in Buildings VIII and IX, discordant distribution patterns between building clusters). However, both buildings clusters manifested the same strong preference for the violet crab (*Platyxanthus orbignyi*) (Figs. 9.6 and 9.7). This marine crustacean has a wide distribution along the Peruvian coast, and is also represented at other Moche sites. An abnormal concentration of a singular sea species (*Chthamalus cirratus*), this time belonging to the family of non-mobile crustaceans (*balanidae*), was detected in the garbage dump of the Vestibule of Building IX (Fig. 9.7). Finally, 16% of the total preferences are represented by a river crab (*Hypollobocera sp.*). This crab inhabits the lower courses of most Peruvian coastal rivers
<table>
<thead>
<tr>
<th>Taxa</th>
<th>Spanish name</th>
<th>NISP Building IV</th>
<th>NISP Build. VIII-IX</th>
<th>NISP Total</th>
<th>NISP Percent Building IV</th>
<th>NISP Percent Build. VIII-IX</th>
<th>NISP Percent Total</th>
<th>NISP per 1000 L Building IV</th>
<th>NISP per 1000 L Bull. VIII-IX</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Balanidae</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chthamalus cirratus</td>
<td>pico de loro</td>
<td>1</td>
<td>51</td>
<td>52</td>
<td>1.52</td>
<td>22.87</td>
<td>17.99</td>
<td>0.1</td>
<td>10.03</td>
</tr>
<tr>
<td>Balanus sp.</td>
<td>percebes</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0.9</td>
<td>0.69</td>
<td>0</td>
<td>0.39</td>
</tr>
<tr>
<td><strong>Sea crabs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platypsythus orbignyi</td>
<td>cangrejo violáceo</td>
<td>52</td>
<td>133</td>
<td>185</td>
<td>78.79</td>
<td>59.64</td>
<td>64.01</td>
<td>5.45</td>
<td>26.15</td>
</tr>
<tr>
<td>Cancer porteri</td>
<td>cangrejo violáceo</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>3.03</td>
<td>0</td>
<td>0.69</td>
<td>0.21</td>
<td>0</td>
</tr>
<tr>
<td><strong>River crabs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypollobocera sp.</td>
<td>cangrejo de rio</td>
<td>11</td>
<td>36</td>
<td>47</td>
<td>16.67</td>
<td>16.14</td>
<td>16.26</td>
<td>1.15</td>
<td>7.08</td>
</tr>
<tr>
<td>Chryphiops caementarius</td>
<td>camarón de rio</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0.45</td>
<td>0.35</td>
<td>0</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td>66</td>
<td>223</td>
<td>289</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>6.91</td>
<td>43.85</td>
</tr>
</tbody>
</table>

*Table 9.3. Absolute and relative frequencies of crustacean taxa found in the significant deposits of the buildings with galleries.*
Figure 9.6. Relative frequencies of crustacean taxa found in the significant deposits of the buildings with galleries.
Figure 9.7. Compared densities of crustacean remains (NISP per 1000 liters of excavated sediment) from the significant deposits of the southern and northern building clusters.
(including the Jequetepeque), and was also exploited at other Moche sites (Lockard 2005, Table 7.3; Vásquez and Rosales 2004a: 363; ONERN 1988: 172). Unlike the case of the marine species (see below), the exploitation of this river crab may have been directly conducted by the inhabitants of Cerro Chepén, who may have made constant trips to the Jequetepeque River when repairing irrigation canals and visiting outlying settlements of the “Cerro Chepén Community”.

**Fish taxa**

The general fish sample of the buildings with galleries is composed of 17 species, all of them of marine origin (except for the mullet [*Mugil cephalus*] that spends its initial life cycle in fresh water environments). Of these, 16 are represented in context associated to occupation floors⁶. Table 9.4 includes information about relative and absolute frequencies of the relevant 16 fish species⁷. Figures 9.8 and 9.9 illustrate the total relative frequency of these species and the densities of their remains in each building cluster.

Figure 9.8 shows a total dominance of sardine (*Sardinops sagax*) in the consumption preferences of fish (44.28%). This preference is supported by equivalent densities at both building clusters (Fig. 9.9). The high incidence of sardine is significant, given that this species dwells in deep sea waters, and therefore requires specialized technology for its exploitation (boats and nets) (Vásquez et al 2003: 45). In a distant second place, representing between 10% and 12% of preferences, we find three

---

⁶ The only fish species absent in the sample that was retrieved from significant deposits is the sole (*Paralichthys sp.*). This fish species is represented by a single specimen collected from an initial fill deposit in one of the lateral galleries of the Patio-group of Building IX.

⁷ The quantification of fish specimens was established according to NISP. In the excavated sample, otoliths and other significant fish parts (fin, tail, other head remains) were extremely rare, hindering any attempt to establish a MNI calculation. Interestingly, this absence may indicate that fish were processed before taken to the site (Gumerman 1991: 134).
Table 9.4. Absolute and relative frequencies of fish taxa found in the significant deposits of the buildings with galleries.
Figure 9.8. Relative frequencies of fish taxa found in the significant deposits of the buildings with galleries.
Figure 9.9. Compared densities of fish remains (NISP per 1000 liters of excavated sediment) from the significant deposits of the southern and northern building clusters.
species that dwell closer to the shore line: sea catfish (*Galeichyhys peruvianus*), croaker (*Paralonchurus peruanus*), and Peruvian weakfish (*Cynoscion analis*) (Vásquez et al 2003: 45). These three species figure prominently in the daily catches of modern fishermen of the north coast town of Huanchaco who still use the traditional technology of “caballitos de totora” (personal observation). Finally, four species occur in significant quantities (between 3% and 5%): shark (*Mustelus sp.*), hake (*Merluccius gayi*), minor stardrum (*Stellifer minor*), and lorna drum (*Sciaena deliciosa*). Figure 9.9 shows a concordant trend in the distribution of fish species per building cluster, a pattern that is clearly not replicated by the mollusk sample. There are, however, slight discrepancies in the frequency of two species (*Mustelus sp.* and *Stellifer minor*) which were more abundant in the cluster represented in Buildings VIII and IX.

The amazing variety of sea fish species documented within the significant deposits of the buildings with galleries confirms that the marine ecosystem was an important source of nourishment for the elite residents of Cerro Chepén Alto. This importance was also manifested by the variety of mollusk and crustacean taxa found at the site. All the fish species that comprise the analyzed sample are typical of the Peruvian geographical province, specifically to the latitude corresponding to the Jequetepeque Valley (7° Southern Latitude) (compare with Vasquez and Rosales 2004a: 345). Comparative information serves to validate the crucial role played by sea resources in the sustenance of the hill’s inhabitants. While the fish consumption tendencies recorded at Cerro Chepén are consistent with the ones of the southern Moche capital of Cerro Blanco (Vasquez and Rosales 2004a, Vasquez et al 2003), they far exceed the preferences registered at other Moche inland sites. At the site of Galindo, for example, only seven
species of marine fish were exploited, and the most popular fish type was represented by only three remains (Lockard 2005, Table 7.7).

**Mammals**

The sample of mammal bones discarded in the buildings with galleries includes remains of seven different species, all typical to inland environments. Three relate to domestic animals (llama, guinea pig, and dog), and four to wild animals (deer, fox, *viscacha*, and field mouse). Of these seven species, six are represented within significant occupation levels of the buildings with galleries. The only species absent is the *viscacha* (*Lagidium peruanum*), a large rodent which has been identified based on two isolated remains found in disparate locations of Building IV (a “wall collapse” layer of the entry room to the Patio-group, and an “intermediate fill” layer of the Area of Irregular Architecture [Vásquez and Rosales 2005a, Tables 28 and 29]). While wild viscachas may have dwelt in the arid hill environments of north coast valleys (Shimada 1976: 57), their presence has not been documented at the Cerros de Chepén hill chain. Finally, given the fragmentary character of the bones, the quantification of mammal species was established according to NISP.

Figures 9.10 and 9.11 illustrate an absolute predominance of llama bones in the mammal bone sample. The significant occupation layers of the buildings with galleries yielded a total of 2,819 llama bones and bone fragments, which represent slightly more than 80% of the remains of this animal category. Other Moche sites where zooarchaeological studies have been conducted yielded similar proportion of llama remains (Lockard 2005, Table 7.7; Shimada and Shimada 1981: 38; Vásquez et al 2003, ...
<table>
<thead>
<tr>
<th>Taxa</th>
<th>English name</th>
<th>NISP Building IV</th>
<th>NISP Build. VIII-IX</th>
<th>NISP Total</th>
<th>NISP Percent Building IV</th>
<th>NISP Percent Build. VIII-IX</th>
<th>NISP Percent Total</th>
<th>NISP per 1000 L Building IV</th>
<th>NISP per 1000 L Build. VIII-IX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mammalia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cricetidae</td>
<td>field mouse</td>
<td>237</td>
<td>363</td>
<td>600</td>
<td>13.4</td>
<td>17.24</td>
<td>15.49</td>
<td>24.86</td>
<td>71.38</td>
</tr>
<tr>
<td>Cavia porcellus</td>
<td>guinea pig</td>
<td>4</td>
<td>41</td>
<td>45</td>
<td>0.23</td>
<td>0.95</td>
<td>1.16</td>
<td>0.42</td>
<td>8.06</td>
</tr>
<tr>
<td>Canis familiaris</td>
<td>dog</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>0.23</td>
<td>0</td>
<td>0.1</td>
<td>0.42</td>
<td>0</td>
</tr>
<tr>
<td>Pseudalopex sechurae</td>
<td>desert fox</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>0.47</td>
<td>0.26</td>
<td>0</td>
<td>1.97</td>
</tr>
<tr>
<td>Odontocleus virginianus</td>
<td>deer</td>
<td>4</td>
<td>17</td>
<td>21</td>
<td>0.23</td>
<td>0.81</td>
<td>0.54</td>
<td>0.42</td>
<td>3.34</td>
</tr>
<tr>
<td>Lama sp.</td>
<td>llama</td>
<td>1483</td>
<td>1336</td>
<td>2819</td>
<td>83.88</td>
<td>63.44</td>
<td>72.77</td>
<td>155.53</td>
<td>252.69</td>
</tr>
<tr>
<td>Reptilia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dicrodon guttulatum</td>
<td>desert lizard</td>
<td>25</td>
<td>92</td>
<td>118</td>
<td>1.47</td>
<td>4.37</td>
<td>3.05</td>
<td>2.73</td>
<td>18.09</td>
</tr>
<tr>
<td>Anphibia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bufo sp.</td>
<td>toad</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0.05</td>
<td>0.03</td>
<td>0</td>
<td>0.2</td>
</tr>
<tr>
<td>Birds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Larus sp.</td>
<td>seagull</td>
<td>0</td>
<td>8</td>
<td>8</td>
<td>0</td>
<td>0.38</td>
<td>0.21</td>
<td>0</td>
<td>1.57</td>
</tr>
<tr>
<td>Phalacrocorax bougainvilli</td>
<td>cormorant</td>
<td>2</td>
<td>238</td>
<td>240</td>
<td>0.11</td>
<td>11.3</td>
<td>6.2</td>
<td>0.21</td>
<td>46.8</td>
</tr>
<tr>
<td>Pelecanus thagus</td>
<td>pelican</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0.06</td>
<td>0</td>
<td>0.03</td>
<td>0.1</td>
<td>0</td>
</tr>
<tr>
<td>Charadriphorms</td>
<td>shorebird</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>0.23</td>
<td>0</td>
<td>0.1</td>
<td>0.42</td>
<td>0</td>
</tr>
<tr>
<td>Minus longicaudatus</td>
<td>mockingbird</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>0.17</td>
<td>0</td>
<td>0.08</td>
<td>0.31</td>
<td>0</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>1768</td>
<td>2106</td>
<td>3874</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>185.42</td>
<td>414.09</td>
</tr>
</tbody>
</table>

*Table 9.5. Absolute and relative frequencies of terrestrial vertebrate taxa found in the significant deposits of the buildings with galleries.*
Figure 9.10. Relative frequencies of terrestrial vertebrate taxa found in the significant deposits of the buildings with galleries.
Figure 9.11. Compared densities of terrestrial vertebrate remains (NISP per 1000 liters of excavated sediment) from the significant deposits of the southern and northern building clusters.
Table 17.5). While the Cerro Chepén Alto llama bone sample was not subjected to a strict MNI quantification, if we consider the high numbers of bones, the diversity of body parts, and the large size of these animals, it would be possible to conclude that the llamas represented the main source of animal protein for the building’s occupants. A similar conclusion has been drawn for other Late Moche sites like Pampa Grande and Galindo (Pozorski 1982: 181; Shimada and Shimada 1981: 38).

The llama remains also offered indirect evidence of local breeding. Victor Vásquez and Teresa Rosales conducted a study of animal age structures based on evidence of tooth wear (2005a: 34) and level of bone fusion (2004b: 34). These investigators concluded that juvenile and pre-juvenile animals were present in the sample. If the llamas eaten by the hill’s inhabitants were part of the flocks of transport animals that were occasionally brought to the site, young specimens should not have been present in the sample.

A domestic animal that was evidently raised at the site was the guinea pig (Cavia porcellus). The breeding evidence in this case relates to excrement concretions found on the floors of galleries of three different buildings (The gallery of the Interconnected Rooms of Building IV, the southern gallery of the Two-floor Gallery Group of Building VIII, and the western gallery of the Patio-group of Building IX). Despite the evidence of local breeding, the relative paucity of remains is noteworthy. We recovered only 45 bones, 31 of which came from a single context (a pit dug inside the final floor of the two-floor gallery of Building VIII). It is possible, then, that these animals were bred, not as a

---

8 A quantification of the few llama teeth and jaw remains found in the significant deposits of Building IV revealed the presence of at least 6 different animals, five of which were of adult age.
food source, but for ritual purposes. Traditional Andean shamans commonly use these animals for foretelling and for medicinal purposes.

Dogs, foxes, and deer represented a small addition to the local diet. The remains of these species were all found inside two significant deposits: the sequential refuse layers of the two-floor gallery of Building IV, and the garbage dump of the sunken room of the Vestibule of Building IX. Foxes and deer are local to the Lower Jequetpeque Valley, and the former still occur in high numbers on Chepén Hill. As illustrated by Moche iconography, it is likely that deer dwelt in the ancient algarrobo forests of the valley, making occasional forays into the fields cultivated by the Moche (Donnan 1982). Finally, while some may doubt that carnivores were consumed, the use of dogs as food has been documented at Pampa Grande (Shimada 1994a: 184, Shimada and Shimada 1981: 38), and modern peasants of the valley occasionally hunt fox for food.

Finally, an animal that was clearly not valued as a food source was field mice. Mice, however, have the second highest frequency in the total counts of terrestrial vertebrate remains (Fig. 9.10). The abundance of these animals relates, undoubtedly, to pests that affected the site during and after its occupation. Although taphonomic factors may be responsible for the presence of some mouse bones in archaeological deposits, I believe that some of these remains actually date to the time when the structures were occupied. We recovered, for example, 89 and 143 mouse bones from the sealed refuse layers of the gallery of the Interconnected Rooms and the two-floor gallery of Building IV, respectively. Interestingly, the abundance of mouse remains may be our best indicator of paleo-ENSO events affecting the region. Ethno-historic documents record the onslaught of mice pests on north coast valleys after the occurrence of heavy rain
episodes. These documents give us some surprising information about the voracity of these animals. After destroying local crops, hungry mice were seen gnawing off the bark of algarrobo trees (Huertas Vallejos 1987: 42). Whether the local sample of mouse bones is contemporary with or post-dates the use of the structures, I think mice were largely responsible for the acute shortage of edible plant remains in the buildings (see below).

**Other terrestrial vertebrates**

The zooarchaeological sample of terrestrial vertebrates of Cerro Chepén Alto includes 10 additional species, eight of which are birds, one is a reptile, and one an amphibian. Most of these are present in significant archaeological deposits. The only exceptions relate to three bird species: seagull (*Sula variegata*), wild pigeon (*Columbina cruziana*), and kestrel (*Falco sparverius*). As was the case with the other vertebrates, the remains of these species were quantified according to NISP (Table 9.5).

A reptile species (“cañan”, *Dicrodon guttulatum*) occupies fourth place in the total frequency of terrestrial vertebrate remains of Cerro Chepén Alto (figures 9.10 and 9.11). The cañan is a large edible desert lizard, which is still highly appreciated in the folk cuisine of some north coast towns like San Pedro de Lloc (Jequetepeque Valley), and Virú (Virú Valley). Cañanes feed on tender leaves and seeds of thorny brushes (*Acacia* sp.) and algarrobo trees (*Prosopis* sp.), and dwell in the dry forests and arid pampas where these plant species concentrate (Donnan 1978: 142). Currently, a small colony of cañanes occupies the northeast foothills of Chepén Hill, where there is a small arid extension that sustains isolated growths of thorny shrubs and trees.
The remaining sample of vertebrate bones is dominated by bird species of marine ecosystems. Their abundance represents additional proof of the strong marine orientation of the dietary preferences of the site’s occupants. Within the sample of sea birds, the cormorant (*Phalacrocorax bougainvilli*) is absolutely dominant (6.2% of total sample of the terrestrial vertebrate remains). The NISP count of this bird species was significantly increased by two unusual concentrations of 193 and 22 bones found at peripheral galleries of the Patio-group of Building IX. Seabirds are still a valued food source for north coast fishermen, and their consumption has also been documented at other Moche sites (Vásquez et al 2003: 50; Vásquez and Rosales 2004a: 364).

**Domesticated plants**

The sample of domesticated plants of the buildings with galleries of Cerro Chepén Alto comprises 12 species, five of which are fleshy fruits (avocado, lucuma, guanabana, pumpkin, and squash), three are legumes (common bean, lima bean, and peanut), one is a cereal (corn) and two are industrial crops (cotton and gourd). Table 9.6 summarizes the absolute and relative frequencies of identified taxa, both for the general botanical sample, as well as for the sub-samples of individual building-clusters. The plant remains were quantified according to the criterion of *number of botanical elements* (NBE), which gives any plant section (whether cobs or kernels, seeds or peduncles) the same weight in the quantification process.

The first significant result of the taxonomic identification of domesticated plant species is the determination of the coastal character of the botanical sample (Fig. 9.1).^9^

---

^9^ The only plant species for which I was not able to find specific information about altitudinal adaptation (see figure 9.1) was guanabana (*Annona muricata*). However, given that this species was widely consumed
All the identified species have also been recorded at other Moche sites of the era, though not necessarily in similar proportions. Regarding the Cerro Chepén Alto sample, I find remarkable the disparate distribution of botanical taxa between building clusters (Fig. 9.13). Curiously enough, Building IV, which yielded the lowest densities of animal food remains, has the highest concentrations of botanical elements. The density of plant remains in the significant deposits of this building is still, however, very low (only one element for each 10 liters of excavated sediments). I will outline a possible explanation for this anomaly below.

The only plant species that is represented in relatively large densities in both building sets is corn (*Zea maize*) (Fig. 9.13). Corn macro-botanical remains were represented by both cobs and kernels, which were commonly found charred. The cobs had a fragile structure (very long and narrow) that made the retrieval of intact specimens difficult (Fig. 9.3). Victor Vásquez and Teresa Rosales (2005a: 55, see also Gumerman 1994) concluded that the maize variety present at the site belonged to a “Proto-Alazan” or “Proto-Pagaladroga” race, which is a 8-to-16 rows corn type that was common in the north Peruvian coast during Moche times. We can infer that the most common use of this maize variety was chicha beer production, based on the identification of corn starch in one of the two large paicas that were found broken on the frontal patio of the Two-floor Gallery Group of Building IV (Vasquez and Rosales 2005b).

The most common plant species in the overall count of botanic remains is a tropical pumpkin (*Cucurbita moschata*) (Fig. 9.12). In all, we recovered 518 botanical elements of this species (compared to 469 of maize), mostly concentrated in Building IV.

by the Chimú (Pozorski and Pozorski 1997: 241), it is safe to infer that it was efficiently adapted to the coastal plains.
<table>
<thead>
<tr>
<th>Taxa</th>
<th>English name</th>
<th>Type and NBE</th>
<th>Type and NBE</th>
<th>NBE Total</th>
<th>NBE Percent</th>
<th>NBE Percent</th>
<th>NBE Percent</th>
<th>NBE per 1000 L</th>
<th>NBE per 1000 L</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Build. IV</td>
<td>Build. VIII-IX</td>
<td></td>
<td>Building IV</td>
<td>Build. VIII-IX</td>
<td>Total</td>
<td>Building IV</td>
<td>Build. VIII-IX</td>
</tr>
<tr>
<td><strong>Freshy fruits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persea americana</td>
<td>avocado</td>
<td>0</td>
<td>2 cotyledons</td>
<td>2</td>
<td>0</td>
<td>1.01</td>
<td>0.18</td>
<td>0</td>
<td>0.39</td>
</tr>
<tr>
<td>Lucuma obovata</td>
<td>lucuma</td>
<td>4 endocarp frag.</td>
<td>1 endocarp frag.</td>
<td>5</td>
<td>0.43</td>
<td>0.51</td>
<td>0.44</td>
<td>0.42</td>
<td>0.2</td>
</tr>
<tr>
<td>Annona muricata</td>
<td>guanabana</td>
<td>0</td>
<td>1 seed</td>
<td>1</td>
<td>0</td>
<td>0.51</td>
<td>0.09</td>
<td>0</td>
<td>0.2</td>
</tr>
<tr>
<td>Cucurbita maxima</td>
<td>squash</td>
<td>5 seeds &amp; 58 seed frag.</td>
<td>0</td>
<td>63</td>
<td>6.72</td>
<td>0</td>
<td>5.55</td>
<td>6.61</td>
<td>0</td>
</tr>
<tr>
<td>Cucurbita moschata</td>
<td>pumpkin</td>
<td>195 seeds &amp; 300 seed frag.</td>
<td>23 seeds</td>
<td>518</td>
<td>52.83</td>
<td>11.62</td>
<td>45.64</td>
<td>51.91</td>
<td>4.52</td>
</tr>
<tr>
<td>Cucurbita sp.</td>
<td>squash</td>
<td>3 seed frag. &amp; 1 peduncle</td>
<td>0</td>
<td>4</td>
<td>0.43</td>
<td>0</td>
<td>0.35</td>
<td>0.42</td>
<td>0</td>
</tr>
<tr>
<td><strong>Legumes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phaseolus lunatus</td>
<td>lima bean</td>
<td>2 cotyledons &amp; 3 seeds</td>
<td>0</td>
<td>5</td>
<td>0.53</td>
<td>0</td>
<td>0.44</td>
<td>0.52</td>
<td>0</td>
</tr>
<tr>
<td>Phaseolus vulgaris</td>
<td>common bean</td>
<td>2 seeds</td>
<td>0</td>
<td>2</td>
<td>0.21</td>
<td>0</td>
<td>0.18</td>
<td>0.21</td>
<td>0</td>
</tr>
<tr>
<td>Arachis hypogaea</td>
<td>peanut</td>
<td>15 pod frag.</td>
<td>0</td>
<td>15</td>
<td>1.6</td>
<td>0</td>
<td>1.32</td>
<td>1.57</td>
<td>0</td>
</tr>
<tr>
<td><strong>Grains</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zea mays</td>
<td>maize</td>
<td>204 kernels &amp; 15 pod frag.</td>
<td>138 kernels &amp; 1 cob frag.</td>
<td>469</td>
<td>35.22</td>
<td>70.2</td>
<td>41.32</td>
<td>34.61</td>
<td>27.33</td>
</tr>
<tr>
<td><strong>Others</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gossypium barbadense</td>
<td>cotton</td>
<td>3 seeds</td>
<td>32 seeds</td>
<td>35</td>
<td>0.32</td>
<td>16.16</td>
<td>3.06</td>
<td>0.31</td>
<td>6.29</td>
</tr>
<tr>
<td>Lagenaria siceraria</td>
<td>gourd</td>
<td>11 rind frag. &amp; 5 seeds</td>
<td>0</td>
<td>16</td>
<td>1.71</td>
<td>0</td>
<td>1.41</td>
<td>1.68</td>
<td>0</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>937</td>
<td>198</td>
<td>1135</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>98.27</td>
<td>38.93</td>
</tr>
</tbody>
</table>

_Table 9.6. Absolute and relative frequencies of botanical taxa found in the significant deposits of the buildings with galleries._
Figure 9.12. Relative frequencies of botanical taxa found in the significant deposits of the buildings with galleries.
Figure 9.13. Compared densities of botanical remains (NBE per 1000 liters of excavated sediment) from the significant deposits of the southern and northern building clusters.
I find it significant that, even though this species is also represented at other investigated Moche sites, in none of them does it dominate the local count of botanical elements. The *Cucurbita moschata* is distinguished for being a crop highly resistant to droughts (Andres 2004), and this quality may be responsible for its overall abundance at the site (see below).

The next two plant species in the order of popularity, although far behind the first two cultivars, are squash (*Cucurbita maxima*, represented by 63 botanical elements) and cotton (*Gossypium barbadense*, represented by 35 botanical elements). Both plants are typical of coastal environments. Cotton would have been particularly abundant in the Lower Jequetepeque Valley, as suggested by eyewitnesses’ accounts of the sixteenth century (Cieza de Leon 1995[1553]: 206; Huertas Vallejos 1987: 160). Cotton was not only valued for its textile applications, its seeds, which are the type of botanic evidence that allowed the identification of this species, were also appreciated for their medicinal properties (Vásquez and Rosales 2004b: 37). Ethno-historic documents also mention that cotton seeds, crushed and mixed with egg white, formed a gluing paste that was used to seal cracks in ceramic pots (Zevallos Quiñones 1991: 93).

The list of cultivated plants ends with an industrial plant (gourd), three legumes, and seed remains of three different fruit trees, all having a very low incidence in the local sample. In addition to the domesticated plants, we retrieved remains of four different wild species that must have been intentionally brought to the site. These species include algarrobo (*Prosopis pallida*), thorny brush (*Acacia sp.*), “caña brava” (*Gynernium sagittatum*), and “enea” (*Typha angustifolia*). All these species have constructive and/or industrial applications. As for the algarrobo remains, besides the presence of wood
splinters and a few manufactured artifacts (see below), we found 11 seeds concentrated in a peripheral midden of the Area of Irregular Architecture of Building IV. Given that these seeds are edible (Rostworowski 1981: 60), we can conclude that algarrobo trees were also exploited for food. Finally, a histological analysis conducted on a sample of small charcoal fragments recovered from the interior of roofed spaces of Building IX, revealed that Zapote wood (*Capparis angulata*) was the preferred fuel source used by the occupants of this structure (Vásquez and Rosales 2004b: 29).

The remains of wild plant species were, in general terms, very scarce. As stated above, the same trend was manifested by the botanical elements of cultivated plants, which seem to be underrepresented in the sample. The paucity of plant remains puzzles me, especially considering that the uppermost reaches of Chepén Hill offer excellent preservation conditions for perishable materials. One possible explanation for the dearth of vegetable remains is the aforementioned theory of singular discard and consumption patterns. For example, some plant parts that humans did not eat could have been given to domestic animals (guinea pigs, dogs, and llamas). It is also possible that humans themselves consumed most parts of the edible botanical products taken to the hill. In the case of *Cucurbita moschata*, for example, virtually all parts of the fruit are edible\(^\text{10}\), including the seeds that are said to have “a delightful, nutty flavor” (National Research Council 1989: 205). The few remains of this botanical species that we were able to retrieve from the buildings with galleries may be, therefore, a pale reflection of the true consumption levels of this product. Something similar could have happened with maize.

In his famous biography, Rigoberta Menchú mentioned that the Quiche Maya peasants of

---

\(^{10}\) The only non-edible part of the *Cucurbita moschata* fruit is the peduncle, which could have been discarded in the field during the harvest.
the Guatemala highlands commonly ate maize cobs during times of famine. These cobs were otherwise used to feed dogs during years of stable production (Burgos Debray 1983: 95). At Cerro Chepén, most discarded corn cobs could also have been used as fuel. In fact, most of the cob fragments that we recovered were carbonized.

A final explanation for the scarcity of plant remains that should be seriously considered refers to the potential damage inflicted by mice. The superficial garbage dump of Building IX’ Vestibule presents evidence that favors this argument. This context yielded the largest quantities of several food products that make up the local zooarchaeological sample, including mollusks (1,273 specimens, or 61.2% of this group), fish (518 specimens, or 46.3% of all fish remains), and llama (1,197 specimens, or 42.3% of all llama bones). However, when it came to plant remains, this context produced only one cob fragment and eight charred kernels. The scarcity of plant remains is noteworthy, especially considering that nearly 180 liters of sediment of this dump were directly processed through the 1 mm screen. In my opinion, the low incidence of vegetable remains in this case can be directly related to the presence of mice. The garbage dump of the Vestibule also yielded the largest concentration of rodent bones (337 specimens, or 56.2% of the rodent sample) found anywhere within the surveyed buildings.

There were, in sum, a series of factors that could have impinged negatively on the preservation of vegetable remains – special consumption patterns, special uses dedicated to non-edible plant parts, post-depositional damage inflicted by pests. These factors represent a major hindrance in any attempt to reconstruct ancient dietary preferences based on the direct identification of discarded food remains. I am aware that these same factors could have affected the preservation of vegetable evidence that may have
disclosed the existence of cultural contacts with the adjoining highlands. It should be stated, however, that the results of the paleoethnobotanical analysis are highly consistent with the zoorachaeological evidence – all pointing at a strong emphasis placed on the exploitation of resources that were native to the lower valley.

Conclusions

The analysis of the food remains discarded by the occupants of the buildings with galleries has allowed me to clarify three important research topics: a) the range and location of productive niches exploited, b) the socio-political organization of the valley during the Late Moche phase, and c) the possible existence of conditions of social and/or environmental crisis in the region during the studied period. The true significance of this information can only be assessed when contrasted with equivalent evidence retrieved at other Moche sites of the period. The results of the analysis of food waste also proves of vital importance in reconstructing the general conditions that pervaded in the valley on the eve of the Late Moche political collapse (see Chapter X).

First, the analysis has demonstrated that the occupants of the buildings with galleries based their subsistence on the exploitation of a series of ecological niches that were local to the lower valley. A very strong incidence of the consumption of sea resources has been found. The marine ecosystem alone was the source of almost 80% of the faunal species represented within the significant occupation layers of the buildings with galleries. In general, this ecosystem contributed 23 mollusk species, four crustacean species, 16 fish species, and four bird species to the sample of edible taxa. Regarding the evidence collected at contemporary Moche sites, a strong reliance on marine resources
has also been found at the site of Cerro Blanco (Váquez et al 2003, Vásquez and Rosales 2004a). At this site, marine fauna may have represented the main source of animal protein for the "urban" inhabitants (Vásquez et al 2003: 44). The contribution of marine resources to the diet of the residents of other extensive Moche residential sites, such as Pampa Grande and Galindo was, by contrast, not very significant (Lockard 2005, Table 7.7; Pozorski 1979: 176; Shimada and Shimada 1981: 45).

Another productive niche that was intensively exploited was the fertile agricultural lands that surround the hilltop emplacement. These fields were irrigated with water from the Serrano and possibly the Chepén canals (Chapter VI). In fact, all the botanical taxa that comprise our sample of domesticated plants could have been cultivated in the immediate hinterland of Cerro Chepén. The fertile lands that surround the site could have also been used as a breeding ground for llamas which, as stated above, apparently represented the main source of animal protein of the site’s inhabitants. The data collected at Cerro Chepén Alto adds, in this way, to the ever increasing evidence that suggests a coastal breeding of this large body-volume species now relegated to highland environments (Shimada and Shimada 1985; Vasquez et al 2003). The other domestic animals represented in the sample (guinea pigs and dogs) could have been bred within the confines of the site.

The paleoethnobotanical and zooarchaeological evidence indicates that other lower valley ecological niches were also exploited. These ecosystems include:

- Dry coastal forest (algarrobo products, deer).
- Riverine environments (Hypolobocera crab and cane stalks).
- Coastal wetlands (enea stems).
• Desert pampas (acacia and zapote wood, cañanes)

• Arid hills (land snails, foxes).

With the sole exception of the coastal wetlands, these ecosystems fall within a radius of 12 kilometers of the site (minimum distance to the Jequetepeque River), and were most probably directly exploited by the site’s residents.

Finally, I should reiterate that the study failed to detect botanical species adapted to highland niches. While this failure seems to contradict the argument of the highland origin of Cerro Chepén Alto’s elites, it may actually prove the contrary. As will be explained in the next chapter, the need to have access to the plentiful food resources of the lower valley may have been the main reason that fostered the highland invasion of the coastal environment. Within the context of widespread drought that pervaded in the Andean Area during the seventh century, the Lower Jequetepeque Valley may have looked like a last redoubt of lushness for local and non-local communities. Under this light, Cerro Chepén can not be seen as a collection point for resources coming in from distant sectors, but as a center that specialized in the exploitation of local food sources. I will expand on this argument in the final chapter of this dissertation.

The analysis of discarded food remains also revealed interesting information about the socio-political organization of the valley’s populations. This information refers specifically to the probable presence of independent parcialidades of fishermen that established complementary economic relations with agricultural communities. Despite lying more than 21 km away from the coast, Cerro Chepén presents an amazing variety of sea resources. As stated above, the same situation was mirrored at the southern Moche site of Cerro Blanco (Vásquez and Rosales 2004a). The Cerro Blanco case, nevertheless,
is explainable on the grounds that it constituted a central place that siphoned resources from a series of outlying dependent communities (Bilman 1996, 1999). One of these communities was, for example, the fishing village of “La Poza de Huanchaco”, located in the same Moche Valley (Barr Argomedo 1991, Donnan and Mackey 1978: 188-207). The situation of Cerro Chepén was different because, as already explained, during the Late Moche phase, the political landscape of the Lower Jequetepaque Valley was characterized by a condition of political factionalism (Dillehay 2001). Cerro Chepén was one among several agricultural settlements of the same rank that were politically and militarily confronted. The strong presence of marine resources at the site can only be explained based on the existence of exchange relationships established with local independent fishing communities that were eager to have access to agricultural products.

The existence of economically specialized fishing communities in the Jequetepaque Valley has been archaeologically demonstrated in the case of the Chimú occupation of Pacatnamú (Gumerman 1991:134). Ethno-historic documents also refer to the presence of an important fishing parcialidad centered at the coastal site of Chérrepe. In the year 1572, for example, this parcialidad was ruled by its own body of governors, which included a cacique and six subordinate “segundas personas” (Ramirez 1978: 87). The strong influence exerted by these authorities in the Spanish courts is evidenced by their successful appeal against the population relocation ordinance decreed by the Spanish Viceroy Francisco de Toledo (Ramirez 1978: 92). It is important to note that the central sites of these two communities – Pacatnamú and Chérrepe – report a Late Moche occupation.
The abundance of marine remains at Cerro Chepén would be the result of complementary economic relations established with local communities of fishermen. These communities managed the specialized technologies that were necessary to exploit the host of marine species that were consumed at the site. These communities may have also been responsible for providing resources of the “humedal” ecosystem that were valued for their industrial applications (Netherly 1977: 69, Rostworowski 1981: 26-27). Finally, it is possible (although far from being proven) that the fishermen also supplied the guano demanded by the agriculturalists. Whatever the variety of resources supplied, my impression is that contacts were established with the Chérrepe community. The road to Chérrepe does not cross the territory of potentially hostile irrigation groups. A significant northern detour may have been necessary, however, to evade the territorial domains of the San Ildefonso community, which was concentrated on the northern tip of the homonymous hill chain (Fig. 5.17).

A final interesting result of the analysis of organic remains, which is of particular relevance for the collapse investigation, refers to the disclosure of indirect evidence indicating the presence of deteriorating climatic conditions by the end of the Late Moche phase. This evidence is represented by the dominance of Cucurbita moschata remains in the local sample of domesticated plant species. This particular plant is capable of thriving in harsh environments, and is more tolerant to heat, insolation, and aridity than maize and other domesticated Cucurbita species (Andres 2004: 116). In my opinion, the preference for to this cultivar may have been an adaptive response to the drought conditions that set in during the seventh century (Thompson et al 1985, Table 1). Dorothy Menzel (1971: 90-91) wrote a concurrent interpretation for the increasing consumption trends of
Cucurbita moschata documented at the Nasca 7 site of Pampa de la Tinguiña, in the Ica Valley. In her opinion, this trend was a cultural response to the inception of a desertification process that was also manifested by changes in the local drainage pattern (Menzel 1971: 87).

If the great drought of the eight century was an event that affected the North Coast in general, we should find evidence of increasing consumption of Cucurbita moschata at other Moche sites of the time. Unfortunately, the available information remains inconclusive. The paleoethnobotanic analysis conducted at Pampa Grande revealed the presence of Cucurbita plants (Shimada and Shimada 1981), but the taxonomic identification was only limited to the genus level (Shimada 1994a: 184). Similarly, at the site of Cerro Blanco, Cucurbita remains were found to dominate the local list of cultivated plants, but a finer taxonomic identification was not established (Pozorski 1979, Table 2). New paleoethnobotanic analyses conducted at the “Zona Urbana Moche” have failed to identify Cucurbita moschata remains thus far (Victor Vásquez 2008, personal communication). Finally, at Galindo, Cucurbita moschata elements have been identified, but they hold a distant third place behind maize and peanut in the food preferences of the local Moche inhabitants (Lockard 2005, Table 7.10).

If drought was not the factor that prompted the cultivation of this plant at Cerro Chepén, there may be an alternative explanation for its abundance. This crop may have been favored because it offered the unique advantage of allowing sustainable harvests within the sheltered perimeter of the fortified site. In Chapter VI, I warned that not all the small terraces that spread throughout the slopes of Cerro Chepén Bajo may have served
residential purposes. Some terraces, especially those lying across the bottom of Quebrada El Gavilán, could have been used as planting surfaces. The implementation of planting areas within the site’s perimeter may have been favored by the latitudinal location of the valley. Given its relative proximity to the Equator, the Jequetepaque Valley has higher precipitation levels than its southern counterparts (Delavaud 1984, Table 3). As I observed in my regular visits to the valley, during the coastal summer, the region is occasionally hit by low density rains which tend to take place during the dawn hours. Rain water falling on the rocky slopes of the hill is filtered down to the bottom of ravines, where it remains trapped in underground pockets. These pockets may hold enough water to sustain the cultivation of plants with low water requirements and a short growing cycle, as is the case of C. moschata (Andres 2004: 116). And, if environmental conditions become too adverse to rely on natural precipitation, the local residents could have resorted to manual watering techniques to save their harvests.

**Human burials**

The buildings with galleries of Cerro Chepén Alto produced a small sample of four primary human burials, all confined to interior spaces of Buildings VIII and IX (figure 9.14). Even though the sample is too small to speak of a funerary pattern, three interments shared a series of diagnostic features that suggest participation in a common cultural tradition. Given that these features do not coincide with Moche funerary practices, these burials represent additional supportive evidence of the exogenous origin

---

11 We accidentally hit one of these underground water pockets on the uppermost reaches of Chepén Hill when we dug a vertical cut in the “Sala con Nichos” of Building IV. Interestingly, the deepest rocks of the basal fill layer of the structure were soaking wet even though it had not rained during the six weeks that we had been working at the site.
of the occupants of the buildings with galleries. A detailed description of the anomalous interments will help to clarify this issue.

**AU-03, Building IX: Burials 1 and 2**

The most unusual human burials found during the excavation of the buildings with galleries were located inside one of the two rooms in which the northern gallery of the Patio-group of Building IX is divided (Fig. 9.14). This room was singular for yielding no clear evidence of use, but a superficial garbage dump spreading above its occupation floor. This dump contained, besides a sample of diagnostic ceramics, large amounts of organic material (including the 193 cormorant bones mentioned in the previous section).

After removing the refuse layer, we noticed nine sealed pits on the floor’s surface. The two easternmost pits stood out for being of significant dimensions. We defined a 1.7-meter-wide excavation area at the eastern end of the room to probe the two largest pits and eventually reach the bedrock substratum. The excavation showed that the two pits held human remains, one belonging to a juvenile between 12 and 15 years of age (Burial 1) and the other to a young a woman between 18 and 21 years of age (Burial 2)\(^\text{12}\) (Fig. 9.15). Both bodies were found in an awkward sitting position. Decomposed textile remains found under the pelvic bones confirmed that the bodies were originally wrapped as mummy bundles. Both individuals were oriented toward the southeast, looking towards the central courtyard of the complex. None of the bodies showed evidence of cut marks or wrist wrappings, which could be indicative of human sacrifices (Verano 1998).

\(^\text{12}\) The sex and age determination, and the identification of disease, trauma, or abnormalities in the skeletal sample of Cerro Chepén, was conducted by Lizbeth Escudero, a physical anthropologist who graduated from the Universidad Nacional Mayor de San Marcos.
Figure 9.14. Architectural plans of Buildings VIII and IX showing the location of human burials.
Figure 9.15. Burials 1 and 2 of Architectural Unit 03, Building IX.
The two bodies were buried in separate pits. It was clear that both pits were dug from the upper surface of the internal floor down into the bedrock level. In fact, both bodies were found literally sitting on the bedrock. Each pit had a total depth of 90 cm, and required the extraction of large quantities of stones, gravel, and other materials that made up the initial fill layer of the structure. Once the funerary bundles were inside the pits, they were buried with the same materials. The room was used as a garbage dump some time after the interments were in place.

These burials had a few but very significant offerings. Inside the pit of Burial 1, buried just 10 cm below the floor level, we found 12 fragments of a ceramic bowl stacked against the demarcation wall of the gallery. The bowl was an escudilla of Fine Orange ware decorated with a central chevron band painted with dark organic paint (figure 8.17 b). A few centimeters below, placed at the level of the head of the individual, we found two small finely polished Spondylus plaques. Burial 2 presented a single offering – a similar Spondylus piece, also placed at the level of the woman’s head. Neither of the two bodies had any kind of personal ornaments (necklaces, bracelets, etc.) or additional offerings.

**AU-35, Building VIII: Burial 1**

A third human interment was found near the eastern end of the southern gallery of the Two-floor Gallery Group of Building VIII. As explained in Chapter VII, this architectural space evidenced a superposition of two occupation floors. The last occupation floor was very irregular, having being poured on top of an intermediate fill composed of rocks and gravel. This floor was significant because it yielded a dense
concentration of cultural refuse that contained the remnants of communal feasts that were probably held in the patio area.

The original floor of the gallery lay approximately 25 cm below the last occupation floor. This floor had a different character than the one above it. It had been carefully poured on a leveling layer of clean sand that was 30 cm in depth. The floor had a uniform thickness (about 10 cm) and was perfectly horizontal. Two additional features distinguished the basal floor from the upper occupation level. First, the floor was found almost free of cultural debris. Second, it had six oval-shaped depressions in its surface, the largest of which contained the burial of an infant between 4 and 6 years of age (Burial 1) (Fig. 9.16).

The body of the infant was lying on its back. The infant had been virtually encased into a very narrow elongated pit that barely reached 30 cm in depth. The pit had, therefore, almost the same depth of the foundation layer of the floor. The body was oriented towards the southeast. The head of the infant, however, was slightly raised and had its face looking to the northwest. In other words, as was the case of the individuals buried in Building IX, the infant had its face oriented towards the central courtyard of the complex. The infant also did not show any evidence of violence.

As for burial offerings, the infant had two small polished Spondylus plaques next to his feet, very similar to the ones found in the burials of Building IX. Outside the burial, we found an additional offering that may have been related to the burial. In the eastern corner of the gallery, we found a small quadrangular hole that contained a wooden paddle placed in upright position and, nailed vertically in front of it, a distal section of a juvenile llama femur. The upper part of the paddle reached nine cm above the floor surface. This
Figure 9.16. Burial 1 of Architectural Unit 35, Building VIII (redrawn from a field original by Belen Gómez de la Torre).
artifact was apparently a potter’s tool, and it is difficult to understand the symbolic connection between this object, the llama bone, and the infant burial. In any case, given that these two contexts were associated to the same occupation floor it is safe to conclude that they were directly related.

**AU-02, Building IX: Burial 1**

The last human interment of the sample was found inside the western gallery of the Patio-group of Building IX. As described in Chapter VII, this architectural space was classified as of “special character”, given that it contained two large *paica* imprints, small organic remains, and vessel fragments embedded on its floor (Fig. 7.37). This space was interpreted as a serving area where the people attending the feasts held in the nearby patio made constant entries to replenish their individual food and drink rations.

The burial found inside the western gallery corresponded to a child between 6 and 12 months of age (Fig. 9.17). This interment evidenced a singular treatment that suggested a different cultural origin. First, the interment lacked a formal pit. In other words, it was not dug from the interior of the gallery, but seemed to have been originally included in the fill layer below it. In fact, the body was accidentally found when we excavated an exploratory cut at the northwest end of the structure. The burial was found just 30 cm below the gallery’s floor, inserted in a shallow crack that pierced a massive rock formation that formed part of the original hill’s surface.

The presentation of the body was also unique. The child was found lying on its back, in an approximate northeast-southwest orientation (determined by the orientation of the crack). The head itself was oriented to the northeast. In other words, the individual
Figure 9.17. Burial 1 of Architectural Unit 02, Building IX (redrawn from a field original by Bárbara Carbajal).
was not oriented towards the central patio of the complex. Despite its early age, the individual presented a few associated artifacts that are consistent with Moche funerary practices. These offerings included a bent copper needle placed in its mouth and a small cotton string bracelet with four tubular bone beads in his right wrist. As was the case of the other interments, there was no evidence of violence.

Comments

The sample of human interments of Cerro Chepén Alto is too small to allow the recognition of a standard burial pattern. However, the three burials found associated with occupation floors share a series of characteristics that hint to the existence of a shared ideology. The material manifestation of this ideology shows several inconsistencies with the Moche funerary ritual, and suggests a non-coastal origin for these individuals.

The first significant abnormal feature of these burials is manifested in the sitting position of the individuals buried in the northern gallery of Building IX. This body position is alien to the standard Moche burial custom, which involves individuals stretched on their backs (Donnan 1995: 123). Even at Galindo, where several human interments with aberrant body positions have been reported (Bawden 1977: 365-69), the sitting position has not being documented. Funerary practices that involve the use of mummy bundles and/or individuals buried in a sitting position inside architectural spaces are common to Middle Horizon highland sites. These practices have been reported, for example, at several Huari sites (Isbell 2000: 29-34, Ochatoma and Cabrera 2001: 82 and 96; Zapata 1997), and even at sites of the Cajamarca area (Reichlen and Reichlen
1970[1949]: 473). In fact, this practice may be much more widespread in the mountains than evidenced by these few publications.

The infant buried in the southern gallery of Building VIII, which was found in a stretched position, may conform to a Moche funerary pattern. However, I think that this context is closely related to the two interments of mummy bundles of Building IX. Notable affinities between these burials include: a) the orientation of the body towards the central courtyard, b) the absence of personal ornaments and copper in the mouth, and c) the presence of small trapezoidal pieces of Spondylus shell. These small Spondylus offerings are of vital importance to understand the ideological background of the occupants of buildings with galleries. As will be described below, these offerings are usually represented at highland sites (mostly Huari-related). They are, on the other hand, remarkably absent at Moche sites (except for one notable exception to be explained below).

In my view, the extended position of the infant buried in Building VIII responded to practical requirements. The inhumation of a human body in a sitting position requires the excavation of a deep shaft. Within the context of the southern gallery, this excavation would have forced the mourners to remove the large stones that fill the frontal terrace of Building VIII. Given that the individual had a small body size; it was possible to bury him in a shallow pit. The excavation of this pit only required the extraction of a few shovels of soft sand from the foundation layer of the floor.

The case of the "aberrant" burial of the western gallery of Building IX remains to be explained. As already stated, this burial conforms to the standard Moche burial custom. In fact, similar stretched burials of children of less than one year of age that
include, as single offerings, a copper piece in the mouth and a small bead necklace or bracelet have been reported at Moche sites like Pacatnamú (Donnan and McClelland 1997: 35), Cerro Blanco (Bernier 2006: 207), and San José de Moro (Castillo 1999: 91, 98). The question that lingers is, does this unusual burial represent sufficient evidence to challenge the proposed non-Moche origin of the structure’s occupants?

The presence of this Moche burial is easily explained if we consider that it predates the completion of the structures. The interment lacked a formal pit. In other words, it was not excavated from the interior of the gallery. The child’s body was found inserted in a crack that ran through a large boulder that was originally visible on the surface of the hill. This interment indicates that Moche commoners were present in the area before the buildings with galleries were built. It is not clear, however, if this burial represents an isolated event, or if a more extensive burial ground exists in the area that was later occupied by the buildings with galleries.

A final topic that also needs to be discussed is the absence of human burials within the architectural units of Building IV. This structure did not report funerary evidence even though we placed 12 excavation areas in its interior, exposing a total surface of 134 m² of floor space. The total excavated area was slightly smaller than the one exposed in Buildings VIII and IX (154 m²), yet it covered a larger proportion of the building’s area (8.11% against 5.8% of the two southern buildings). It should be also noted that analogous spaces were excavated within both sets of structures (rooms and galleries flanking central courtyards).

I do not believe that the absence of burials in Building IV is due to functional factors. In other words, I do not think that Buildings VIII and IX were planned to have
both residential and mortuary functions, while Building IV was planned purely as a residential structure. Rather, the human interments in Buildings VIII and IX seem to have been circumstantial events that were not anticipated by the architects who built these structures. Moreover, if the rooms that contained human remains were specifically designed for burial, then I should have found the same evidence in the equivalent rooms excavated at Building IV. I think that the disparate uses dedicated to the interior spaces of the buildings of both clusters relates to slight discrepancies in ritual practices among the members of the two parcialidades that occupied the structures. For the southern parcialidad (Buildings VIII and IX) it was acceptable to bury young women and children within the periphery of the structures. For the northern parcialidad (Buildings IV and VI), indoor funerary practices were unacceptable.

**Small Spondylus offerings**

During the 2003 excavation season we found nine small Spondylus offerings in different contexts of the buildings with galleries. The finds concentrated in the southern building cluster, especially in Building IX, where seven such pieces were found. Building IV, on the other hand, did not have any similar pieces. The specific contexts of discovery of these curious Spondylus offerings were the following:

1. Two pieces associated with Burial 1, AU-03, Building IX.
2. A piece associated with Burial 2, AU-03, Building IX.
3. Two pieces associated with Burial 1, AU-35, Building VIII.
4. Four pieces found below the lateral bench of AU-14, Building IX.
These last four pieces were found grouped in the southeast corner of the southern gallery of the Patio-group of Building IX. The pieces were found lying on a floor section that had been covered by a lateral bench. The pieces represent, thus, an offering placed in the architecture before a structural remodeling was accomplished.

The Spondylus offerings are long trapezoidal pieces that have a maximum length of 3.9 cm and a maximum width that ranges between 0.9 and 1.7 cm (Fig. 9.18). These pieces were first cut from whole Spondylus shells, and later stripped off their dorsal spines and finely polished on all sides. None of the polished wedge-shaped pieces are pierced by holes, making it evident that they were not meant to be used as pendants. Finally, four pieces of the sample were created by cutting two pre-existing pieces that were unusually long (5.2 and 5.4 cm) roughly in half. In one case, the cut was facilitated by a previous incision, across the ventral side of one long piece. The practice of increasing the numbers of offertory pieces by cutting preexisting specimens in two may suggest that the occupants of Building IX were facing difficulties in the supply of these precious items.

The most interesting fact about these Spondylus pieces is that they represent the physical manifestation of a ritual behavior that was common among Middle Horizon highland sites, especially those related to the Huari sphere. Martha Anders (1986), for example, reported 23 pieces of this kind in the provincial Huari site of Azangaro, located in the Huanta Valley just 15 km from the imperial capital. Anders (1986:259) wrote that these pieces had dimensions that ranged between 7.0 to 5.4 cm in length and 1.7 to 0.5 cm in width. William Isbell (1977) also found similar pieces at the site of Jargampata, a small Huari farming settlement located in close proximity to the imperial capital. Isbell
found a total of 13 specimens that he described as "long trapezoids" whose "final form resembles a small adze blade 4 to 8 cm long and about 4 to 2.5 cm wide" (Isbell 1977: 121). Finally, José Ochatoma and Martha Cabrera (2001) found the same offerings at the rural site of Aqo Wayqo, also located in the immediate hinterland of the urban center of Huari. They found 12 specimens with dimensions ranging between 4.5 and 7.5 cm in length and 1 and 2 cm in width (Ochatoma and Cabrera 2001: 99). These authors provided valuable information about the contextual provenience of these specimens. The twelve pieces were found buried in a corner of a patio that contained dispersed offerings of pottery pieces and sacrificed animals (llamas, guinea pigs). The Spondylus offerings
were apparently related to a human interment that was placed in a room that flanked the patio very close to the spot where the Spondylus offering were buried (Ochatoma and Cabrera 2001: 77-78).

Finally, of particular interest to my research is the fact that similar Spondylus pieces have also been reported in the area of Huamachuco. In 1900, the German scientist Max Uhle visited Huamachuco and conducted excavations at several sites in the region. He focused his activities at the site of Cerro Amaru, where he spent one week draining one of the three pre-Hispanic artificial water wells that stand on the highest terrace of the site (J. Topic and Topic 2000: 197). Max Uhle discovered that the well had a ritual character. From the muddy bottom of the structure he recovered tens of thousands of small stone and shell beads. The offerings also included "ninety larger fragments of Spondylus shell, mostly in the form of narrow rectangular plaques" (McCown 1945: 305).

The findings made at Cerro Amaru and Aqo Wayqo, among other highland sites, confirm that the trapezoidal Spondylus plaques had an offertory character. The contextual evidence of the Cerro Chepén pieces suggests a similar function. One significant aspect about this ritual practice is that it was not shared by the occupants of contemporary coastal sites. With one single exception, these pieces are conspicuously absent from Moche sites.

The only Moche site that has reported similar Spondylus pieces is Pampa Grande. Here, the local sample of polished Spondylus trapezoids comes from a single location: the central huaca of the site. Jonathan Haas (1985) found two offering pits in the access ramp to the room complex that occupies the summit of Huaca Fortaleza. One pit
contained a few child bones, an immature llama skeleton, a few stone and shell beads, and 46 trapezoidal pieces of Spondylus similar to the ones described in this section. The second pit contained 35 stone beads and 52 Spondylus pieces identical to the ones of the neighboring pit (Haas 1985: 404). Haas claims that the trapezoidal Spondylus pieces that he found atop Huaca Fortaleza were necklace pendants, but he never specified if they were actually perforated.\footnote{The highland and the Cerro Chepén Spondylus plaques do not bear perforations.}

Pampa Grande is also important because it is the only known site that has provided indisputable evidence of local manufacture of Spondylus plaques. Izumi Shimada located a Spondylus workshop next to a small huaca (Huaca 11), which yielded 32 complete Spondylus shells and several trapezoidal pieces that were partially worked (Shimada 1994a: 215, Shimada and Shimada 1981: 57). The half-worked Spondylus pieces are surprisingly similar to the trapezoidal pendants found by Haas atop Huaca Fortaleza (see Shimada 1994a, Figure 8.36). Based on the discovery of this workshop, the relative abundance of Spondylus shells at Pampa Grande, and the relative scarcity of this material at other Moche sites, Shimada (1994a: 238-39) postulated that Pampa Grande constituted the main supplier of Spondylus shells in the Andean Area during the Middle Horizon. During this time, the mounting foreign demand for this marine species may have been due to a combination of two factors: a) the spread of a cult that granted Spondylus shells the magical faculty of ensuring abundance of water, and b) the onset of severe drought episodes in the Andean Area (ibid).

It is not critical for this investigation whether or not Pampa Grande was the supply center of the trapezoidal Spondylus plaques found at Cerro Chepén Alto. The important thing is that the trapezoidal pieces found at Cerro Chepén Alto relate its
inhabitants with an offering behavior that was wide-spread among highland populations. This behavior, on the other hand, was not favored in coastal sites. Even at Pampa Grande, the two Spondylus offerings found atop Huaca Fortaleza represented isolated events. If these pieces were the material manifestation of a cult that gained wide acceptance at the site, similar offerings should have been found at other excavated sacred precincts of the settlement. This was obviously not the case. The small trapezoidal Spondylus plaques represent, therefore, additional evidence that supports the highland origin of the occupants of the buildings with galleries.

**Wooden artifacts**

The dry environment of Chepén Hill’s summit favored the preservation of a small set of wooden artifacts in the archaeological deposits of the buildings with galleries. The sample includes a total of 13 artifacts, eleven of which are spindle sticks (although only one is complete), one is a spoon, and one a potter’s paddle. The vast majority of artifacts were recovered from the sequential refuse layers of the two-story gallery of Building IV. The wooden paddle was found in the southern gallery of the Two-floor Gallery Group of Building VIII. Finally, the only complete spindle stick of the sample was found inside the elongated room of Building IV’s Patio-group. While these artifacts provide no information on the cultural origins of the occupants of buildings with galleries, they are useful in understanding some of the activities that took place within the structures.

The only complete spindle stick was found in the refuse dump that accumulated on the inferior floor of the elongated room of the Patio-group of Building IV (figure 7.19, upper register). The stick is 23.5 cm long and has one pointed end. Its thickness increases
gradually from the pointed tip (1.5 mm) to about 5 cm from the distal end (4.5 mm), which is rounded (Fig. 9.19). All the additional spindle stick fragments of the sample conform to this general form. The presence of spindle sticks in Building IV indicates that yarn production activities were developed inside this structure. This evidence may also suggest the presence of women. The absence of these devices in Buildings VIII and IX does not necessarily imply that textile production activities were not conducted in these settings. These buildings produced an additional type of element – spindle whorls – that were also used in yarn spinning activities (see below).

The wooden paddle was part of a small offering found in the southeast corner of the southern gallery of the Two-floor Gallery Group of Building VIII. The paddle has a total length of 19.5 cm (the handle is 8 cm in length), a width of 10.5 cm, and is slightly thicker at the center (4.2 cm) than at its margins (2.5 cm) (Fig. 9.19). The artifact was made of algarrobo wood and is fairly heavy. The paddle seems to be an instrument used by potters to finish ceramic vessels. Even though I do not have direct evidence to confirm this assumption, the artifact is surprisingly similar in form to potting tools used by modern craftsmen in the north coast (see Shimada 1994c, Fig 6). This device represents, therefore, an additional piece of evidence that confirms that pottery production activities were conducted at Cerro Chepén Alto, although not necessarily in the area where the artifact was found.

14 Ethnohistoric texts indicate that textile production, especially the processing of yarn thread, was an activity traditionally conducted by women in the north Peruvian coast (see, for example, Huertas Vallejos 1987: 73, 92; Netherly 1977: 249). Archaeological and iconographic evidence suggest that this may also have been the case during Moche times. First, Moche female interments generally include spindle whorls as offerings (see, for example, Donnan and McClelland 1997: 36). Second, there is a famous Moche flaring bowl on display in the British Museum that depicts a fine line scene of women working in a textile workshop (Donnan 1978, Fig. 103).
15 The other evidence of pottery production is represented by a bone awl found in the Area of Irregular Architecture of Building IV, and by several mold fragments found in different settings.
Figure 9.19. Wooden artifacts from Cerro Chepén Alto: (a) potter’s paddle, (b) spindle stick, and (c) spoon.
Finally, the wooden spoon was found, together with most spindle stick fragments, in the sequential refuse layers of the two-floor gallery of Building IV. The spoon has a striking modern appearance, and has its distal end (the eating end) broken off. While this artifact does not prove the existence of any unusual activity at the site, it discloses the special food consumption practices of elite members (commoners apparently ate with their hands).

**Small artifacts used in textile production**

The excavation of the buildings with galleries also produced a sample of 10 small artifacts used in yarn thread production (spindle whorls). Eight were made of fired clay and two of stone (Fig. 9.20). The spindle whorls commonly have a sharp central angle with their upper surfaces decorated with incisions. As will be explained below, besides providing information about manufacturing activities, the spindle whorls of the buildings with galleries may disclose a special type of power prerogative exercised by the leaders of Cerro Chepén Alto.

The spindle whorls of Cerro Chepén Alto provide direct evidence of activities related to yarn thread production within the constructed space of the buildings with galleries. In fact, eight specimens of the sample were retrieved from significant occupation contexts. These activities not only took place within the confines of Building IV (as evidenced by the presence of spindle sticks), but were also conducted within the structures of the southern parcialidad. In fact, six specimens were found in Buildings VIII and IX (four within significant deposits). The spindle whorls also suggest the presence of women in these buildings.
Figure 9.20. Spindle whorls from Cerro Chepén Alto: black ware whorls (upper row), red ware whorls (middle row), and stone whorls (bottom row).
The most significant information provided by these objects relates to their particular style. All the spindle whorls of the sample are of a typical Moche style. In fact, specimens identical in shape and decoration have been found at the site of Cerro Blanco (Armas et al 2006, Fig 90; Tello et al 2004, Fig 281). At the beginning, this evidence caused a great deal of confusion, given that it seemed to contradict the argument of the highland origin of the Cerro Chepén Alto elites. I could not find a logical explanation to the apparent slip-up of highland women of having forgotten to bring their spinning implements to the coastal site. Unlike the ceramic vessels, which may be bulky and difficult to transport, spindle whorls are small and light, and could have been easily fit into small personal bags.

The solution to this dilemma was found in information provided by early Spanish administrative documents. During his 1566-1567 official visit to the Peruvian north coast, the Spanish overseer, Gregorio Gonzales de Cuenca, recorded some unusual benefits granted to the local curacas (Netherly 1977). In addition to having access to the agricultural labor of their subjects, these prominent individuals were commonly assigned a group of young men and women to conduct domestic activities at their residences. The most important function assigned to the female servants related to textile production (Netherly 1977: 230-231).

In sum, the Moche-style spindle whorls of Cerro Chepén Alto may be evidence of a small group of local servants who were assigned to the buildings with galleries to conduct domestic activities. As was the case with the large sample of domestic pottery, the spindle whorls represent proof of the tribute extractions exerted by the foreign masters on the local Moche populations. The particular style of these spinning
instruments, which initially seemed to conflict with the proposed foreign origin of the elites, evidenced a special type of domination strategy implemented by the foreign elites.

**Metal artifacts**

For archaeologists working in the Andean region, metal artifacts represent an indispensable medium to determine the ideological formulations of ancient complex societies. Due to their attractive character, and the difficulties inherent in their manufacture, metal artifacts were commonly used by ancient Andean leaders to convey messages about status, wealth, political power, and religious beliefs (Lechtman 1984: 9). The signaling properties of metal objects were avidly exploited by the Moche, who are not only renown for having produced large quantities of these objects, but also for having developed highly sophisticated pyro-metallurgical techniques. The Moche commonly used metal artifacts to portray images related to their complex belief system. Interestingly, this propensity not only found expression in the sumptuary items made of precious metals that were dedicated to the burials of the most prominent individuals of this society (see, for instance, Alva and Donnan 1993). Ritual imagery is also commonly depicted in simpler copper devices that are often found in less conspicuous interments and even in elite residential contexts (Esquerre et al 2000, Fig 144). Therefore, an analysis of the processes of materialization of ideology that affected the material culture of a north coast site can not ignore such evidence. Unfortunately, in the specific case of the buildings with galleries of Cerro Chepén Alto, the available sample of metal artifacts does not have significant informative potential.
In addition to the few production debris described in Chapter VII, the buildings with galleries of Cerro Chepén Alto yielded a sample of 10 finished metal artifacts. All these artifacts were found circumscribed within significant occupation contexts. These artifacts can be organized into two groups based on their functional properties: a) metal ornaments, and b) metal tools.

The group of metal ornaments is made up of three objects. Two are silver sheet pendants, and the third is a solid lead bead (Fig. 9.21). The pendants have perfectly circular and square forms, and have little holes drilled in one of their margins, possibly for sewing these objects onto textile garments. The lead bead is a tear-shaped, solid object that is pierced by a fairly large central perforation. Both this object and the square sheet pendant were found on the superficial garbage dump of the southern gallery of the Two-floor Gallery Group of Building VIII. The circular sheet pendant was one of the few objects found within the southern housing unit of the Patio-group of Building IX. While these ornaments show no distinctive stylistic features that would facilitate a cultural identification, they are potentially useful to establish connections with the "Paredones" mine, located in the Middle Jequetepeque Valley. This mine, famous for its silver ores, is also known to produce other metals, among them lead (ONERN 1988: 49).

Seven finished metal artifacts have been classified as "tools." Unlike the ornaments, they were all made of copper. One of these objects is a 10.5 cm long needle-like instrument that has one end shaped in the form of a small concave basin (Fig. 9.22 a). The object was found in an “intermediate fill” layer of the Area of Irregular Architecture of Building IV. The device looks like the thin spatulas that are used by traditional Andean

---

16 In my opinion, this ornament would have belonged to the original occupant of this housing unit, who lost it due to the astounding darkness of the room.
Figure 9.21. Metal ornaments from the buildings with galleries.

Figure 9.22. Metal tools from the buildings with galleries: (a) pointed instrument with spoon-like termination, (b) same as above but badly corroded, (c) copper rod with cotton thread, (d) spear-thrower engaging spur, (e) fishing hook, (f) copper needle, and (g) bent copper needle.
peasants to extract lime from *caleros* when engaging in coca chewing activities. A second device similar to the previous one, but severely damaged by corrosion, was found in the sequential refuse layers of the two-floor gallery of Building IV (Fig. 9.22 b). This context also yielded another elongated copper object, this time with a blunt tip. This implement still had a cotton thread rolled along its perimeter, and may have been used in yarn spinning activities (Fig. 9.22 c).

The most interesting specimen of the metal tools was found on the thin above-floor refuse layer that accumulated on the depressed area of the rear gallery of the Interconnected Rooms, Building IV. This object is a solid, cast copper artifact that resembles a small football set on a wedge-like pedestal (Fig. 9.22 d). This object represents, in my opinion, a spear-thrower engaging spur. The object was found in perfect working condition, and may have been inadvertently lost by the former occupant of the gallery due to the darkness that prevailed in this area.

Finally, the remaining components of the metal tool sample are small artifacts, all found confined within the archaeological deposits of Building IX. They include a 3.5 cm long needle with a perforated end, a thick flat copper wire bent in the form of a fishing hook (both retrieved from the garbage dump of the Vestibule), and a 7 cm long needle that was found bent and placed in the mouth of the child buried in the western gallery of the Patio-group.

In conclusion, the small sample of metal artifacts recovered in the buildings with galleries is stylistically neutral, and therefore does not allow establishing positive cultural identifications. At most, the three objects that make up our ornaments sample could serve to draw possible connections with the Paredones mine (pending metallographic

---

These objects may also be simple copper pins.
comparisons). A device that does not belong to the excavated sample, but was found during our superficial surveys of the site, is the only metal object recovered that may hint of foreign connections. This incomplete artifact is the oval head of a silver *tupu* pin (Fig. 9.23). This object was recovered from a superficial dump located on a small hilltop structure that dominates a small set of terraces spreading south of Building VI.

![Figure 9.23. Silver tupu head found in a superficial midden of Cerro Chepén Alto.](image)

*Tupu* pins were commonly used by highland women to fasten small cloak-like garments that they carried on their backs. *Tupu* pins similar to the one collected at Cerro Chepén Alto have been found in Middle Horizon residential context and burials of highland sites, including Cerro Amaru (T. Topic and Topic 1984) and several Huari settlements (Anders 1986: 247, Isbell 2000: 29-34, Ochatoma and Cabrera 2001: 113).
Marks scratched on the surface of ceramic vessels

Twenty-two pottery fragments recovered from the occupation layers of the buildings with galleries showed a strange pattern of post-firing marks scratched on their surface (Figs. 9.24 and 9.25). The marks were not just random scratches, but formed finite designs that often appeared repeated in several different sherds. These designs, however, do not seem to have a decorative intent for three basic reasons:

a) The designs were executed quickly and with neglect. In fact, their roughness contrasts sharply with the care with which the painted and pre-firing incised designs were executed on most fine ware pots.

b) Unlike the painted and pre-firing incised designs, the post-firing marks do not form coherent decoration patterns.

c) As noted by Disselhoff (1958b: 189), these scratches sometimes ruin the underlying painted decoration of the vessels.

These marks manifest other recurrent patterns that may hint at their original intent. These marks tend to appear in fine ware vessels (19 of 22 examples). Most are concentrated in pots of the Fine Black ware (11 cases) and of the Cajamarca Cursive ware (five cases). Similar marks have also been detected in other pottery wares, including the Moche Domestic (three cases), Cajamarca Red-on-Buff (two cases), and Fine Orange (one case). So far, I have not been able to detect these marks in Late Moche fine ware sherds (whether pots decorated with fine line motifs or other types of Moche sumptuary vessels), nor on specimens of the Cajamarca Coarse Red ware.

18 Specific characteristics of the paste, decoration and form of these sherds lead me to conclude that they belonged to 22 different vessels.
Figure 9.24. Post-firing marks scratched on the surface of ceramic vessels from Building IV.
Figure 9.25. Post-firing marks scratched on the surface of ceramic vessels from Buildings VIII and IX.
Another interesting aspect about these marks is that they generally appear on open vessels (mainly escudillas and ring-base bowls) (19 of 22 cases). As evidenced by vessels that could be reconstructed to a large degree, generally each vessel bore one single mark. The only exceptions to this rule were detected on a Cajamarca Cursive bowl of unusual dimensions (orifice diameter of 34 cm) that had three marks scratched on its exterior surface (figure 9.25, bottom right), and a black ware “shuttlecock” cup, that had two chevron designs scratched on opposite sides of its basal container. On all other open vessels, the marks showed some recurrent patterns in their location. Most marks were placed on the interior bottom (10 cases) or exterior bottom (two cases) of bowls. Four bowls present these signs on their exterior rim (three were black ware escudillas and one a Cajamarca Red-on Buff bowl). Finally, two additional open vessels of the Fine Black ware presented imitations of the scratched marks executed with shallow incisions executed on leather-hard clay. This evidence indicates that the potters were aware of the singular treatment that was going to be dedicated to some of their products when manufacturing them.

Setting aside the specific meaning that these singular marks may have held, I decided to include them in this chapter because they have important information that can help solve several key issues of the investigation. First and foremost, these marks associate the occupation of Cerro Chepén Alto with non-Moche Middle Horizon

---

19 The three vessels with constricted body that bore these marks belonged to the Late Moche domestic group.
20 The interior bottom location of the scratches was the preferred one for Cajamarca Cursive bowls (four of five cases). The only two vessels with scratched designs placed on the exterior bottom were Fine Black ware ring-base bowls.
21 I believe that these marks had ritual connotations for two reasons. First, contextual information recovered at other Middle Horizon Andean sites that have yielded whole fancy vessels with similar scratches on their surfaces evidenced a strict association between the scratched specimens and funerary rituals (see Bernuy and Bernal 2005: 71, Villacorta and Tosso 2000: 83, Topic and Topic 1984). Second, we should not forget that all the vessels that present these scratches were used as carriers of ideological messages.
traditions of both the highlands and coastal lowlands of Peru. The marks also provide supplementary information that confirms the premise that two different parcialidades occupied the buildings with galleries of Cerro Chepén Alto. Finally, a few designs of the sample offer us the possibility of identifying the highland sites and/or region where the elites from Cerro Chepén Alto may have originated.

A special fact that underscores the significance of the post-firing scratched marks is that they represent material evidence of a ritual behavior that was totally alien to the Moche tradition, but common among Andean regional formations that had close links with the Huari culture (Fig. 9.26). In fact, these marks have been documented at several sites of the Huari core area. Martha Anders (1986: 456) detected marked sherds at the site of Azangaro, interpreting the scratches as the product of "casual doodling". Other Ayacucho sites that have reported this evidence include Aqo Wayqo (Ochatoma and Cabrera 2001: 164) and even the imperial capital (Cook 1996: 167). Finally, a scratched bowl was also found at the Huari provincial center of Jincamocco (Schreiber 1992: 241).

My impression is that these marks should be much more widespread on sites of the Huari culture, but archaeologists who have investigated their ceramic repertoires have tended to ignore this evidence, interpreting it as casual events or as simple potter’s marks (Pozzi-Escot et al 1994: 291).

Marks of similar character have also been documented at central coast sites that are known to have maintained close links with the Huari tradition. Such marks are, for example, relatively common among vessels of the Teatino style (Villacorta and Tosso 2000: 85, Table 5). Many of these vessels have been recovered at the cemetery of Ancon. Here, similar scratches were made on vessels of different wares, including a Fine Black
Figure 9.26. Examples of Middle Horizon pottery vessels bearing post-firing scratched marks on their surfaces: (a) black ware escudilla, Cerro Amaru, Huamachuco, (b) Huamanga-style escudilla, Aqo Wayqo, Ayacucho, and (c) Teatino-style bottle, Ancón. Redrawn from Topic and Topic 1984, Fig. 6e; Ochatoma and Cabrera 2001: 164; and Villacorta and Tosso 2000, Fig. 1.
ware effigy-neck jar very similar to the ones found at Cerro Chepén Alto (Menzel 1977 Fig. 109A). The coastal dispersal of this curious behavior is not restricted to the Central Coast. At San José de Moro, Hans Dietrich Disselhoff (1958b) expressed astonishment when finding several fragments and complete vessels of the “Cajamarca Costeño” style bearing these incisions. In fact, vessels of the other sub-styles that make up the “Transicional” ceramic component of this site also bear these curious marks (Bernuy and Bernal 2005: 71, Rucabado and Castillo 2003: 37). Finally, of particular relevance to this research, post-firing marks are also present in Amaru Phase vessels of the area of Huamachuco (T. Topic and Topic 1984).

The marks scratched on fine elite ceramic vessels represent a phenomenon too widely distributed and with too high a temporal resolution to be considered simple random events. If these signs were the product of improvised behavior, we should expect them to occur on sumptuary vessels of other cultural traditions such as, for example, the Moche. In my opinion, these scratches are the material manifestation of a specific ritual behavior that was possibly initiated by the Huari. This behavior was later adopted by regional groups that assimilated ideological tenets of the Ayacucho tradition. One of these groups was based in the highlands of Huamachuco. The post-firing incisions represent, just like the Spondylus offerings described earlier, material remnants of ritual practices that did not originate in the Lower Jequetepeque Valley, or in the north coast in general.

The post-firing scratches also represent supporting evidence for the proposed social division of the groups that occupied the buildings with galleries. If we trace the spatial dispersion of specific signs, we will notice discordant distribution patterns among
building clusters. Buildings VIII and IX, for instance, have a significant predominance of the “chevron band” design (2 possible and 6 definitive cases out of 14 marked vessels) (Fig. 9.25). Even the black bowl that bore a pre-firing incised imitation of the scratched chevron band design was found in this building block. This information is highly significant given that the Fine Orange escudillas painted with chevron bands were also spatially restricted to this cluster.

A sign that looks like a simple “X” has the second level of popularity in the southern building cluster (4 out of 14 vessels). At Building IV, on the other hand, although single occurrences of the “X” and “chevron band” designs have been reported, the local sample of scratched marks is dominated by a sign that looks like a rectangle that has one or more internal divisions (2 possible and 4 definitive cases out of eight vessels) (Fig. 9.24). The discordant distribution patterns of scratched designs among building clusters suggests that the marks bore different symbolic significance to the members of the two parcialidades. In other words, they could have represented emblems of their social ascription. Interestingly, Brewster-Wray (1992, cited in Cook 1996: 167) has written a concurrent interpretation for the scratched marks present on Huari pots, suggesting that they may have represented owner’s marks.

Finally, the post-firing marks can also be used to trace the place of origin of the foreign groups that moved into Cerro Chepén Alto. In 1983, John and Theresa L. Topic (1984) excavated a mausoleum at the site of Cerro Amaru in which they found an intact tomb containing over forty vessels. Many of these pieces bore non-decorative, post-firing incisions very similar to the ones described in this section. Based on the scant information provided by the authors, a simple “X” sign seems to dominate the repertoire
of scratched designs (T. Topic and Topic 1984: 18, 26, 36). Even though I must admit that such a simple design could have been created independently by two unrelated groups, I find this coincidence highly stimulating, especially considering that several of the most representative fine ware vessels of Cerro Chepén Alto have direct stylistic counterparts in the ceramic collections of Huamachuco.

A second highland site holds evidence that serves to establish more direct connections with Cerro Chepén Alto. This site is Tantarica, a 24 ha settlement that spreads along the slopes of a highland peak that dominates the middle section of the Jequetpeque Valley. Even though Tantarica is mostly known for its Inca occupation, the site has also yielded Early Cajamarca ceramics on its surface, suggesting that some of its several architectural clusters may have a much earlier origin (Watanabe 2002: 128). Japanese researcher, Shinya Watanabe, excavated the site between 1999 and 2000, and found ceramic fragments bearing post-firing marks scratched on their surface. According to Watanabe (2005, personal communication) all marks reproduce the same “chevron band” design.

The “chevron band” design is too elaborate to allow for a case of independent invention. Tantarica may hold, therefore, the key to understanding the events that transpired at Cerro Chepén Alto on the eve of the Moche collapse. This site, which possibly formed part of the Marchahuamachuco interaction sphere at some point of its occupation history, may have been one of the major donor centers of the human groups that moved into Cerro Chepén. The role played by Tantarica, and other possible

---

22 Exact counts of the marked vessels and an assessment of the variety and popularity of different scratched designs has not, however, been provided.
Marcahuamachuco outliers of the Jequetepeque area, in the collapse of the regional Moche political formations will be discussed in the final chapter of this dissertation.

**Conclusions**

In this chapter, I have reviewed seven different types of evidence that, in addition to architectural style and fine ceramics style, may provide valuable information about the cultural affiliation of the elites who occupied the heights of Cerro Chepén Alto. Some of these material manifestations provide additional support to the argument that proposes an exogenous origin for the leaders of the site. Such is the case of funerary contexts, small Spondylus offerings, and post-firing incisions scratched on the surface of pottery vessels. All this evidence represents physical manifestations of ritual behaviors that were widespread among highland populations but were, on the other hand, strange to coastal Moche dwellers. The post-firing scratched marks bear a special significance in my attempt to establish a cultural identification, because they allow drawing direct connections with highland sites that may have formed part of the Marcahuamachuco interaction sphere. In my opinion, these supplementary lines of information, coupled with the architectural and fine ceramics data, make a strong case for the foreign origin of the occupants of the buildings with galleries. If I decide to ignore this information, and insist on the Moche cultural ascription of these notable personages, I should be prepared to acknowledge what might have been the most radical case of ideological transformation ever experienced by any pre-Hispanic Andean elite group.

Other lines of material evidence hint at the special strategies that the intruding elites implemented to exploit the natural and human resources of the area. Discarded food
remains indicate a strong incidence on the exploitation of ecosystems that were local to
the lower valley environment. While this trend has also been documented at other north
coast population centers of the time, such as Pampa Grande and Galindo, Cerro Chepén is
unique for the high emphasis placed on the exploitation of marine resources. In fact, this
incidence makes the site stand on equal ground with the great population center of Cerro
Blanco, which some authors believe was the "capital" of a southern Moche "state".

Cerro Chepén Alto was not, however, a regional capital. The abundance of marine
resources at the site can be accounted for by cultural circumstances that were unique to
the Lower Jequetepeque Valley. An example would be the existence of independent
fishing parcialidades centered at the sites Pacatnamú and, especially, Chérrepe. I think,
however, that this abundance may also be due to the fact that the Cerro Chepén Alto was
conceived as a major extraction center for lower valley products. Part of the foodstuffs
collected at the site may have been channeled up to the highland places where the
governors of Cerro Chepén Alto originated. The transported goods may have not only
included agricultural products, which are resistant to decomposition, but also marine
products. María Rostworowski (1981) has noted the wide dissemination that fish
preservation techniques achieved among Peruvian fishing populations of the sixteenth
and seventeenth centuries. According to this author, these preservation techniques were
applied specifically to create a product that could be used to conduct exchanges with
highland populations (Rostworowski 1981: 90). I think that even marine mollusks, kept
alive in their shells and transported in ceramic containers filled with sea water, could
have sustained a multi-day transport. Future excavations of sites of the Jequetepeque
highlands may serve to prove or disprove the existence of the alleged supply lines of coastal products.

Additional evidence reviewed in this chapter offered information on the special privileges enjoyed by the occupants of buildings with galleries. The wooden spindles and spindle whorls retrieved from occupation contexts of the structures betray the presence of women engaged in textile work. The Late Moche style of the latter suggests that these women were of coastal origin. This curious evidence, which apparently contradicts the proposed highland origin of the local elites, is easily resolved by resorting to ethno-historic information. Spanish official documents of the sixteenth century indicate that the great lords of north coast polities were commonly granted personal teams of servants, whose females were devoted mainly to textile activities (Netherly 1977). The spindle whorls and wooden spindles found at the structures may be interpreted as evidence of a special tribute policy that the foreign elites imposed on the local Moche population. While this special tribute quota would have had a negligible effect on the commoner mass, other impositions mentioned in previous chapters – like the provision of pottery containers, the participation in construction works, the maintenance of defensive posts and, of course, agricultural work – would have represented onerous burdens. It is clear that the new regents of Cerro Chepén Alto were demanding high energy investments of their newly gained subjects. This augmented work load could have negatively affected their popularity.

Finally, an interesting result drawn from the analysis of macrobotanical remains refers to the possible existence of conditions of environmental and/or social degradation affecting the site’s occupation. This result is derived from the dominant position that
Cucurbita moschata remains hold in the local sample of consumed plant species. Earlier I mentioned that this domesticated plant is distinguished by its ability to thrive in harsh environments, including those affected by severe water shortages. One fact that singularizes Cerro Chepén Alto from other contemporary Moche sites is the high incidence of this plant in the record of consumed vegetable foods. This popularity may be a pale reflection of past consumption trends, given that virtually all parts of the Cucurbit fruit are edible. In this study, I proposed that the marked preference for this food source may be due to two processes: a) drought conditions affecting the north coast, and b) the unique advantage of being able to raise sustainable crops within the walled perimeter of the site. The imperfect character of the evidence supporting the first alternative makes me lean towards the second alternative. The extreme measures taken to protect the productive niches of the site are can be interpreted as a direct indicator the hostile political climate that prevailed in the region during the studied period.
CHAPTER X

CONCLUSIONS

In previous chapters, I addressed the issue of the Moche political organization in the Lower Jequetepueque Valley, and described the internal organization of the site of Cerro Chepén. In the first case, I postulated that the regional Moche occupation was organized into five independent irrigation communities and at least one autonomous fishing community (Chérrepe) during late Moche times. I presented information that suggested that the local farming communities were embroiled in a state of internecine war. In the case of Cerro Chepén, I indicated that the fortified site was organized into two clearly definable sectors, each one dominated by monumental structures of different character. I made a thorough description of the defensive works of the upper sector, whose sophisticated design represents undisputable proof of the state of tension that affected its inhabitants.

In previous chapters, I also presented a methodology aimed at disclosing the cultural origin of the elites who occupied three monumental buildings with galleries of the Cerro Chepén Alto sector based on a study of architectural and ceramic evidence. The architectural study examined the design of the spaces of public and private character of these structures, suggesting that only the former were prone to provide a reliable cultural identification. The ceramic study revealed the non-Moche style of the vast majority of sumptuary vessels discarded inside the structures. Both the architectural and ceramic studies hinted at a highland origin for the buildings’ occupants. Additional information
provided by the material manifestations of three singular ritual behaviors (human burials, small Spondylus offerings, and marks scratched on ceramic vessels) seemed to corroborate the results of the two former studies. The main conclusion reached through these analytical procedures is that the disappearance of the Late Moche political regimes of the Lower Jequetepeque Valley occurred under a scenario of "external interference".

This chapter aims to build a coherent picture of the local Moche collapse based on the information presented in previous chapters. The Moche collapse will be addressed using the five-point research scheme presented in a previous chapter. The discussion starts by addressing an important topic that was left unattended in the chapter dedicated to the ceramic analysis: a characterization of the donor polity. I present the two sites that constitute the strongest candidates for being the instigators of the coastal invasion, and present evidence that justifies their designation. Later, I speculate on the causes that may have led the inhabitants of the neighboring mountains to move into the coastal flatlands. I also evaluate the reasons that may have made them choose Cerro Chepén as their final destination.

The central part of the chapter is dedicated to reviewing the causes that induced the disappearance of the various organized political communities that occupied the Lower Jequetepeque Valley. The evaluation involves both the native Late Moche groups, as well as the displaced highlanders. I assess the destructive potential of two predisposing factors of collapse that might have affected these populations. These factors were events that induced a sharp deterioration in the living conditions of ordinary people, and provoked a concurrent discredit of the local ruling groups. The information provided by the Quelccaya glaciological record (Thompson et al 1985) and the results of a study of
settlement patterns conducted in the region (Dillehay 2001) play a central role in the identification of these factors. I also present a tentative *detonating factor of collapse* (ideological crisis) that might have precipitated the fall of the local Moche regimes, and advance an interpretation on how the *popular disaffiliation* might have been organized. The chapter concludes with an attempt to combine the two collapse models that had been previously postulated for the Moche occupations of the Lower Jequetepoence area using the new data collected at the site of Cerro Chepén. It also presents suggestions for future research.

**Characteristics of the donor polity: Marcahuamachuco outliers**

In Chapter III, I referred to Marcahuamachuco as one of the most important cultural formations that occupied highland territories adjacent to Moche coastal domains. Marcahuamachuco is particularly important for this investigation because it was the focus on an interaction sphere that involved several dispersed “outliers”, some of which may have been directly involved in the events that transpired at Cerro Chepén. Unfortunately, no Marcahuamachuco "outlier" has been subjected to extensive excavations. Moreover, the more distant sites that were part of this interaction sphere are yet to be identified, and the two "outliers" that I think instigated the coastal invasion have not yet been recognized as such. This is why, before moving to the description of these two candidates, it is necessary to present evidence that will confirm their participation in the interaction sphere focused on the remarkable Huamachuco center. Three particular issues need to be addressed: a) characterize the monumental architecture of Marcahuamachuco, since this evidence represents the most concrete medium that allows the identification of related
communities (J. Topic and Topic 1985: 20, 1987: 53), b) review the arguments that archaeologists John and Theresa Topic (2000) used to postulate the existence of a large interaction sphere centered at the site of Marcahuamachuco, and c) describe one of the few most distant outliers of the Marcahuamachuco sphere that have been properly identified (Cerro Coyor), given that this site presents several architectural traits that are replicated at the two sites that I think were the point of origin of the Cerro Chepén Alto occupants.

Marcahuamachuco

As indicated in a previous chapter, Marcahuamachuco is the largest archaeological site in the Peruvian northern highlands. Although its construction was begun 200 years earlier (J Topic 1986: 65), the site reached it splendor during the Middle Horizon Amaru Phase (ca. AD 600-800). Marcahuamachuco was built on an impressive setting: the top of a steep-sided, 5 km long mesa that dominated the alluvial plain of the Upper Condebamba Valley. A notable aspect of this site is that all the architecture that it contains is of monumental character. Concentrated in different parts of the plateau, we find two basic types of structures: galleries and “niched halls”.

The galleries are narrow (2.5 -3 m wide) buildings that can reach several tens of meters in length. Marcahuamachuco includes two architectural versions of galleries: straight and curved. Both the straight and the curved galleries usually formed closed compounds surrounding a central courtyard that could be quadrangular or round. These galleries present internal division walls that partition their internal space into a sequence of rooms, each having a single doorway that opens into the central patio. Galleries
commonly have internal rows of corbels projecting out of their longest walls. These corbels were used as supports for a second and even a third story. A singular feature of the curved galleries is that some of them were placed so as to delineate the perimeter of the mesa, forming an effective defensive barrier that impeded uncontrolled access into the site (J. Topic and Topic 1985: 18).

Niched halls are, by contrast, large rectangular buildings with very thick walls. There are more than 20 niched halls at Marcahuamachuco, most of them in direct physical association with gallery compounds (J. Topic 1986). Their dimensions vary greatly. The smallest structure is 27 X 5 meters in size and the largest 60 X 10 meters. Other structures have widths ranging between 6 and 12 meters and lengths varying between 22 and 55 meters. The walls of some of these structures may have surpassed 8 meters in height (J. Topic 1986). The most remarkable feature of these buildings is the presence of rows of niches lining their longest internal walls (in fact, these are the only buildings with niches in Marcahuamachuco). The dimensions of these niches also vary greatly, ranging between 35 and 85 cm on each side (J. Topic and Topic 2000: 187).

The archaeological site of Marcahuamachuco and its immediate hinterland has been studied by archaeologists John and Theresa Topic since 1977. At the beginning, these authors identified the site as the "capital" of a “territorial state” centered on the high Huamachuco plateau (J. Topic and Topic 1985). A deep scrutiny of the evidence gathered after years of research and a careful review of ethnohistoric sources have recently led the authors to change their identification of the site. Marcahuamachuco is now being identified as a regional ceremonial center, where members of various outlying independent communities (designated in ethno-historic documents with the term
pachacas) met during certain times of the year to worship their ancestors (J. Topic and Topic 2000).

A crucial piece of evidence that influenced this new interpretation refers to the design characteristics of the Marcahuamachuco niched halls. These structures evidence a myriad of design variants that are not only manifested in their variable dimensions, but also in the presence of optional decorative features like external, ornamental cornices, rows of grooves, stepped niches, walls with parapets, roof drains, recessed second floors, etc. (J. Topic 1986). Undoubtedly, this multiplicity of designs is not consistent with a model of centralized planning, but rather supports an idea of diversified construction led by multiple autonomous groups (J. Topic and Topic 2000: 213).

Also noteworthy were the archaeological features associated with these structures. Besides being the only Marcahuamachuco buildings that have internal niches, these halls are also distinguished for including secondary human burials embedded in their walls. This evidence is perhaps the strongest argument that favors the interpretation that these structures were used to worship ancestors. The ritual character of the structures is further reinforced by their internal spaciousness – which offers an ideal setting for the celebration of massive events – and by the absence of domestic refuse in their interiors (J. Topic and Topic 2000: 191). Domestic remains concentrate within the walled perimeters of the buildings with galleries that lie nearby. These galleries would have served as temporary accommodations for the members of the various pachacas who regularly came to the site to venerate their ancestors (ibid).

---

1 As explained by Topic and Topic (2000: 189) these secondary burials were integrated into the structures after they had been finished. In order to introduce the burials, a small wall patch was carefully dismantled, and later reintegrated after the bones were in place.
Finally, the last important evidence that hints to the existence of a Marcahuamachuco interaction sphere refers to the existence of a series of peripheral sites that reproduce the architectural style of the structures erected at the central site. These small outliers tend to concentrate within a 20 km radius of the ceremonial center (J. Topic and Topic 2000: 191). The Topics believe, however, that some outliers were located at much greater distances. These outposts were the ones responsible for carrying the material culture and ideological symbols of this cultist tradition to remote regions.

Cerro Coyor

Perhaps the most notorious, northern extreme outlier of the Marcahuamachuco sphere was the site of Cerro Coyor (J. Topic 1998: 116; J. Topic and Topic 2000: 195). Cerro Coyor is located right in the middle of the Cajamarca heartland, approximately 66.7 km north of Marcahuamachuco. The site is a little over 13 ha in size, and was erected on the slopes of a conical hill that rises near the edge of a natural lagoon (Laguna de San Nicolás) (Fig. 10.1). The monumental constructions of the site concentrate on the summit of the hill. This architecture includes long rectilinear galleries with ornamental cornices, circular towers, and possibly a niched hall (Julien 1988, Ravines 1985, J. Topic and Topic 2000: 195). The masonry of the niched hall replicates the "ordered chinking" style that is characteristic of the most representative monumental buildings of Marcahuamachuco (J. Topic 1998: 116). Interestingly, the site of Cerro Coyor is not fortified. However, given that the rectilinear galleries that surround the hill’s summit were erected on high support terraces, they present continuous external walls that would have surpassed 4 meters in height (Fig. 10.2). As was the case of Marcahuamachuco, the
Figure 10.1. Cerro Coyor: general site view. The monumental structures of the site concentrate on top of the conical hill shown in the center of the photograph. These structures are covered by dense bush growth.

Figure 10.2. Cerro Coyor. Photograph of the retaining wall of a long terrace perched high above the cliff. The wall bears an ornamental cornice.
galleries themselves were used as artificial barriers to block out free access to the hill’s summit.

Even though Cerro Coyor contains the most spectacular architecture of the whole Cajamarca basin, the site has never been excavated. Ryozo Matsumoto (1994: 192) tentatively dated the occupation of the site during the Early Cajamarca C and Middle Cajamarca A phases based on evidence of surface ceramics. This occupation span roughly corresponds to AD 300-700. Daniel Julien (1993: 249) corrected Matsumoto’s estimates, suggesting that the site’s occupation would have continued until the year AD 850. In Julien’s opinion (1988: 240), during the later years of its occupation, Cerro Coyor constituted the political capital of the Cajamarca polity, which at that time was organized at the level of a "paramount chiefdom".

The "outliers" that would have had a direct impact on the evolutionary course of the Lower Jequetepeque Valley’s communities would have been located northwest of Marcahuamachuco, dominating the heights of the Andean escarpments that overlook the middle course of the Jequetepeque River. Two sites represent the strongest candidates for being local offshoots of the Marcahuamachuco tradition: Guzmango Viejo and Tantarica. The few investigations that have been carried out at these sites – which were commonly limited to a brief surface reconnaissance – coincide in dating their main occupation spans to late pre-Hispanic periods (basically the Late Intermediate Period and Late Horizon, ca AD 1000-1532). The few published descriptions of the sites’ architecture and surface ceramics offer, however, enough ground to believe that these two regional centers were erected sometime earlier, possibly during the Middle Horizon or even before.
Guzmango Viejo

Guzmango Viejo is located approximately 100.5 km northwest of Marcahuamachuco, at the center of a huge Andean massif that separates the middle sections of the Chicama and Jequetepeque valleys. The site was erected on the highest reaches of Cerro Curlliete (3100 m.a.s.l.), which has a summit with gently sliding slopes. As was the case of Cerro Coyor, the monumental structures of the site concentrate along the crest of this mountain (Fig. 10.3). The site of Guzmango Viejo is famous in Andean archaeology for bearing the name of one of the seven warangas or provinces into which the Cajamarca Kingdom was split during the time of the Inca occupation (Espinoza Soriano 1967). In this case, the name corresponds to the dominant waranga. Indeed, Peruvian historian Fernando Silva Santisteban (1985: 21) believed that the main curaca of this political group actually lived at the site at the time of the Spanish arrival in Peru.

Guzmango Viejo has not been excavated. The most detailed description of the site is attributed to Paul Jaeckel (1987), a former graduate student of the University of Texas at Austin, who conducted a preliminary exploration of the area in 1984. Unfortunately, Jaeckel never completed his dissertation work. Jaeckel only published a brief field report of his ongoing investigations, in which he described the site’s architecture and surface ceramics. Below, I quote his valuable description of the site’s buildings in extenso, because it presents significant information that may help unravel the true antiquity of this center:

“Though the integrity of the site complex must be confirmed by future study, the site of Guzmango Viejo itself offers a remarkably coherent concentration of elite architecture. Preserved remains cover an area of 250 by 180 meters though agricultural expansion has clearly dismantled major peripheral sectors. Such incremental destruction has been slowed only by the substantial bulk of substructural mounding and constructions. The
dominant pattern of intra-site settlement consists in an arrangement of low platforms and multi-storied galleries grouped around small stone-paved plazas. Despite dense monte vegetation, there remains abundant surface evidence of architectural elaboration, including semi-worked and exotic stone, thickened double-faced walls, plastered niches, benches, and ornamental cornices.” (Jaeckel 1987: 8; emphasis mine)

Jaeckel’s description coincides nicely with the architectural design of sites of the Marcahuamachuco tradition, including Cerro Coyor and even Cerro Chepén Alto. Interestingly, this description seems to contradict the proposed late origin of the structures because, as indicated by John Topic (1998: 118), buildings with galleries stopped to be built in the Huamachuco area during the Late Intermediate Period. There is a significant coincidence in site layout that strengthens the connections between Guzmango Viejo and Cerro Coyor in particular. As was the case of the latter site, the peripheral galleries of Guzmango Viejo were built atop terraces lined with high retaining walls. The site is surrounded, thus, by massive stone constructions that not only would have impeded human traffic, but also generated a strong visual impact (Fig. 10.4).

With respect to surface ceramics, Jaeckel (1987: 8) identified Late and Final Cajamarca finewares as the most common diagnostic ceramic components at the site. The author acknowledges, however, that Cajamarca Floral Cursive fragments are also present in significant quantities within the constructed perimeter of the settlement (Jaeckel 1987: 7). As we saw in Chapter VIII, this pottery style is one of the five dominant fine pottery wares at the buildings with galleries of Cerro Chepén Alto, also being common among

---

2 Cerro Chepén also lacks, however, cut-stone walls and ornamental cornices. While the first absence can be ascribed to the friable character of local stone materials, there is no structural justification for the lack of the second decorative treatment. I think that ornamental cornices might have embellished some buildings, but they are no longer present given that all the gallery walls that were raised on the retaining walls of terraces disappeared long ago.
Figure 10.3. Guzmango Viejo: general site view. The site’s structures spread on top of the two rolling hills shown in the picture, and are covered by dense bush growth.

Figure 10.4. Guzmango Viejo. Photograph of the retaining wall of a terrace that used to support a gallery. As is the case at Cerro Coyor, these walls originally stood to a great height, creating an impassable barrier.
sites of the Marcahuamachuco interaction sphere (Thatcher 1975). The connections with the coastal site are further reinforced by the presence of two additional pottery styles. These include "Cajamarca Costeño" bowls and burnished black ware bowls with ring bases. As stated in a previous chapter, these vessels belong to the “Cajamarca Red-on-Buff” and “Fine Black” wares, as defined at Cerro Chepén Alto. Jaeckel (1987: 7-8) suggested that these vessels reveal the existence of frequent exchanges with the coast, especially during the second half of the Middle Horizon and the start of the Late Intermediate Period.

In sum, the architectural and ceramic evidence documented at Guzmango Viejo indicates that the site was built and occupied during the Middle Horizon. Close ties with the adjacent coast are not only manifested by the presence of a few diagnostic ceramic styles, but also by the specific location of the site. The site was strategically built on the highest reaches of a mountain block that rises roughly midway between the middle Chicama and Jequetepeque valleys. Deep gorges that flow north and south of the site facilitate access to the valley bottoms of these two rivers. If our goal is to reach the Middle Jequetepeque Valley, there is an old horseshoe path that passes north of the site leading east to the Contumazá River. This river is a southern tributary of the Jequetpeque that discharges its waters just 8.5 km downstream of the modern town of Chileté³. Following this route, we can reach the Jequetpeque valley from Guzmango Viejo after a 21 or 22 km long trek. If our intention is to reach the coastal plains, the course of the Jequetpeque would be the most logical route to follow. A 62 km journey would take us to the site of Calera de Talambo, located at the northern edge of the “valley

³ As mentioned in Chapter V, the town of Chileté lays near the famous pre-Hispanic “Paredones” silver mine.
neck”. As stated in Chapter VI, a 12.5 km long straight road would have connected this site with Cerro Chepén. In sum, a 96 km long route would have separated Cerro Chepén from the site of Guzmango Viejo. Taking into account ethnographic reports that indicate that traditional south Andean traders that led llama caravans back and forth from the highlands to the coast travel between 15 and 20 km per day (Flores Ochoa 1977: 144), Cerro Chepén and Guzmango Viejo would have been separated by 5 to 6.5 days of travel.

**Tantarica**

The second candidate to represent a Marcahuamachuco outlier in the Andean mountains of the Jequetepeque area is the archaeological site of Tantarica. Tantarica is located only 12.5 km northwest of Guzmango Viejo, lying closer to the Jequetepeque Valley than the latter site. The site consists of several architectural nuclei scattered along the slopes of Cerro Tantarica, a high isolated mountain with steep slopes that marks the northern boundary of the Andean massif that rises between the Jequetepeque and Chicama valleys. The combined area of the constructions total approximately 24 ha, and the site spreads between 3,060 m and 3,290 m of altitude due to the steepness of the local topography (Watanabe 2002) (Fig. 10.5).

Although the site has been excavated during two seasons (Watanabe 2002), the precise time of its construction still remains a mystery. Japanese archaeologist, Shinya Watanabe found abundant Chimú and Inca pottery within the structures he excavated. However, this author is very precise in stating that these late pottery types were found circumscribed to the "earth that covered the occupation floors", and were not detected within deeper occupation layers (Watanabe 2002: 120).
The singular design of the site’s architecture does not offer much help in solving the temporal dilemma, either. On the one hand, it is clear that the site experienced numerous construction episodes that affected its architectural integrity. While some structural changes simply involved “patching” collapsed stone structures with adobe bricks (Horkheimer 1944, Fig 19), major construction investments apparently altered the original ground plan of some old structures (Watanabe 2002: 112). On the other hand, the singular topography of the setting induced some peculiar architectural adaptations that generated structural forms not consistent with the Marcahuamachuco constructive pattern. Given the steepness of the terrain, Tantarica is dominated by linear sets of superimposed construction terraces (Fig. 10.6). While some elongated terraces had galleries, space limitations prevented the implementation of full-blown “patio-groups” within the artificially leveled spaces.

Despite these differences, Jaeckel (1987) highlighted a few architectural similarities between the sites of Tantarica and Guzmango Viejo. These similarities include the masonry style, the presence of dual, squared niches, and some room dimensions (Jaeckel 1987: 8). Some decorative treatments that the Tantarica structures shared with constructions of the Marcahuamachuco sphere include ornamental cornices and rows of decorative niches placed in front of the support walls of construction terraces (Horkheimer 1944, Fig 17; Watanabe 2002, Fig 14).

The ceramic materials recovered at the site do not offer sufficient evidence to propose a definite date of construction. A great part of the problem relates to the contamination induced by the ubiquitous, late, intrusive wares. Watanabe (2002: 128) reports the presence of fragments of Early Cajamarca kaolin bowls at the site, which
Figure 10.5. Peak of Cerro Tantarica. Its southern flank (shown in this picture) has a dense concentration of habitation terraces.

Figure 10.6. Cerro Tantarica. Photograph of one of the numerous terrace clusters from the site.
suggests that some of the site’s structures were built during the Early Intermediate Period (ca AD 0-500). The site also contains a few pottery types comparable to the ones found at Cerro Chepén Alto and Marcahuamachuco. These types include vessels of the "Cajamarca Coarse Red" ware, and diverse black ware bowls that include escudillas and ring base bowls (Watanabe 2002, Figs 18-19). However, the absence of some of the most representative Middle Horizon pottery types of the Cajamarca area is still troubling. These types include, among others, "Cajamarca Costeño" vessels and bowls of the highly distinctive “Cajamarca Floral Cursive” ware.

In conclusion, although the investigations carried forward by Watanabe offer signs of a Middle Horizon occupation at Tantarica, the evidence is not entirely conclusive. I believe, however, that the difficulties faced in detecting an early occupation at Tantarica were largely due to the sampling strategy applied by Watanabe. Watanabe decided to excavate a cluster of well preserved buildings. In the Cajamarca highlands, structures that present such a good state of preservation tend to be of a later date. As Watanabe (2002: 111) himself admitted, early sites in the area rarely present free-standing walls more than 1 meter in height. That would be the case, for instance, of Guzmango Viejo. I think that Tantarica has still a lot of information to offer. Future excavations located in areas that show a poorer state of preservation may confirm the presence of a Middle Horizon occupation at the site.

A further topic of interest about Tantarica is its close connection with the Jequetepeque Valley. There is an old pre-Hispanic road that runs along a long spur that descends directly from the peak of Cerro Tantarica down into the Middle Jequetepeque Valley. This road, about 13 km in length, would have enabled wayfarers to reach the
Jequetepeque River 22 km downstream from the mouth of the Contumazá River (Fig. 10.7). The route between Cerro Chepén and Tantarica would have been 31 km shorter than the connection between the coastal stronghold and Guzmango Viejo. This short route would have enabled by passers to save up to two days of travel time.

In conclusion, Guzmango Viejo and Tantarica represent the most likely candidates for having been the origin of the highland influences detected at the site of Cerro Chepén Alto. Both sites bear sufficient evidence to prove the existence of Middle Horizon occupations. Especially in the case of Guzmango Viejo, the style of the local ceramic materials indicates a strong connection with the Marcahuamachuco interaction sphere. Finally, it is clear that these sites commanded advantageous positions above the Middle Jequetepeque Valley. Formal routes allowed their inhabitants to reach the fertile grounds of this river after a relatively brief travel time. These two sites also lie amidst a logical communication route that would have connected the Lower Jequetepeque Valley with the Huamachuco plateau crossing through the Contumazá heights. Unfortunately, the limited investigations conducted this far do not allow establishing a conclusive connection between the highland centers and the coastal site. I hope this situation will change in the future as new research is carried out at these two mountain sites.

**Drought, conflict, and human migrations**

Having presented information that lends support to my idea that the foreign intruders that occupied Cerro Chepén Alto originated in the highland sites of Guzmango Viejo and Tantarica, I would like to investigate the factor that would have led the highlanders to abandon their mountain strongholds. I think that the events of climatic
Figure 10.7. Map of the Lower Jequetepeque Valley and of the adjacent highlands. The map shows the location of important Middle Horizon sites mentioned in the text. The dotted line indicates the hypothesized connection route between Cerro Chepén and the highland sites of Tantarica and Guzmango Viejo.
deterioration registered in the Quelccaya glaciological sequence hold the answer to this dilemma. As described in Chapter IV, the precipitation records obtained from this glacier, which can be projected back to AD 470 +/- 20, show unstable weather conditions at the beginning of the sequence, and two lengthy periods of low rainfall between the decades of AD 570-610 +/- 20 and AD 650-730 +/- 20 (Kolata 2000: 171, Thompson et al 1985, Table 1). As discussed in Chapter II, prolonged droughts have the potential to become "environmental thresholds” that can induce a severe deterioration of the living conditions of common peasants and challenge the continuity of larger political organizations (Kolata 2000). These events would not have only altered the way of life of highland populations, but also of coastal dwellers.

The mere existence of these droughts, however, can not be regarded as sufficient cause for irremediable political breakdown. This caveat applies especially in the case of complex societies, which have sufficient resources at their disposal and the organizational skills necessary to counteract most unforeseen environmental disturbances. However, it is clear that prolonged droughts would have altered the regular living conditions of the groups reviewed here. At a minimum, the drought would have forced these groups to implement new adaptive strategies to address the contingency. Potential strategies for economic recovery would have depended on the particular way in which the water shortage affected local agricultural practices, and on the availability of alternative resources that could have been used to attain an energy subsidy. The deleterious effects of the droughts and the possible avenues of response would have been different for groups adapted to dissimilar ecological conditions (coastal flatland and highland inhabitants). Their cases should be therefore addressed separately.
I think that the impact of a prolonged drought would have been less severe for the coastal communities of the Jequetepéque Valley. As discussed in Chapter V, the Jequetepéque River presents one of the highest mean annual discharges in North Coast of Peru (Fig. 5.1). Even though this river presents an unstable flow, its 4,000 km² wet basin (Shimada 1994a, Table 3B) and the contribution of its 30 tributaries (ONERN 1988: 13) would have ensured a steady water supply for the lower valley, even during years of abnormally low rainfall. Problems of human adaptation might have arisen if there had been a disproportionate increase in the demand for irrigation water. As Herbert Eling (1987: 105) observed, during dry years the discharge of the Jequetepéque River may drop to levels below the projected top capacity of any of the major trunk pre-Hipanic canals of the lower valley. A significant increase in the demand for irrigation water would have occurred precisely during the Late Moche phase, when at least four large irrigation communities (Cerro Chepen, Cañoncillo, Farfan Norte – Farfan Sur, and Chafán Bajo) handled independent irrigation systems that drew water from the Jequetepéque River. The trunk canals of these systems were designed to carry initial flows ranging between 8 m³/sec and 30 m³/sec (Eling 1987: 149). If these communities had been organized under a centralized power, the meager water resources would have been equally distributed under a balanced irrigation schedule. The regional surveys conducted by Dillehay (2001) and Swenson (2004) demonstrate, however, that the Late Moche political scenario of the Jequetepéque Valley was totally balkanized. In the coastal plain, the stage was open for continuous negotiations, alliances and even armed conflict.

A radically different situation would have taken place in the neighboring highland region. In this area, the absence of stable watercourses, the rugged topography, and the
lack of natural water reservoirs (lakes and glaciers) combined to make the practice of extensive canal-fed irrigation impossible. The populations ascribed to the political centers of Guzmango Viejo and Tantarica would have relied on the regular rainfall pattern of the Central Andes for their survival. It is hard to conceive of the devastation that a prolonged drought would have brought to the local economies that were sustained by rain-fed agriculture. In this case, small inter-zonal alliances and conflict would have been futile, given that all local groups would have been subjected to the same contingency.

The leaders of Guzmango Viejo and Tantarica might have had several alternatives to ensure the survival of their political systems. One of these alternatives might have involved participating in the Marcahuamachuco interaction sphere. The new interpretation that the Topics (2000) have written about Marcahuamachuco is surprisingly similar to the one that James Judge (1984, 1989, 1991) and other authors (Renfrew 2001; Toll 1991, 2001) have proposed for the Chaco System. According to the latter authors, Chaco Canyon served as a meeting ground for communities dispersed over far distant regions. These communities took advantage of the annual pilgrimages that they made to the site to consolidate mutual assistance pacts meant to ensure emergency supplies of food in cases of local crop failure. As eloquently expressed by James Judge (1984: 9):

“Possibly early visits to Chaco Canyon from other parts of the San Juan Basin for the purpose of procuring finished turquoise objects later developed into formally scheduled ritual events or pilgrimages. In conjunction with these, material goods may have been transported along the road system from outlying areas to the canyon and consumed or ritually offered there as part of a ceremony. One function of the festivals would have been to serve as a forum in which leaders from the various outliers administered the alliances that regulated the exchange of basic foodstuffs and such other essentials as wood, fibers, and lithics. This redistribution would have served to compensate for any variability occurring in crop production, so that the primary benefit of
participation in the network would have been the hedge it provided against falling victim to unpredictable climate." (emphasis mine)

In fact, Marcahuamachuco and Chaco Canyon bear so many similarities that it is hard to object to the idea that they were the product of similar cultural processes. Both sites are the largest within their respective culture areas. Both sites contain fancy ceramic styles from faraway regions (Thatcher 1975; Toll 1991, Fig. 5.1). Both sites also have large, multi-storied buildings built with sophisticated masonry techniques (Lumpkins 1984: 20, J. Topic and Topic 1985: 16). Slight discrepancies in the architectural style of the buildings indicate that these structures were built at different times by different hands (Plog 1997: 108, J. Topic and Topic 2000: 213). The monumental structures of both sites also integrate sacred spaces – niched halls, great kivas – that were dedicated to worship of ancestors (Lekson 1991: 36, J. Topic 1986). Finally, both sites are surrounded by a macro-regional network of "outliers" that replicate, on a smaller scale, the emblematic architecture of the center (Powers 1984, J. Topic and Topic 2000: 183).

But, perhaps the strongest argument that can be used to draw a definite functional connection between both centers is the close match that exists between their construction sequences and events of environmental degradation recorded in regional paleoclimatic sequences. In the case of Chaco Canyon, the construction of monumental buildings was initiated during a period of very unstable precipitation (Vivian 1991: 39). At Marcahuamachuco, the time suggested for the beginning of major construction works (AD 400) coincides nicely with the climatic instability that characterized the onset of the Quelccaya sequence. Interestingly, the Andean site experienced a remarkable growth (measured in terms of construction investment) during the second great drought of the
Quelccaya sequence (AD 650-730 +/- 20). At this time, which coincides nicely with the
Amaru Phase (AD 600-800), ideological influences of the Ayacucho area arrived in the
area. After the Amaru Phase, rainfall records gradually returned to normal and
Marcahuamachuco began to lose its prestige as a macro-regional center (J. Topic and
Topic 1985: 46).

The marginal communities of Tantarica and Guzmango Viejo may have not fully
enjoyed the benefits offered by participation in the communal system centered on
Marcahuamachuco due to the rigors imposed by distance and terrain. It is likely that their
leaders considered as a viable alternative tapping into the resources of their coastal peers,
which lay closer to their homelands. The most logical course of action to achieve this end
would have consisted of promoting balanced exchanges. Due to the extreme food scarcity
that affected their regions, the highlanders would have been forced to offer non-
perishable goods for trade. In this vein, the rich metal ores of the area could have
constituted a precious exchange commodity. In 1540, for example, the Lord of
Guzmango had several hundred coastal mitayos working at the silver mine of Chileté
(Ramirez 1996: 51). Even though we do not know if the exploitation of this mine dates
back to the Middle Horizon, I think that a mechanism of "exchange of valuables"
(Chapter II), could have allowed the highland leaders to generate the energy subsidy that
they needed for their survival.

Another mechanism that highland leaders could have used to gain access to
costal agricultural products is through what Patricia Netherly (1977: 269) has called
"emergency conversions". According to this mechanism, a community in distress may
request from a foreign cacique, temporary exploitation rights of part of the fertile lands
under his control. If the favor is granted, the community assumes the compromise of reciprocating personal services, a substantial part of the harvest, or even some of their daughters (Netherly 1977: 270; Ramirez 1996: 19). As will be shown below, ethnohistoric evidence indicates that highland dwellers sought "emergency conversions" in the Lower Jequetepeque Valley a few decades after the Spanish conquest.

In 1579, the Spanish royal accountant, Don Francisco de Alcocer interviewed several Spanish and Indian neighbors of the lower La Leche, Lambayeque, Jequetepeque and Chicama valleys to measure the impact that the catastrophic El Niño rains of 1578 had on the domestic economies of the Indian taxpayers. Alcocer’s records, which were published by Peruvian historian Lorenzo Huertas Vallejos (1987), include several interesting accounts about highland inhabitants moving in great numbers to the coast to seek economic support from their coastal neighbors. A few examples are worth mentioning. Pedro Tinoco, a resident of the city of Trujillo living in the nearby town of Paiján (Chicama Valley), for example, testified:

“[…] que de dos años aca los yndios de la sierra se an baxado muchos dellos a este valle [Chicama] en cantidad demas de dozientos o trezientos yndios y se sustentan y han sustentado en el dicho valle adonde los yndios les dan tierras y aguas en que siembran los mas dellos.” (Huertas Vallejos 1987: 142)

More interesting is the testimony offered by the Augustine Father Fray Lorenzo Rodriguez, resident of the village of San Pedro de Lloc (Jequetepeque Valley), who confirms the mass migration of highland Indians to the coastal valley:

“[…] los yndios de la sierra venian a este valle [Jequetepeque] por comida al tiempo que pasaron las lluvias poco después y que estuvieron

---

4 “Two years ago more than two hundred or three hundred highland indians came down to this [Chicama] valley, where they have raised their livelihood with the aid of the local indians who gave them land and water to cultivate their crops”.
derramados por este valle mas de dozientos yndios serranos que hasta el dia de oy sean quedado por las chacaras muchos dellos” (Huertas Vallejos 1987: 158)

Other residents of the Chicama and Jequetepeque valleys confirmed this information, sometimes complaining that the displaced highland Indians "stole cattle from the Spaniards" (Huertas Vallejos 1987: 145). A neighbor of the town of Guadalupe (Jequetepeque Valley), when asked about the human migrations induced by El Niño rains noted, in contrast, that "no local resident of the Cherrepe (Jequetepeque) Valley went to the highlands because of the rains, nor is it a custom of yungas (coastal) Indians to emigrate to the mountains" (Huertas Vallejos 1987: 182).

The testimonies recorded by Don Francisco de Alcocer are extremely important for this study because they constitute historical proof of environmentally-driven mass migrations of highland Indians to the Jequetepeque coast. Such migrations did cease, however, in the decades that followed the recorded event for two main reasons: a) the demographic collapse of the native populations of north coast valleys, and b) the abuses that Spanish landowners and ranchers committed against the few surviving native residents (Burga 1976: 68). After the full installation of the Spanish Colonial order in the North coast, the lower valleys of this region became inhospitable ground for highland Indians in need.

---

5 “A short time after the rains receded, indians from the neighboring highlands cam down to this valley [Jequetepeque] for food, and more than two hundred stayed dispersed within the area and many of them are still to be found in the farmlands of local peasants.”

6 Based on an analysis of Spanish population census data, Peruvian historian Manuel Burga (1976: 64) estimated that the indigenous population of the Lower Jequetepeque Valley experienced a sharp drop on the order of 60% between the years 1572 and 1609. These same data indicate that the local population remained low until the beginning of the eighteenth century, when it began a slow recovery (Burga 1976: 126).
In the case of the crisis in 1578, it would have been easy for the coastal inhabitants to accommodate displaced highland neighbors. Those rains, rather than ruining the production of the lower Jequetepeque Valley, generated an unprecedented agricultural bonanza (Huertas Vallejos 1987). I doubt that the coastal inhabitants of the Jequetepeque would have been equally receptive during the Late Moche phase, when a prolonged drought was threatening their own subsistence. It is likely, then, that foreign immigrants would have met some resistance. Highland leaders under stress would have been forced to implement forcible means to gain access to the plentiful resources of their coastal neighbors.

The origin of Cerro Chepén Alto

A third strategy that the elites of highland sites might have followed to attain an economic emergency subsidy was a "territorial expansion". I think that this strategy was responsible for the creation of Cerro Chepén Alto. If Cerro Chepén Alto was indeed a highland enclave, then it would constitute a unique case, not only in the archaeology of the Jequetepeque Valley, but of the north coast in general. This is why I consider that eliciting the conditions that favored its creation are as important as disclosing the role that this site played in the collapse of the local political orders. Two issues that can be archaeologically addressed relate to the time of the site’s creation, and the motives that

---

7 Accounts of conflicts between highland ethnic groups, or between coastal and highland groups, to attain control of agricultural land in coastal valleys are quite common in Andean ethnohistoric documents. One of these conflicts involved the North Coast community of Jayanca (La Leche Valley), which during the year of 1540 had to pay the curaca of the neighboring highland community of Huambo a tribute consisting of salt, chili pepper, and clothing items (Netherly 1977: 267-268). Another conflict transpired in a 1559 lawsuit between two highland groups, Canta and Chaclla, for access rights to the chaupiyunga lands of the Chillón River, in the Central Coast of Perú (Rostworowski 1989). In both cases, mountain groups claimed access rights to coastal lands based on the argument that the irrigation water that the coastal inhabitants used to raise their crops came from their domains. According to Rostworowski (1989: 57), in ancient Perú, some highland groups considered the usufruct of coastal lands a sacred right.
led the highland intruders to select the heights of Chepén Hill as the location for their coastal stronghold.

The best way to solve the question of the time of Cerro Chepén Alto’s creation is through the radiocarbon dates processed by the PROCECHE. I took seven radiocarbon dates from organic samples collected at different occupation contexts of the buildings with galleries. To avoid distortions related to the "old wood problem", only charred corn samples were selected for the analysis. To ensure that the dates were representative of significant occupation events, I made sure that all samples were retrieved from contexts that showed a direct association with occupation floors. All samples were dated at the NSF Arizona AMS Laboratory of the University of Arizona at Tucson. The dates were calibrated using the CALIB Radiocarbon Calibration Program Rev. 4.3 (Stuiver and Reimer 1993). The calibrations were corrected to compensate for lower concentration of atmospheric $^{14}$C in the Southern Hemisphere (Stuiver et al 1998: 1058).

In general, the seven dates obtained by the PROCECHE can be organized in two groups, which can be termed initial dates and final dates. All initial dates were invariably obtained from samples retrieved from deep occupation layers that were exposed by the exploratory cuts that we placed at the corners of major excavation units. One of the initial dates (AA61869) was obtained from a charred corn kernel found in a refuse pit that cut the floor of the two-floor gallery of Building VIII. This sample yielded a date of 1348 +/- 36 BP, calibrated (2 sigma) in AD 622-772. The second initial date (AA61868) was obtained from a maize cob discarded in a fireplace placed on the deepest occupation surface of the Area of Irregular Architecture of Building IV. This surface had been artificially leveled directly above the bedrock substratum. The second sample yielded an
uncalibrated date of 1321 +/- 36 BP, calibrated (2 sigma) in AD 656-774. Finally, the last initial date of our sample (AA61871) was obtained from another combustion area, this time located on an old surface of the central courtyard of Building IX’s Patio-group. The sample was dated at 1281 +/- 42 BP, calibrated (2 sigma) in AD 660-864 (Figs. 10.8 and 10.9).

In general, the two sigma ranges of the three initial dates of our sample extend over a time period that goes from AD 620-770. While this information, taken in isolation, is not very significant, a different image emerges when we compare it with the paleoclimatic sequence of the Quelccaya glacier. As shown in figure 10.10, the two-sigma ranges of the two earliest initial dates coincide nicely with the proposed time span of the second major drought event of the Quelccaya sequence. As indicated earlier, this drought would have taken place between AD 650-730 +/- 20 (Thompson et al 1985: 971).

Though I must acknowledge the dangers inherent in correlating two chronometric sequences derived through such different means (direct count of ice layers and calibration of C-14 dates), I still find highly stimulating the close match between the dates of the initial occupation of the buildings with galleries and the onset of the great drought of the seventh century. This information suggests a causal connection between the creation of Cerro Chepén Alto and the onslaught of deteriorating climatic conditions.

Having presented a probable cause for the creation of the site, I can move on to speculate on the reasons that led its creators to choose Chepén Hill as a viable setting for their coastal enclave. The question can be initially stated in broad territorial terms. Given that Tantarica and Guzmango Viejo had direct access to the lower valleys of both the Jequetepeque and Chicama Rivers, and given that both valleys had alluvial plains of
Figure 10.8. Ground plans of Buildings VIII and IX showing the locations where samples for C-14 dating were collected.
Figure 10.9. Ground plan of Building IV showing the locations where samples for C-14 dating were collected.
Figure 10.10. Graph that compares the (2 sigma) calibrated AMS dates of Cerro Chepén Alto with the proposed time frame of the second major drought of the Quelccaya sequence (Thompson et al 1985, Table 1).
comparable extensions and rivers with similar discharges, why was the Lower Jequetepeque Valley selected as the final destination?

I think that the answer to this dilemma lies in the state of political factionalism that prevailed in the Lower Jequetepeque Valley during Late Moche times (Dillehay 2001: 273). The Chicama Valley, on the other hand, had sustained a long tradition of centralized power. All along the Moche sequence, the Chicama Valley formed part of the nuclear area of the “Southern Moche State”. During the Middle Horizon, the valley might have sustained another centralized political entity, this time centered at the site of Sonolipe (Leonard and Russel 1996: 21). According to Leonard and Russel (1996: 21) the adobe pyramids that were raised at this center represent the largest constructive effort deployed in any cultural period of the valley’s sequence. Interestingly, during the Middle Horizon, three sites with a large Cajamarca ceramic component were built in the upper fringes of the Lower Chicama Valley. These settlements, which did not transgress the confines of the coastal plain, have been interpreted as small highland trading posts that were also engaged in the exploitation of different altitudinal niches (Leonard and Russell 1993: 158, 1996: 22). In the Lower Chicama Valley, a more cohesive coastal power would have prevented any attempt made by highland dwellers to organize a large invasion.

Finally, we can ask why Chepén Hill was chosen to build the highland redoubt in the Jequetepeque area. A number of factors might have played into the final selection of the emplacement. In Chapter VI, I listed several strategic advantages that the hill offered for the creation of a permanent agricultural settlement, both in terms of subsistence and defense. The hill occupies a relatively central position within the northern arm of the
Jequetepeque Valley. It is therefore surrounded by highly productive agricultural land on all sides. The high elevation of the hill (250 meters above the adjacent plains) offers an ideal visual coverage of the immediate surroundings. On a clear day, this coverage can be extended down to the valley necks of the Jequetepeque and San Gregorio Rivers and the western arid hill chains where most of the antagonistic local Moche populations resided. I can also add that the hill lies relatively close to the upper reaches of the coastal valley, offering a rapid escape route for highlanders in case of emergency (Fig. 10.7).

But I think that the two reasons that most heavily played into the final selection of the site relate to access to water and access to labor. First, as mentioned in Chapter VI, the land adjacent to Cerro Chepén was irrigated with water from the Serrano canal. This canal is a necessary extension of the Talambo trunk canal, which was the highest irrigation work of the lower Jequetepeque during Late Moche times. In other words, irrigators of the Cerro Chepén community drew water from the river at a higher location than any of their peers, which represented a clear advantage in times of reduced river flow. Second, Cerro Chepén Alto was erected right alongside a major preexisting population center (Cerro Chepén Bajo). The invaders thus enjoyed direct access to a large amount of human labor that could be invested in construction works, productive activities, and even offensive/defensive actions. And, while other Late Moche settlements of the valley also showed large population aggregations, none of them had the additional advantages offered by Chepén Hill.

Moving on to the way in which the final assimilation might have been consolidated, there remains ample space for speculation. Both the violent takeover and the mutual consent hypotheses are equally viable. So far, no obvious signs of intentional
destruction have been detected in the central structures of Cerro Chepén Bajo. This evidence, however, could only be disclosed by future excavations. The perimeter wall of the sector shows several collapsed sections, but it is very difficult to determine if this destruction was due to structural weak points, natural agents, or was caused by humans. Moreover, given that the occupants of the new sector took advantage of the preexisting defensive works – arranging, for example, three lines of defense in front of the Southern Access of Cerro Chepén Alto – we can infer that they would have mended any damage inflicted on the original wall.

The theory of peaceful assimilation, on the other hand, can not be ruled out either. In many ways, the traditional Moche rulers of Cerro Chepén Bajo would have seen the installation of a foreign enclave with welcoming eyes. With the added support of the newcomers, they would have felt better equipped to face the internal conflict that was destabilizing the region. They might have been aware that the arrival of foreign authorities would have put an end to their old power prerogatives. But this loss would have been considered an acceptable cost when weighted against the prospect of losing everything in the hands of their Moche antagonists. In sum, even though the theory of the willful assimilation has a great appeal, we are still far of finding definitive proof of its occurrence.

The abandonment of Cerro Chepén and the regional collapse

To address the issue of the collapse of Cerro Chepén and of the Late Moche communities of the valley, it is important to go back to the concepts presented in Chapter II of this dissertation. Three themes are particularly relevant in this regard: a) to clarify
how the collapse definition presented in this work applies to the study case, b) to isolate what might have been the predisposing factors of collapse, and c) to disclose the character of popular disaffection and detect the triggering factor that would have provoked it.

**Dating the collapse**

In the theory chapter of this dissertation, I suggested that a useful definition of collapse should not only clarify the basic characteristics of this phenomenon, but also specify the diagnostic archaeological indicators of its occurrence. Collapse was defined as the termination of an established political order, no matter whether this end was abrupt or if it involved a prolonged deterioration process. Indisputable archaeological signs of the occurrence of a collapse event include:

1. The physical disappearance of a traditional group of rulers, which involves not only skeletal evidence, but also traditional practices of elite residence, burial, food consumption, and even waste disposal strategies.

2. The cessation of the program of materialization of ideology led by the traditional elites, which found physical manifestation in monumental architecture, prestige objects, symbolic communication systems, and ceremonial events (DeMarrais 1997, DeMarrais et al 1996).

The application of these archaeological collapse indicators to the case study may yield confusing results, given that the material culture of the Cerro Chepén Alto elites was markedly different from the one of their Moche peers. The differences are manifested, above all, in the programs of materialization of ideology implemented by the
elites. These programs involved the use of fine ceramic types and architectural spaces of public character that were unlike regular Moche ritual creations. The discordant tendencies were also manifested in other aspects of ritual behavior, including types of offerings, burial activities, and even an odd behavior of scratching emblematic symbols on the surface of ceramic vessels. The analysis demonstrated that the differences were also manifested in aspects of more mundane character. The design of the private (living) spaces of the buildings with galleries, for example, conforms to highland patterns.

I want to emphasize, however, that these discordant material patterns do not imply that the construction of Cerro Chepén Alto marked the collapse of the Late Moche order in the Lower Jequetepeque Valley. In fact, different lines of evidence corroborate that the latter sector was occupied while important Late Moche population centers of the valley and of the north coast in general were still in bloom. One of these blooming sites would have spread along the slopes of Chepén Hill. In Chapter VI, I presented evidence that suggested that the "hierarchical terraces" of Cerro Chepén Bajo were being used during the occupation of Cerro Chepén Alto. Part of this evidence referred to the presence of similar Moche domestic types (platform neck jars) spread along the surface of the terraced structures and on the occupation layers of the buildings with galleries. The other evidence referred specifically to “Building C”, a "hierarchical terrace" of Cerro Chepén Bajo that controlled a road that led directly to the Eastern Access of the peripheral wall of the higher sector. Given that this structure was integrated into a network of “visual interconnection” with other hierarchical terraces of Chepén Hill, I conclude that the latter structures, the access road, and the peripheral wall of Cerro Chepén Alto were all used at the same time.
Perhaps the best evidence that proves that Cerro Chepén Alto was contemporaneous with important Moche centers of the north coast refers to radiocarbon dates. Particularly important in this regard are the “final dates” collected at the buildings with galleries, which demonstrate that the abandonment of Cerro Chepén Alto did not post-date the fall of major Moche centers. A comparative analysis of C-14 dates serves to illustrate this point.

Of the seven radiocarbon dates obtained by the PROCECHE, four can be considered to represent final occupation events. These dates were processed from samples retrieved from the last occupation floors of the structures. One of these dates (AA61870) was obtained from a corn cob that was discarded on the superficial garbage dump of the southern gallery of Building VIII’s Two-floor Gallery Group. As will be recalled, this dump accumulated on a floor that lay above the original occupation surface of the gallery. The sample yielded a result of 1256 +/- 35 BP, calibrated (2 sigma) in AD 679-877. A comparable date (AA61865) was obtained from another corn sample retrieved from an above-floor trash layer of the two-floor gallery of Building IV. The sample yielded an uncalibrated date of 1223 +/- 36 BP, calibrated (2 sigma) in AD 690-891. Another corn sample (AA61866) was retrieved within the same gallery, this time from the first sealed trash layer accumulated in its interior. This sample yielded a result of 1238 +/- 55 BP, calibrated (2 sigmas) in AD 665-938. Finally, the last sample (AA61687) was retrieved from the hearth that lay inside the elongated room of Building IV’s Patio-group. This sample yielded a date of 1247 +/- 36 BP, calibrated (2 sigma) in AD 686-882 (Figs 10.8 and 10.9).
In summary, the sample of final C-14 dates of Cerro Chepén Alto shows a consistent trend of AD 680-880. This range coincides nicely with the latest occupation dates obtained at different Moche sites of the north coast, such as Pampa Grande (Shimada 1994a, Table 2)\(^8\), Galindo (Lockard 2005, Table 5.4)\(^9\), Cerro Mayal (Leonard and Russell 1995, cited in Billman 1996: 296)\(^10\), and even the site of Cerro Blanco (Chapdelaine 2000b, Fig 58)\(^11\). If we compare the dates of Cerro Chepén Alto with similar information obtained by Dillehay at important Late Moche sites of the region (Swenson 2004, Table 6.1), a similar trend is found. The uncalibrated dates of Cerro Chepén Alto cover roughly the same temporal span as the uncalibrated dates of the two other major “hillside fortified settlements” of the valley (Fig. 10.11). Even the latest occupation dates of the three sites are roughly correspondent.

In conclusion, given that the temporal resolution of radiocarbon analyses is still imperfect, I should be prepared to admit that the effective abandonment of Cerro Chepén could have happened a few decades after the fall of the regional Moche regimes. However, as long as the C-14 intervals of the contrasted sites show consistent trends, we can not say that the demise of Cerro Chepén Alto post-dates Moche times. I do not think this was the case. On the contrary, I think that the available radiocarbon evidence confirms that the eighth century collapse was a phenomenon that affected all the political organizations of the Jequetepeque Valley at roughly the same time. I am sure that as more

---

\(^8\) Pampa Grande has yielded a late (1 sigma) calibrated date (out of five dates) of AD 700-840 (Shimada 1994a, Table 2).
\(^9\) Galindo has two late (2sigma) calibrated dates for the Late Moche occupation of AD 665-871 and 671-875 (Lockard 2005, Table 5.4).
\(^11\) The site of Cerro Blanco has two (2 sigma) calibrated dates for the occupation of the urban area of AD 630-854 and 651-885 (Chapdelaine 2000b, Fig. 58).
Figure 10.11. Uncalibrated C-14 dates of Cerro Chepén Alto and of three large Late Moche sites of the Jequetepeque Valley (information about the latter taken from Swenson 2004, Table 6.1).
C-14 dates are added to the available sample, expanding the analyses to other Late Moche sites of the region, we will get definitive proof of the widespread nature of the collapse event that occurred in the Jequetepeque area.

The next major period of regional integration in the Lower Jequetepeque Valley is related to the Middle Sicán cultural tradition. The start of the Middle Sicán Phase in the nuclear area of the La Leche Valley – tentatively dated by Izumi Shimada (1990: 312) around AD 900 – coincides closely with the upper limits of the two-sigma intervals of the final Late Moche dates obtained in the Jequetepeque Valley. It is possible, then, that the Late Moche political collapse in the valley was followed by a brief period of population dispersion. This dispersion was later capitalized on by a new elite establishment, which adopted the ideology representative of the Middle Sicán order. In the Jequetepeque area, this new integration period seems to have been accompanied by population flows from the North. The change in material culture that this new cultural period entailed was not only manifested in the style of power symbols, but also in the style of the pottery used by commoner groups.

Predisposing factors of collapse

To find a reasonable explanation for the disappearance of the Moche political regimes of the Jequetepeque Valley, we must begin by detecting the factors that would have induced a deterioration of the quality of life of the peasant masses. In the study case, two factors seem to have a special relevance: a) the drought of the late seventh century,
and b) the condition of internecine war that prevailed in the region. These two factors, which threatened to deplete the energy reserves of the general population, may have induced a series of responses that would have left indelible traces in the archaeological record.

In respect to the first factor, several authors who have analyzed the strategies that Andean agricultural societies implemented to adapt to situations of water scarcity have detected a series of ingenious avenues of response. Some of the "redefinition of productive strategies" (Chapter II) carried forward by pre-Hispanic groups included: a) the exploitation of new water sources, b) the contraction of irrigation networks, c) the implementation of efficient water distribution and water conservation techniques, d) crop rotation, e) the adoption of crops with low water requirements, f) dietary diversification, and, g) a stronger of emphasis on non-agricultural economic activities, among others (Ortloff and Kolata 1993: 213, Reycraft 2000: 106, Satterlee et al 2000: 99, Schreiber and Lancho 1995, Stanish 1987: 357, Treacy 1994: 111). Considering the specific environmental conditions of the Lower Jequetpeque Valley – an arid environment with limited water sources where agriculture is only possible with the use of gravity-driven irrigation – and the specific characteristics of the groups that inhabited the region – independent, aggregated communities with fixed territories determined by the existence of irrigation networks that experienced a remarkable demographic growth during the Late Moche phase – we can infer that the range of possible responses would have been quite limited.
A prolonged drought in the Lower Jequetepeque Valley would have caused a contraction of the agricultural frontier\textsuperscript{13}. In fact, the region has archaeological evidence that documents such an occurrence. This evidence relates to the abandonment of the agricultural system of the Pampas de Mojucape, which took place sometime during the Late Moche phase (Eling 1987: 129). Although much remains to be learned about the new agricultural strategies that may have been introduced to face the crisis, a probable response to the disappearance of formerly-used cultivation areas would have been the implementation of increasingly laborious, intensive farming techniques (Boserup 1965, 1981, Netting 1993). Such an event has been recorded on the southern fringes of Cerro Faclo, where Eling (1987) found a complex arrangement of cultivation plots. At this site, an over-dimensional system of irrigation canals – which sometimes cut deep into the bedrock and sometimes flowed high above elevated aqueducts--, was built to bring water to a relatively inconspicuous agricultural surface during the Late Moche Phase (Eling 1987: 340-48).

Another extraordinary example of a “redefinition of productive strategies” implemented in the Jequetepeque Valley relates to the myriad of small sites that were found dispersed in arid pampas, especially west of the Charcape and Huaca Blanca-San Ildefoso-Santa Rosa hill chains (Dillehay and Kolata 2004, Fig 1). These sites, located in barren areas that can not sustain human life, are found associated with hastily-build agricultural systems placed at the bottom of dry gullies (Dillehay and Kolata 2004: 4328). Although Dillehay and Kolata (2004: 4329) interpret these sites as evidence of a poorly-

\textsuperscript{13} Using data collected during 28 years (1940-1968), Manuel Burga (1976: 24) demonstrated that a reduction in the flow of the Jequetepeque River entailed an automatic contraction of the area under cultivation in the lower valley. The average 32,180 ha that were cultivated during normal years experienced a contraction on the order of 9.76% during dry years, and 31.08% during very dry years.
developed and highly dispersed Late Moche settlement pattern in the region, there is a simpler explanation to this phenomenon. These sites were obviously small, seasonal camps, dedicated to the opportunistic exploitation of new cultivation areas opened up by sporadic heavy rainfall events. Ethnohistoric documents testify to the success of these improvised agricultural systems, which were appropriately called by Paul Kosok (1965: 118) "temporales". Some documents indicate that, after the disastrous rains of 1578, the natives of the Jequetepeque Valley, far from suffering from famine, “cogieron gran cantidad de mayz especialmente algunos dellos que sembraron en los arenales que con la humedad que uvo dio mucho mayz” (Huertas Vallejos 1987: 178)\textsuperscript{14}. This temporary occupation of the pampas, which was especially dense during Late Moche times, is a clear sign of the desperation that reigned among local populations during times of drought. This desperation forced them to seize any opportunity that may have arisen to raise a few crops.

Another factor that would have led the subsistence economies of the masses to plunge into deficit is the condition of internecine war that affected the region. This condition, possibly generated by the need to protect the most productive tracts of land and secure access to water sources (Dillehay 2001: 275), left an indelible mark in the archaeological record of the valley. The clearest manifestation of the conflict is represented by the appearance of a new type of site that I have called "fortified hillside settlement". This type of site has been detected in four of the five irrigation communities of the region, and the three largest human settlements of the area (Catalina, San Ildefonso, and Cerro Chepén) belong to this category. The internal conflict may have also

\textsuperscript{14} "They raised a lot of maize, especially those who planted in the sandy plains which, thanks to the abundance of water, produced large quantities of maize.”
been responsible for the emergence of another type of site, represented by the regional cemetery of San José de Moro. I will later explain how San José de Moro can be integrated into the scenario of regional conflict, and the role that it might have played in the collapse of the local political orders.

In Chapter II, I specified some of the ways through which internecine war can siphon off valuable energy and resources from the subsistence economies of the peasants. The pejorative effects of sustained, internal conflicts include personal injuries, mounting military expenditures, the contraction of the agricultural frontier, and an increase in the cost of maintaining human settlements. I think that the two latter effects would have been particularly harmful for the Late Moche populations living in the Lower Jequetepeque Valley.

First, as suggested by Tommy Carlstein (1982: 198), armed conflict usually causes a contraction of agricultural areas, drawing cultivated plots to the immediate proximity of settlements. Individual plots experience a significant reduction in size to allow the lands of several cultivators to be accommodated in a small area. War, then, tends to artificially induce population pressure. In the particular case of Cerro Chepén, we have seen that the contraction of the cultivated area might have reached into the very core of the site, where the besieged inhabitants improvised planting surfaces for highly resistant *Cucurbita moschata* plants.

Second, armed conflict also affects the location of settlements, forcing population relocations into areas with difficult access, which usually lay at great distance from basic resources (land and water) (Haas 1990: 178). For the relocated populations, not only did the transport of basic subsistence goods (such as food, water, construction materials and
fuel) to their new places of residence represent a heavy burden, but, in addition, their own daily displacements to cultivation areas were burdensome. Perhaps the most dramatic case of a permanent settlement that generated a severe energy drain from its inhabitants in the Jequetepeque area is the fortified site of Catalina. This site is located three kilometers away from the nearest water source (Eling 1987: 397). Various researchers who visited the site were impressed by the abundance of fragments of large pottery vessels scattered on its surface (Eling 1987: 397, Hecker and Hecker 1990: 12, Swenson 2004: 521, Ubbelohde-Doering 1959: 27). These vessels were obviously required to store water for the local inhabitants. Ensuring a constant water supply for this large site, located amidst an arid landscape, would have constituted a formidable task.

A second valley settlement that also demanded a high energy expenditure in travel and transport effort was obviously Cerro Chepén Alto. A hint on the reluctance that the local populations felt for living in such harsh terrain settlements is obtained when comparing the Late Moche and Chimú settlement patterns in the area of the Cerros de Chepén hill chain. As was the Late Moche case, the Chimú also chose to concentrate their population in a single location, this time represented by Cerro Serrano. However, the residential Chimú architecture, instead of spreading along the higher slopes of the hill, concentrated around the base of the rocky promontory. The case of Cerro Serrano is a clear indication that, if pressing defensive needs are absent, people will naturally choose to live in easy access positions.

During Late Moche times, thus, both drought and internecine war were factors that adversely affected the subsistence economies of the peasant masses. Both factors instigated a contraction of the agricultural frontier, forcing farmers to work harder to raise
harvests of similar magnitude as the ones obtained with little effort during times of social and climatic stability. Internecine war would have also caused an increase in the energy cost of daily activities that would have been formerly considered low. These activities included transporting subsistence goods to the site, and even getting to cultivation areas.

A third predisposing factor of collapse that would have negatively affected the energy reserves of the population refers to the revenues demanded by the political economy. Evidence collected at Cerro Chepén indicates that, despite the times of crisis, elites do not seem to have implemented reductions in the tributary quotas imposed on the general population. To the contrary, the available evidence seems to indicate that the official demands remained high. High energy expenditures were required, for example, to build the defensive works and monumental buildings of Cerro Chepén Alto. Further investments involved mandatory contributions of domestic pottery (Chapter VIII), the furnishing of teams of personal servants (Chapter IX), and the build up of ammunition reserves at the defensive posts of the peripheral wall (Chapter VI).

But perhaps the most demanding labor that the commoners were asked to render in favor of their local authorities referred to agricultural activities in elite’s estates. In the case of Cerro Chepén, two factors would have conspired to maintain the mandatory share of agricultural work at high levels. One refers to the possibility that the highland outpost was designed to function as an extractive enclave. Part of the agricultural production raised in the site’s domains – and of the marine products that were traded for it – might have been planned to be shipped away to distant centers. The other factor refers to the possible existence of two superimposed taxing systems. In other words, local peasants may have had to pay agricultural services to two elite segments, one represented by their
traditional authorities living in the "hierarchical terraces" of Cerro Chepén Bajo, and the other represented by the highland transgressors who lived at the buildings with galleries of Cerro Chepén Alto. These two factors should, however, be subjected to future scrutiny.

In the case of the Moche communities of the Lower Jequetepéque Valley, I think that the contraction of the agricultural area, the increased share of agricultural work that this contraction instigated, and the energy expenditures necessary to live in high places, were elements that generated unrest within the commoner masses. The social discomfort may have been channeled to the regional elites who, as guarantors of civilized life, were indirectly responsible for the welfare of the general population. It is possible that the elites were severely criticized for not satisfying their role as promoters of the cosmic balance (Bawden 1996: 274, Godelier 1978). The unrelenting drought may have made it difficult for local leaders to justify the continuation of their tributary policies. However, the elites may have found a valid excuse for the perpetuation of their power prerogatives in the need to coordinate defensive actions. Their power positions ultimately depended on maintaining conditions that fostered conflict. Once these conditions ceased to exist the ground was laid for the consummation of the popular disaffection.

The popular disaffection and the detonating factors of collapse

In this work, I subscribed to Tainter’s (1988) view that states that, although collapse events are sometimes triggered by unexpected stress surges of great magnitude, in most cases these events are the result of slow deterioration processes that end up draining off the energy reserves of an afflicted population. Collapse, in the latter cases,
ensues when the commoner masses decide to stop subsidizing the political economy of local leaders, who are deemed to be incompetent. An important issue in collapse studies relates to disclosing the factors that conditioned the popular disaffection, as well as the specific course that this disaffection followed.

In Chapter II, I indicated that popular disaffiliation can take two basic forms: violent and peaceful. These two possible responses tend to leave clearly readable traces in the archaeological record. In the specific case of the abandonment of Cerro Chepén Alto, the excavations did not reveal any indication of violent behavior. We did not find, for example, evidence of major conflagrations affecting the structures of the central institutions of power, as was the case at Pampa Grande (Shimada 1994a: 247). Nor did we detect unburied human skeletons smashed by the stones that fell from the walls (Millon 1988: 151). The excavations did not disclose activity areas with their original artifact associations still intact, as would correspond to a hasty abandonment (Shimada 1994a: 248). Quite the contrary, the image projected by the occupation areas exposed by the excavations was of an “orderly dismantling”. The only unusual events that we were able to record related to a few ceramic pots that were found broken outside their original use contexts (as was the case of the two large paicas that lay broken on the frontal patio of the two-floor gallery of Building IV).

The available evidence suggests that the abandonment of the buildings with galleries was a coordinated event, perhaps planned in advance. The only evidence of destruction is represented by the extraction of some wooden construction elements, such as door lintels and roof beams. I think, however, that these construction additions were dismantled sometime after the buildings were deserted. As stated in Chapter VII, the
extraction of the wooden components of roof structures generated a homogeneous layer of roof debris (Capa C) that spread evenly on the occupation floors of some rooms. If the roof structures had remained in place long after the abandonment of the buildings, occasional wall collapses would have deposited wall stones directly on the floors. That was certainly not the case. While these intentional removals generated severe damage in some areas (especially within the Salas con Nichos), I do not believe that this destruction was driven to eliminate the power symbols of an extinguished order (see Joyce et al 2001 for a contrasting opinion). In my view, the only intention behind these extractions was the recovery of materials that could be used for building activities and fuel.

How can we reconcile this scenario of peaceful abandonment with the widespread hostilities that characterized the studied period? To find an answer to this dilemma, I think it important to go back to figure 10.10, which compares the time ranges of Cerro Chepén Alto’s calibrated C-14 dates with the alleged time frame of the great drought of the second half of the seventh century. This figure illustrates that the intervals of the four final dates of the sample extend well beyond the great drought, in some cases until AD 880. As mentioned in a previous chapter, the Quelccaya paleoclimatic record indicates that the centuries that followed the second great drought saw the reinstatement of wet atmospheric conditions, which extended roughly until AD 1040 (Ortloff and Kolata 1993: 199, Treacy 1994: 110). It is possible, then, that the occupation of Cerro Chepén Alto lasted beyond the arrival of favorable climatic conditions.

Taking this evidence into consideration, it is possible to build a tentative picture of the regional collapse. In my opinion, two different circumstances were involved in the final abandonment of Cerro Chepén Alto, and in the widespread popular rejection of the
old Moche political orders of the Jequetepueque area. Regarding the highland outpost, once the favorable climatic conditions stabilized, the intruders may not have seen fit to prolong their stay in the coastal valley. They may have opted to go back to their highland home territories, where they could now raise bountiful harvests using the dry farming technique to which they were accustomed. In other words, I think Cerro Chepén Alto never collapsed. The usurping leaders and their retinues simply opted for a strategic retreat to the highlands, looking forward to exploit the vast tracts of land that had recovered their productivity, thanks to the return of the rains. The retreating leaders would have weighed the benefits offered by this new subsistence option against the costs of maintaining the coastal enclave, opting for a withdrawal.

The picture offered by the local coastal communities is different. Although much remains to be learned, it is possible that the retreat of the highlanders had a profound effect on the demise of the peripheral Moche communities. Local Moche commoners, who saw their domestic economies fall apart under the effects of the prolonged drought and the violent actions of peer communities, may have grown a deep resentment against their local leaders. I agree with Bawden (1996: 274) in that the main factor that caused the discred of Moche rulers was “ideological failure”. Moche elites lost authority when proving incapable of appeasing the negative forces of the cosmos. Once the foreign threat and the condition that fostered fratricide war was gone, local leaders lost the last excuse that they could resort to to stay in power. The abundance of water opened new possibilities for peaceful coexistence. Since it was no longer necessary to organize defensive actions, negotiate access to water, and closely regulate production activities, commoners may have seen no need for subsidizing the governments that had been
traditionally in charge of these responsibilities. Local residents, gathered spontaneously, would have been able to reactivation the abandoned irrigation systems, and raise abundant crops by opting for an energy-efficient strategy of extensive agriculture. In sum, the popular disaffiliation appears to have been coordinated and peaceful.  

The role of San José de Moro in the Moche collapse

When reviewing current theories for the Moche collapse (Chapter IV), I referred to two models that different authors proposed to explain the fall of the Jequetepeque communities. These two models were built from different perspectives: a) the information offered by the excavation of a regional elite cemetery (Castillo 1993, 2000, 2003), and b) the results of a settlement patterns study (Dillehay 2001). These two scenarios remain irreconcilable. Peruvian archaeologist Luis Jaime Castillo (2003: 111), on the one hand, established a semantic equivalence between “political collapse” and “elite disappearance of the iconographic record”. According to his model, political collapsed ensued when the higher echelons of the local Moche elite saturated the "market" of prestige goods with local copies of Huari sumptuary pots. This process ultimately led them to lose their identity and establish a different ideological order (ibid.). Dillehay (2001: 275), in a position more consistent with the arguments advanced in this

---

15 It is possible that the Moche popular disaffection was consolidated under the aegis of a “Revitalization Cult” (Wallace 1956, 1966). Indeed, there is tenuous evidence that indicates that the people of humble origin were overtly manifesting a "hidden transcript" (sensu Scott 1990) by the end of the Moche sequence. This evidence relates to the domestic face-neck jars decorated with the “New King” motif (Donnan and McClelland 1997: 37). These pieces, which seem to be exclusive to the Jequetepeque area, were produced during the latter part of the Late Moche phase (Donnan 1986a: 22). They saw a widespread dispersion in the lower valley, having been documented at 17 different sites (including Cerro Chepén Alto) (Hecker and Hecker 1987: 47). The alluded vessels portray an idealized image of an elite individual, shown with a singular non-Moche trait (a small mustache) and totally devoid of supernatural characteristics. This icon favors several interpretations that range from the representation of a new revolutionary leader, to a caricature of a Moche elite individual of mundane character. Whatever the case, these vessels evidence a change in commoner ideology occurring close to the end of the Moche period.
dissertation, suggested that the Moche collapse came as a result of internal conflict. This conflict was, in turn, instigated by "competition over choice land" (ibid).

The new information offered by the excavation of the buildings with galleries of Cerro Chepén Alto offers an opportunity to reconcile these two theories. This new perspective demands placing San José de Moro within the context of internecine war that was affecting the region. To understand this "reconciatory theory" I consider it necessary to review first three critical characteristics that more than fifteen years of excavations have revealed about the function and internal organization of San José de Moro:

1. San José de Moro experienced dramatic changes throughout its occupational history. Starting as a small local cemetery during the Early Moche phase, it evolved into a "gran centro ceremonial, en el que se congregaban las poblaciones mochicas de diversos sitios del valle y al cual acudían similares culturalmente mochicas de fuera del valle" during the Late Moche phase (Castillo 2000: 148). One of the main activities carried out at the site during the Late Moche phase was the inhumation of elite individuals (Castillo 2000: 149).

2. The excavations carried out at the funerary precinct of San José de Moro have revealed the existence of ancient superficial areas bearing low adobe brick enclosures, in which the most significant archaeological features found are post hole alignments and large intact Moche storage jars (paicas) embedded on the floors. The oversized vessels have been interpreted as containers of

---

16 "[San José de Moro] was a great ceremonial center, where Moche populations from different parts of the valley and from regions outside the valley congregated."
chicha beer, and the circumscribed spaces that contained them as rituals areas were communal festivities took place (Castillo 2001: 311; Rucabado and Castillo 2003: 17). Elite individuals were buried right beneath these areas. The "feast" events occurred during the Late Moche phase and during the subsequent "Transitional Period". The material indicators of these events are absent, however, in Early Moche occupation layers and in the much later Middle Sicán occupation surfaces.

3. The elite burials of San José de Moro do not find a close parallel in the archeology of the north coast of Perú. This singularity does not relate to the presence of elaborate chamber burials or to the wealth of the ceramic or metallurgical offerings that they include. In fact, there are other Moche sites in the north coast that have reported similar contexts with more lavish metallic equipments (Alva 1988, Alva and Donnan 1993, Donnan 1990, 2003; Uhle 1913). The Moche elite burials of San José de Moro are distinguished by the amazing stylistic richness of their ceramic offerings. The pots that were included as burial offerings display an astonishing variety of sub-styles, including Moche vases decorated with fine line motifs, Huari pottery, Huari-related vessels of central coast styles, "Cajamarca Costeño" bowls, and bottles of “Early Sicán” style (Castillo 2003, Fig 18.3).

If we consider that San José de Moro evidenced these three characteristics during a time in which the different political powers of the valley were militarily confronted, it is not difficult to understand the special role that the site may have played. In my opinion, San José de Moro was conceived as a meeting ground for the various warring groups of
the locality, where the opposing powers were given the opportunity to solve their differences with non-violent means. The encounters may have been predetermined by a ritual calendar. It is possible, too, that the sudden death of an important local leader would have prompted an extraordinary meeting. On these occasions, opposing groups may have assembled at the site to pay tribute to the deceased person. These groups would have seized the opportunity to relax tensions through the joint participation in solidarity festivals. Each group would have been expected to contribute a small batch of funerary offerings to the mortuary chamber of the celebrated leader. In cases where all the groups summoned belonged to the Moche tradition, the funerary equipment of the elite tomb would have ended up displaying a "pure Moche" composition. If, by contrast, one or more of the participating groups belonged to a different cultural tradition, the funerary equipment of the burial would have ended up displaying a certain level of stylistic contamination with exogenous pieces. I think that much of the “contamination” manifested by some Late Moche elite burial contexts of San José de Moro was due to the participation of leaders of Cerro Chepén Alto in the funerary celebrations.

The model proposed for San José de Moro also opens up the possibility for explaining a group of singular burials detected at the site. These burials, that present singular ceramic associations, have been assigned by the current site investigators to a post-Moche "Transitional Period". Originally defined as a time during which the first Middle Sicán influences were arriving at the site (Rosas 1995), the definition of the "Transitional Period" has changed lately thanks to new information provided by the funerary contexts (Rucabado and Castillo 2003). The transitional period is now seen as a period of “stylistic eclecticism” in which foreign styles dominate the ceramic repertoires
of local burials. Five pottery styles dominate the burial assemblages: Cajamarca, Cajamarca Costeño, Early Sicán, Casma Impreso, and Huari-related styles (Rucabado and Castillo 2003). The "Transitional Period" burials have been found concentrated in a central sector of San José de Moro (the “Cancha de Fútbol” sector). Given that most of these contexts cut through earlier Moche burials, the authors think they are representative of a post-Moche era. Even though none of these contexts has been dated, Castillo (2001: 327) proposes a tentative dating of AD 800-950 for this period based on comparisons with dated materials of other Peruvian coastal valleys.

In my opinion, it is arguable that the burials of the "Transitional Period" post-date the Late Moche phase. My doubt is based on the marked similarities that the “Transitional” funerary treatment (especially the one dedicated to the most important individuals) manifests with the Late Moche burial pattern. Notable coincidences include the form of the tomb (rectangular adobe chambers, most of the times adorned with internal niches), the position of the bodies, the presence of backed clay offerings (including small pinched vessels and architectural models), and even the style of the ceramic offerings (between 49% and 54% of the “Transitional” burial vessels are of Late Moche style) (Bernuy and Bernal 2005). I also find it remarkable that some of the most lavish tombs of the “Transitional Period” present the coffin of the central individual decorated with symbols that identify a well-known Moche goddess (Blando 2008, Del Carpio and Delibes 2004, Rucabado and Castillo 2003). In fact, the only significant difference that these burials manifest with typical Late Moche interments relates to the absence of vessels decorated with the emblematic Late Moche fine line style (Castillo 2001: 325). The clear signs of cultural continuity evidenced by the contexts of the
“Transitional Period” have led Rucabado and Castillo (2003: 39) to define this period as a post-collapse phase of institutional weakness, during which a few surviving elites continued clinging on to Moche ideological tenets.

There is an easier way to explain the peculiar character of the “Transitional” burials of San José de Moro. This explanation forces us to consider the regional character of the funerary center. To me, these abnormal burials do not mark the end of the Late Moche phase (in fact, they do not meet the two archaeological indicators of political collapse mentioned above). These burials, especially the ones belonging to the “Early Transitional” stage (Bernuy and Bernal 2005), are just contexts that included a substantial number of offerings dedicated by the leaders of Cerro Chepén Alto. Three of the major sub-styles that characterize this period (Cajamarca, Cajamarca Costeño, and Early Sicán), are nothing more than the “Cajamarca Cursive”, “Cajamarca Red-on-Buff” and “Fine Black” elite wares of Cerro Chepén Alto. The two remaining ceramic sub-styles that have not been detected at the hilltop center – Casma Impreso and Huari – may have still made their way into the Lower Jequetepéque Valley through the highland outpost. It is possible that these vessels were not kept by the residents of Cerro Chepén Alto because they were considered funerary pieces. It is also possible that these vessels were shipped from other sources, which suggests that Cerro Chepén Alto may have not been the only exogenous site that participated in the donation of ceramic pieces of foreign style.

In sum, the condition of internecine war that afflicted the Late Moche communities of the valley generated a severe transformation in local settlement patterns.

17 I do not believe, however, that the “Transitional” burials were the final resting places of the Cerro Chepén Alto elites. My skepticism stems from the fact that these burials manifest a clear Late Moche funerary treatment. The location of the graves of the central leaders of Cerro Chepén Alto still remains a total mystery.
Besides causing the contraction of productive areas and a territorial entrenchment of agricultural communities, this condition fostered the emergence of a new type of site (fortified hillside settlements), and elevated a preexisting site (San José de Moro) to a new category (from local graveyard to regional funerary center). During the critical Late Moche times, San José de Moro was transformed into an "escape valve" to allow communities in conflict to solve their differences through ritual means\textsuperscript{18}. In this sense, the site can be understood as the product of an adaptive strategy adopted by local leaders to solve a pressing problem. It is clear, however, that this attempt at reconciliation was not sufficient. The intricate design of the defensive works of Cerro Chepén Alto demonstrates that, at least for some valley communities, the threat of a violent takeover remained latent right until the end of the Late Moche phase. In the end, the unusual character of San José de Moro finds an explanation in the singular evolutionary processes that occurred in the Jequetepeque Valley during the Middle Horizon.

**Avenues for future research**

The regional collapse model presented in this study should be regarded as a tentative proposal. In fact, this model is largely based on evidence collected in only a handful of sites (e.g. the proposed contraction of the agricultural area as exemplified only by the case of the Pampas of Mojuape). Generalizing the evidence collected at these sites to the whole cultural landscape of the valley is a dangerous undertaking. The model is victim, as was inevitable, to the small number of investigations that have been carried

\textsuperscript{18} The use of non-violent ritual means to ease mounting tensions does not seem to be an unusual trait of pre-Hispanic societies that faced conditions of internecine war. Willey and Shimkin (1973: 461), for example, argued that the leaders of several Maya centers of the southern lowlands used the ball game as a strategy for “mitigating intercity strife”.
out in the region. However, I think that one of the main contributions of this model is that it poses new questions that can serve as a guide for future research.

With respect to the problem of the Late Moche collapse in the Lower Jequetepeque Valley, although there remain questions that may never be solved (e.g. how severe was the contraction of agricultural land instigated by the drought of the second half of the seventh century?) other questions may be readily accessible to archaeologists. Queries like: how many archaeological phases can be identified for the Moche occupation of the valley, how late do the Late Moche occupations of the valley project in time, and what is the approximate temporal position of the" Transitional Period ", may be answered by extending the investigations to other valley sites and retrieving new sets of radiocarbon dates. As to what the chronometric analyses concerns, I consider imperative that archaeologists working in the area significantly increase the number of dates collected at their study sites. They should also stop utilizing hardwood samples (wooden posts and charcoal) to conduct their C-14 tests, given that it is evident that construction materials were constantly recycled in the past. As evidenced by Donnan’s (2003) and Chapdelaine’s (2001) contributions, new sets of C-14 dates can dramatically change our understanding of Moche evolutionary trajectories. We need more dates to identify consistent temporal trends.

To test the validity of the arguments presented in this study, I consider it mandatory to continue investigations at Cerro Chepén. The excavations should now be extended to Cerro Chepén Bajo, specifically to some of the "hierarchical terraces” that abound in this sector. Investigations should be aimed at solving the functional character of these structures (were they elite residences?). But most important, the excavations
should concentrate on retrieving datable materials that could be used to define the occupation span of these structures. If this evidence confirms that the “hierarchical terraces” were contemporary with the buildings with galleries of Cerro Chepén Alto, we will be able to conclude that Cerro Chepén was actually composed of two sites that co-existed side by side, each hosting an elite segment that must have been subsidized by the local population.

To understand the cultural sequence of the Lower Jequetepoque Valley it is also necessary to extend investigations to the adjacent highlands. We know nothing about pre-Hispanic site densities in the western Andean region of the Jequetepoque because no thorough, archaeological survey has been conducted in this important cultural area. I find it difficult to believe that the two largest sites that dominated this region – Guzmango Viejo and Tantarica – have not been adequately investigated. Shallow superficial investigations have disclosed the presence of Inca materials at these sites. A thorough excavation program should probe deep into the structures to find evidence of earlier occupation surfaces and solve, once and for all, the dilemma of the temporal origin of these centers.

I consider it imperative to search for Middle Horizon architectural components at these sites, and to define the style of the sumptuary ceramics that were used by the local elites. As discussed in Chapter VIII, some of the fine pottery wares found in Cerro Chepén Alto are strange to the coast (e.g., the “Fine Orange” ware and the "Cajamarca Red-on-Buff" ware). The dilemma of the cultural origin of the occupants of the buildings with galleries will be properly solved only when the places of origin of these wares are accurately identified. I still believe that these two highland sites may hold the answers to
the questions raised by this study. The Middle Horizon occupations of these centers may also provide evidence of the odd ritual behaviors detected in the buildings with galleries, as is the case of the seated burials, the small Spondylus offerings, and the curious marks scratched on the surface of fine pottery vessels. Finally, it would be interesting to determine if the trash dumps of highland Middle Horizon structures include remains of coastal products, such as shellfish, other marine biota, and cultivated plants native to lowland plains. If this evidence is detected, it would lend support to the theory that coastal foodstuffs were shipped to the highlands, although not necessarily according to the mechanisms suggested in this study.

These are, in my view, the issues that still need to be solved to confirm the arguments presented in this study. Evidently, they do not exhaust all the information that needs to be gathered to attain a better understanding of the events that led to the collapse of the Late Moche communities of the Jequetepeque region. Other avenues of research that may be pursued to clarify this problem include: a) a detailed reconstruction of the Late Moche settlement pattern in the valley, b) a comprehensive register of the irrigation systems that were used during this time (which may serve, for example, to delineate ancient political territories with more precision), c) an evaluation other lines of evidence that may prove the existence of a prolonged dry period during the Late Moche phase (possibly from sediment cores drilled in the inland fresh water lagoons of the Lower Jequetepeque Valley), d) a comparative analysis of health indicators on Early Moche and Late Moche skeletal materials to determine if the living conditions of commoner populations deteriorated during the late phase, e) a characterization of the Late Moche fishing community of Chérrepe, and an assessment of whether their members were
affected in any way by the conflict that confronted the agricultural communities of the region, and f) extend explorations to the middle section of the San Gregorio River, an area which has been totally neglected by archaeologists and may include archaeological sites which may have been the source of the foreign materials that characterize the "Transitional Period" of San José de Moro.
APPENDICES
APPENDIX A – DESCRIPTION OF ARCHAEOLOGICAL DEPOSITS AND FEATURES

(See figure 8.4 for a reference)

1. **Floor intrusions.** This type of archaeological deposit is comprised of the contents of the holes and pits that were dug on occupation floors. While in most cases these pits were created to serve as simple vessel supports, some of them were used as trash receptacles (Schiffer 1977:21, 1983:692). The cultural materials contained in these holes are considered to have been used during the time the structures were occupied.

2. **Sealed trash layer.** It is a singular type of deposit found inside the two-floor gallery of Building IV and the rear gallery of the set of Interconnected Rooms of the same building. This type of deposit is a trash layer that was spread evenly above an occupation floor and later sealed by a mud floor. These layers commonly occur superimposed in short sequences, and rarely surpass 15 cm in depth. These layers are evidence of a clever refuse disposal strategy that implied integrating discarded materials into the interior space of architectural units that remained in use.

3. **Above-floor trash layer.** This is a refuse layer that spreads above the surface of an occupation floor. In some cases, it represents the initial step in the creation of a sealed trash layer.
4. **Above-floor sherd concentration.** A small discrete concentration of ceramic fragments found directly above an occupation floor. In most cases, the sherds belong to a single pot and indicate the precise place where the vessel was broken (but not necessarily used).

5. **Initial fill.** Fill layer that lies below the first occupation floor of the building. This layer was commonly used to fill up support terraces and/or to create a horizontal use-surface above the rocky substratum.

6. **Intermediate fill.** This type of deposit comprises all the fill layers that were laid above the first occupation floors of the buildings. In most cases, these layers are themselves sealed by posterior occupation floors. Most of the fill layers of lateral benches belong to this category.

7. **Wall fill.** The free-standing walls of the buildings with galleries have two faces of piled stones. The void spaces that lay between the stones that comprise these two faces were filled with a mud and gravel mixture that sometimes contained cultural materials (small ceramic sherds). In some cases, larger sherds were integrated into the walls to hold some exterior stones firmly in place. Given that most of the free standing walls of the buildings with galleries were the first architectural elements of the structures to be built, the cultural materials contained within “wall fills” are considered to pre-date the occupation moment of the buildings.
8. **Roof debris.** Sediment layer of uniform thickness that covers the occupation floors of some narrow architectural spaces. This type of layer is indicative of the careful dismantling of a roof structure and contains, as a distinctive feature, solid earth lumps that bear impressions of canes, fiber cords, and other perishable materials that were used in roof construction. As an interesting feature, this layer also tends to contain small bits and pieces of cultural trash that were inadvertently mixed with the mud that was used to seal up the roofs. This type of layer generates an interesting effect of reversed stratigraphy, given that the materials contained in it tend to pre-date the use of the underlying surfaces.

9. **Wall debris.** This type of deposit is the result of wall collapses that cover most of the interior spaces of the structures. They tend to represent the superficial layer in the stratigraphic sequences of the buildings. These layers also induce a problem of reversed stratigraphy, given that the cultural materials that they contain tend to pre-date the occupation span of the structures.
APPENDIX B – DESCRIPTION OF DOMESTIC POTTERY TYPES

In this section, I characterize the domestic wares of Cerro Chepén Alto and describe their most representative morphological types. The domestic wares of Cerro Chepén Alto are represented by a minimum of 402 vessels, 231 of which were found within contexts associated with occupation surfaces of the buildings with galleries. Two clearly distinguishable wares form part of this pottery category: the Late Moche domestic ware, which is clearly dominant (393 vessels or 97.8% of the sample), and the "Cajamarca Coarse Red" ware, of obvious exogenous origin, which represents an absolute minority (9 vessels or 2.2% of the sample). The Late Moche sample has been organized into different types, based on obvious differences in the form of the vessels. The specimens belonging to the Cajamarca Coarse Red ware have not been classified due to the small size of the sample.

The description of the domestic wares focuses on the following issues: morphological types and variants, most common decorative techniques, chronological position (established on the basis of stylistic comparisons with materials that have been dated or seriated at other North Coast sites), relative popularity of the types (if applicable), and percentage of vessels associated to occupation surfaces. I also conducted a brief functional analysis of the specimens, which is restricted to the identification of vessels that served cooking functions. The latter assessment was restricted to the components of the Late Moche sample, and was based on the detection of superficial soot deposits. The most important result of the functional evaluation is that, although some ceramic types might have been dedicated to specialized functions, in most cases there
was not a strict correlation between form and function. In other words, it seems that different ceramic types were devoted to different uses, as the occasion required.

Regarding the functional traits that were used to identify domestic vessels, two are the most significant (in order of importance): a) the presence of an untreated or smooth surface, and b) a relatively coarse paste texture. Domestic vessels are also distinguished for presenting evident signs of careless firing. These signs are typically manifested by the presence of a dark core in the sherds, frequent fire clouds on the surface of the containers, and even slight heat-induced deformations. The reddish color of the surfaces of the pottery fragments indicates that the vessels were fired in an oxidizing atmosphere. Frequent cases of firing accidents suggest that the vessels were massively burned in open fires. The vessels that make up the domestic category are also distinguished for presenting simple body forms and relatively simple decorative treatments.

**Late Moche domestic wares**

The 393 vessels that comprise the Late Moche domestic group have been organized in five morphological types, which include collared bowls (6.36%), constricted vessels with neck (81.42%), bottles (2.04%), *paicas* (7.89%), figurines, and a miscellaneous category that encompasses vessels that could not be assigned to any of the former types (2.29%). The second type is disproportionately large (N = 321) and includes several morphological variants (6), all distinguishable based on differences in neck profile. It is clear that all the types, and the morphological variants they include, were designed to serve different utilitarian functions. Marion Floyd Smith (1983:227), for
example, identified in the ethnographic literature 13 different possible uses for ceramic containers, which included wet storage, dry storage, brewing, serving, eating, drinking, cooking or heating, transporting liquids, mechanical processing, washing, receptacle, container for fire, and ritual. I surmise that most of these uses are represented in the domestic Late Moche pottery sample of Cerro Chepén Alto, some of which would have been clearly dominant.

In regard to the form and decoration of the vessels, the Late Moche domestic sample shares a series of basic traits that makes it a stylistically consistent corpus. Based on the observation of body fragments, and of the vessels that could be, to a large extent, rebuilt, I was able to conclude that all the utilitarian vessels had simple globular bodies with round bases. In most cases, the vessel bodies had no functional appendages (e.g. strap handles), although some small specimens had a pair of perforated lugs placed symmetrically at the shoulders, or at the base of the neck of the vessels.

The decorative treatment of the specimens was similarly simple. Different decorative techniques were used to embellish the necks and bodies of the pots. Except for the morphological variant "constricted vessels with effigy neck", which features the most complex forms of neck decoration (see below), the preferred type of neck embellishment involved the use of simple strokes of cream paint. Broad bands of paint were carelessly applied along the rim and/or the base of the necks. Sometimes, the entire exterior surface of the neck was covered with a cream slip. Two less frequent decorative treatments of vessel necks involved the use of sculptural effects. These treatments consisted of: a) a superficial pinch on the exterior surface of the neck when the clay was still plastic, that created two small depressions separated by a narrow protuberance (Fig. A.1 a), and b)
two small solid lumps of clay applied symmetrically on opposite sides of the neck. These three simple decorative techniques exhaust all possibilities of neck decoration for the great majority of vessels.

The bodies of the vessels were seldom decorated. If decoration was present, it rarely involved the use of paint (except in cases when the band applied along the base of the neck was extended down into the shoulder of the vessel). The decoration in this case tends to be three-dimensional. Some bodies have their exterior surfaces covered with an irregular concentration of humps (generated by internal finger pressure on plastic clay) (Fig. A.1 b). Some other vessels present a wavy surface (generated by external and internal longitudinal pressure applied with extended fingers on fresh clay). I have also detected a few cases of seal-pressed decoration, which invariably involved a naturalistic frog motif (Fig. A.1 c, d). These simple techniques exhaust the repertoire of decorative treatments of vessel bodies.

Regarding manufacturing technique, the final shape of the bodies of most vessels seems to have been attained with the paddle and anvil technique. This technique is recognizable by the presence of repeated anvil (cobblestone) prints on the interior surface of the largest body fragments. It seems remarkable that the Moche did not choose to use decorated paddles when finishing their vessels. These instruments became popular during later Sicán and Chimú times, making the recognition of the domestic pots of these traditions an easy undertaking. The necks of the majority of Moche vessels, on the other hand, were made separately with the coiling technique. Many of these necks were imperfectly adhered to the bodies, commonly breaking along juncture points with the bodies.
Figure A.1. Some common three-dimensional decorative variants of Late Moche domestic pots.
1. Collared bowls (Fig. A.2)

Of the Late Moche sample of domestic pots, the collared bowls represent the only type of vessel with a non-constricted body. These vessels have a globular body, a proportionally large orifice diameter (which exceeds the total height of the vessel), and a small out-slanting collar. This type includes a minimum of 25 different specimens. The collared bowls come in a wide variety of sizes, ranging from relatively small pots (14 to 26 cm in mouth diameter) to large vessels (30 to 40 cm in mouth diameter). Although this form is perfectly adapted to the uses of serving and eating of food, surface marks indicate that most of these vessels were used in cooking activities. Seventeen pieces (68%) of our sample have evident soot stains. I must admit, however, that the only specimen that could be totally rebuild – which was found on the above-floor trash layer accumulated in the interior of the southern gallery of the Two-floor Gallery Group of Building VIII – showed no carbon deposits. I can not rule out, in consequence, that this form was also dedicated to other uses.

The collared bowls are a traditional Moche form. They are commonly represented, for example, in the ceramic repertoires of Late Moche burials of San José de Moro. In this site, they also formed an integral part of "Rasgo 15", a unique sub-surface Late Moche adobe chamber filled to capacity with a wide variety of intact domestic vessels. These vessels were presumably used in the production of chicha beer (Castillo 2003, Lám 18.2a). The collared bowls also form part of the domestic pottery repertoires of the southern Moche tradition (Chapdelaine et al. 2005, Fig 6; Topic 1977: 509). In the southern region, these vessels were occasionally transformed into fine pottery pieces through the application of a dense painted decoration and a neat surface polish (Bennett...
Figure A.2. Late Moche domestic pottery: collared bowls.
1950, Plate 12 D; Chapdelaine 1998, Fig 102). In the South, this form has a clear Gallinazo antecedent (Fogel 1993, Fig 34). In the buildings with galleries of Cerro Chepén Alto, 23 of the 25 recorded vessels were retrieved from significant occupation deposits. This evidence suggests a good correspondence between this ceramic form and the occupation span of the structures.

2. Constricted vessels with neck

The constricted vessels with neck constitute the largest Late Moche domestic type of the sample (N = 321) and also the ceramic type that presents the highest number of morphological variants. These variants are basically distinguished by differences in the shape of the neck profile. In general terms, it is possible to recognize two broad-neck variants within the sample: a) tall necks (which are slightly higher than wide) and b) low necks (which are wider than tall). Different morphological variants may manifest a strong preference for any of the two neck types.

2.1. Vessels with effigy neck

This morphological variant includes all vessels that have a neck decorated with three-dimensional designs. The decoration usually represents human or animal heads, and was apparently aimed at giving the whole vessel an anthropomorphic or zoomorphic form (although additional body features are commonly absent). Four decorative techniques are represented within the sample, all of them applied on tall necks: a) mold-made necks, b) necks decorated with seal-impression, c) modeled necks, and d) necks decorated with incisions and clay appliqués ("Gallinazoid" necks). In total, 62 specimens belong to this
morphological variant, 40 of which come from contexts associated with occupation floors.

2.1.1. Mold-made necks (Figs. A.3 to A.6).

The vessels that belong to this morphological sub-variant are relatively large (ca. 50 cm in height, see Castillo 2000, Fig 19 B for an illustration of a complete vessel) and have a neck that bears a mold-stamped decoration. The molds used to create the necks of these vessels were bivalve (one mold was used to create the character's face and the other to shape the back of its head). Our sample of necks decorated with this technique (N = 37) includes 21 naturalistic representations of humans, six of llamas, four of felines, and another six whose specific design could not be determined.

The most common representation (N = 17) of the sample of mold-made necks refers to a human character that Donnan and McClelland (1997: 37) called "New King". Two basic attributes characterize this character: a small mustache that grows above the corners of the mouth, and two circular earrings that have a large tubular support piercing the earlobes. Additionally, the character may present a head ornament (serrated crown or bead tiara), and hair locks or thin braids falling over the sides of the face (Fig. A.3). Donnan (1986a: 22, 1997: 13) sees in the New King representations an ideal temporal marker for the end of the Late Moche phase in the Lower Jequeti peque Valley. In our excavated sample, 13 of 17 New King specimens were found in contexts associated with occupation surfaces of the buildings with galleries. The sequential trash layers of the two-floor gallery of Building IV, in particular, yielded four complete specimens of New King necks.
The mold-made necks decorated with human heads also include two naturalistic depictions of young males with no mustaches (Fig. A.4). These representations may be related to the New King character given that they also have thin braids on the sides of the face. Finally, a broken neck found within the central courtyard of Building IX’s Patio-group showed a third version of human representation. This version shows an individual with his mouth wide open and his teeth depicted as rows of small pellets (Fig. A.4 c). Figure A.4 d shows a neck fragment bearing a similar decoration found within the sequential garbage layers of the two-floor gallery of Building IV. These finds corroborate that the two *parcialidades* that occupied the buildings with galleries actually used the same types of utilitarian vessels.

For Wolfgang and Giesela Hecker (1987), both the human and zoomorphic representations that make up this decorative variant form part of a distinct ceramic style that is unique to the Lower Jequetepéque Valley. They defined this style based on a sample of 281 fragments collected on the surface of 16 different valley sites (not including Cerro Chepén). Wolfgang and Giesela Hecker called this style “Pacanga”, and suggested that it had an independent evolutionary line to the Moche style, and that it reached its splendor after Late Moche times (1987: 61-62). To the contrary, the contextual associations of Cerro Chepén Alto demonstrate that the “Pacanga style” is just one of the manifold decorative variants of the Late Moche domestic style.

Finally, a curious characteristic of the necks decorated with mold impressions that is worth mentioning is the richness of the artistic renditions. Despite the use of a manufacturing technique that favored mass production, and the limited set of decoration themes of the sample, we did not detect two pieces made with the same mold. The
Figure A.3. Late Moche domestic pottery: mold-made jar necks decorated with the “New King” design.
Figure A.4. Late Moche domestic pottery: mold-made jar necks representing human heads.
Figure A.5. Late Moche domestic pottery: mold-made jar necks representing feline heads.
Figure A.6. Late Moche domestic pottery: mold-made jar necks representing llama heads.
absence of identical pieces was not only detected in the excavated sample, but was also manifested in a sample of similar size that included surface pieces and excavated neck fragments that had no rim portions (and that were, therefore, not counted as individual vessels). The lack of repetitions is troubling, especially considering that these vessels may have been supplied by local workshops (all vessels share similar paste characteristics). The absence of identical specimens may be a manifestation of an instituted cultural rule that prohibited the use of identical vessels within the same activity areas.

2.1.2. Necks decorated with seal impressions (Fig. A.7)

The excavated sample of necks decorated with seal impressions includes 10 specimens. The most common designs printed on these necks are human and owl faces, the latter sometimes appearing stamped twice on the same neck. The decoration is usually portrayed on tall, slightly out-slanting necks with orifice diameters ranging between 9 and 14 cm. Unlike the previous decoration variant, this type of surface embellishment does not generate major changes in the original form of the neck.

Jars necks decorated with seal-pressed designs are typical of the Late Moche tradition of the northern territories. Edward Swenson collected several necks fragments decorated with this technique on the surface of various Late Moche “hinterland ceremonial sites” of the valley, with special incidence at San Ildefonso (Swenson 2004, Figs. 7.19-7.22). Some of the designs of Swenson’s sample are similar to the ones of Cerro Chepén Alto. Vessels decorated in a similar way (and with similar motifs) were collected by Shimada (1994a, Figure 7.32) in the central sectors of Pampa Grande. In the
Figure A.7. Late Moche domestic pottery: jar necks decorated with seal-pressed designs.
Jequetepeque Valley, the use of seals to decorate pots is a practice that originated during the *Early Moche* phase (Donnan and McClelland 1997: 42, 80, 148, 149; Ubelohde Doering 1983, Figs 18-5, 19-6, 22 -1, 23-4, 51-2). The survival of this technique during the Late Moche phase evidences the conservativeness of domestic pottery production networks.

Five necks decorated with seal impressions of our sample were found associated with significant deposits. Especially relevant were two specimens found discarded within a hole dug on the floor of the two-floor gallery of Building VIII. This hole contained several charred corn kernels, which were dated yielding a calibrated (2 sigma) result of AD 622-772.

2.1.3. Modeled necks (Fig. A.8 a, b).

Another neck decoration variant includes specimens in which anthropomorphic facial features were modeled using finger pressure on plastic clay. The necks that bear this decoration have vertical or slightly out-slanting walls, and orifice diameters ranging between 7 and 13 cm. Typically, the only facial features represented were nose, eyes, and ears. The nose takes the form of a hump, created when applying finger pressure from the inside of the neck. Two external finger prints were used to shape the eyes. Finally, the ears were shaped by "pinching" the lateral sides of the neck. This decoration variant is related to a much simpler and more widespread decoration technique of domestic vessels described above, which consisted of a single pinch on the exterior surface of the neck (Fig. A.1 a). Five of the eight vessels with modeled necks that comprise our sample were retrieved from significant occupation contexts.
2.1.4. Necks decorated with incisions and clay appliqués (Fig. A.8 c-f).

Six neck specimens have human facial features created with incisions and small solid clay lumps. Generally, a single pointed lump was used to shape the nose, and two similar elements were used to form the ears. The eyes were created with simple elongated incisions. In one exceptional case, a small tubular object was used to stamp two circular eyes. Mouths, on the other hand, were never depicted. Necks decorated in this way commonly belong to small ceramic shapes (orifice diameters ranging between 3.5 and 10 cm). In our excavated sample, two out of six specimens were found associated with significant occupation layers. This neck decoration variant, which has a strong “Gallinazo” reminiscence, was relatively common in the Jequetepeque Valley during Early Moche times. Its continuity into Late Moche times is another indicator of the slow rate of change that characterized the domestic pottery production networks of the valley.

2.2. Vessels with platform neck (Fig. A.9)

Platform necks are another excellent chronological marker of the later stage of the Late Moche phase in the Lower Jequetepeque Valley (Donnan 1997: 13; Donnan and Cock 1986b: 27). We have 20 specimens, with mouth diameters ranging between 10 and 18 cm. I have detected two morphological sub-variants within this type that are expressed in the height of the necks: low platform necks, and high platform necks. In the case of the low necks, the platform was shaped when the clay was still fresh by pressing the neck downwards until an external fold was created. This fold was later flattened with the fingers. In the case of the tall necks, the external platform was shaped by displacing the rim inwards. Only five of the 14 specimens that comprise the low-neck variant were
Figure A.8. Late Moche domestic pottery: jar necks with modeled decoration (a-c) and “Gallinazoid” necks (d-f).
Figure A.9. Late Moche domestic pottery: vessels with platform neck. Left column: low platforms; right column: tall platform necks.
found within significant occupation layers. Two of these were retrieved, however, from
the same trash pit that contained the two necks decorated with seal impressions described
above. All of the tall platform necks, on the other hand, were found associated with
occupation floors. Finally, although this type is commonly identified as a "cooking pot"
(Swenson 2004: 728; Donnan 1986a: 22), only one specimen of the sample had external
traces of soot.

2.3. Vessels with undulating neck (Figs. A.10 and A.11)

The undulating neck is the most common variant of Late Moche composite neck
of the sample. Our sample is comprised of 75 specimens with orifice diameters ranging
between 8 and 21 cm. In general terms, these necks are composed of two sections: the
first is a straight or curved (convex) basal section, and the second is a relatively short,
expanded rim. The walls of the neck may show a vertical trend, a slight out-slanting
inclination, or an inward tilt (the latter being the most common). A striking feature about
this neck type is the amazing variety of formal divergences among neck specimens. This
may be indicative of the contribution of several different potters.

Vessels with undulating necks are typical of the Late Moche phase in the Lower
Jequetepeque Valley. Indeed, Swenson (2004, Fig 7.7), and the Heckers (1987, Fig 108)
collected several specimens on the surface of several regional Late Moche sites. This
neck variant, however, seems to have originated during the Early Moche phase. During
the years 1991 and 1995, when working for the San José de Moro Project, I collected
several specimens from the deepest levels of two deeply stratified occupation mounds of
Figure A.10. Late Moche domestic pottery: vessels with undulating neck (necks with inward tilting walls).
Figure A.11. Late Moche domestic pottery: vessels with undulating neck (necks with vertical or slightly out-slanting walls).
the site. Although the results of the investigation are not entirely conclusive, these levels can be temporally ascribed to the Early Moche phase.

In terms of contextual associations, the vessels with undulating neck may not be the best chronological markers in our sample (neck fragments of only 37 different vessels were collected from significant discard deposits of the buildings). Two complete vessels, however, were found in situ in the central courtyard of the Two-floor Gallery Group of Building VIII. Finally, regarding the possible uses dedicated to these pots, the cooking function seems to have been one of the most favored (a minimum of 27 showed evidence of soot deposits).

2.4. Vessels with bulge neck (Fig. A.12)

Bulge necks are another neck form typical of the Late Moche domestic tradition. Our sample includes 20 specimens, all of them of the low neck variant. These specimens manifest slight discrepancies in the way in which the curved neck was created. In some of them, the neck profile describes a perfect "C". In others, the necks have slightly outslanting walls and a rim section showing a marked inward inclination. The mouth diameter of all these specimens is relatively constricted (8 to 16 cm).

Vessels with bulge necks are common to the Moche domestic tradition of the southern territories, where they are especially characteristic of the Moche IV phase (Topic 1977: 256). In this region, this ceramic form has a long history of use that can be traced back to “Gallinazo” times (Ford 1949, Fig 6, Form 25). The bulge necks are not well represented, on the other hand, in the Jequetepeque Valley. In our sample, only eight
specimens were recovered from significant discard contexts. Only one had exterior traces of soot (in this case, it was clear that a vessel fragment was re-used as a burner).

The bulge necks have a large-size version, represented by 13 fragments retrieved in different architectural contexts of the buildings with galleries (Fig. A.13). Only five of these specimens came from deposits associated with occupation surfaces, and my impression is that this ceramic type was not common in Cerro Chepén Alto. Virtually all the specimens with good contextual association are represented by small isolated fragments that could not be fitted to any other sherd of the excavated sample. These fragments might represent, therefore, wall fill elements that slipped into the above-floor trash layers. In order to find large-size examples of these neck fragments, I was forced to resort to the Cerro Chepén Bajo surface ceramic evidence, in which this ceramic form is well represented. Figure A.13 shows that these large-size necks were sometimes very tall, in some cases even surpassing the height of the body of the vessels. In our excavated sample, the mouth diameters of these vessels range between 18 and 46 cm. These pots would have constituted high-capacity storage vessels, which were possibly dedicated to the same uses as the *paicas* (see below).

2.5. Vessels with out-slanting necks and thinned lips (Fig. A.14)

One of the best temporal markers of our sample of Late Moche domestic pots is a vessel that has a low, out-slanting neck that has a very characteristic thinned lip. Fourteen out of the 18 vessels that constitute our sample were found discarded in the above-floor garbage dumps of all three buildings, and most of them were represented by several fragments that could be fitted together. The orifice diameters of these specimens are very
Figure A.12. Late Moche domestic pottery: vessels with bulge neck. Left column: vessels with out-slanting necks; right column: vessels with vertical necks.
Figure A.13. Late Moche domestic pottery: oversized jars with bulge neck.
consistent, ranging between 11 and 17 cm (although we have a single vessel with a mouth diameter of 27 cm). Five of these vessels were used for cooking activities. Given their superb contextual associations, this type of domestic vessel represents – along with the New King jars and the vessels with platform neck – an excellent indicator of the material production of independent, low status potters during the later part of the Late Moche phase.

2.6. Vessels with simple necks (Fig. A.15)

The most numerous morphological variant of the Late Moche domestic pottery group is represented by constricted vessels with simple necks. This morphological variant comprises a minimum of 112 vessels, 54 of which were retrieved from significant occupation layers. Given that this morphological group is so large, it has a great range of variation in the shape of individual necks. The sample includes low and tall necks, with straight or curved walls, vertical or slightly out-slanting. Orifice diameters vary between 6 and 16 cm, while larger specimens have openings ranging between 20 and 24 cm. Such a large ceramic sample would have manifested different uses. Interestingly, cooking does not seem to have been one of the most favored, with only 11 specimens (9.8% of this variant) showing exterior soot deposits. Unfortunately, given that the shape of this type of neck is so simple, it bears a low value as temporal or even cultural indicator. In fact, virtually all the cultures that inhabited the North Coast during pre-Hispanic times produced similar versions of vessel necks.
Figure A.14. Late Moche domestic pottery: vessels with out-slanting necks and thinned lips.
Figure A.15. Late Moche domestic pottery: vessels with simple necks.
3. Bottles (Fig. A.16)

Bottles are vessels with globular bodies that present a single peak that bears a very narrow (2 to 5 cm wide) aperture. In fact, the peak of these vessels is so narrow that it only allows enough space for introducing a human finger. While in theory the bottles belong to the category of constricted vessels with neck, I decided to group them in a separate type given that they present a series of distinctive characteristics that suggest that they formed a distinct functional category.

Our sample of bottles includes eight specimens, six of which were found associated with occupation floors. The peaks of these vessels are straight and relatively short (ranging between 3 and 4.5 cm), and sometimes present an expanded lip. Some bottles were given unique decorative treatments. In the garbage dump of the Vestibule of Building IX, we found a specimen decorated with undulating cream bands that descended from the base of the peak to the bottom of the body (Fig. A.16 a). The same context held another unique specimen that apparently bore a curved tubular handle that connected the peak with the shoulder of the vessel (Fig. A.16 b). Two additional bottles (not counted in this sample) had their peaks decorated with “Gallinazoid” facial features. In terms of vessel function, the narrowness of the apertures suggests that these vessels were designed to contain and/or transport liquids (Smith 1983:266). In fact, none of the specimens presented trace of soot.

4. Paicas (Fig. A.17)

The paica is the standard Cerro Chepén Alto version of a high capacity vessel. These vessels are large (ca. 40 to 65 cm tall) and have very wide orifice (30 to 60 cm).
Figure A.16. Late Moche domestic pottery: bottles.
The excavations carried out at the buildings with galleries allowed us to retrieve fragments of what I think were 31 different *paicas*, twelve of which came from the garbage dump of Building IX’s Vestibule. Four *paicas* found within the three excavated buildings could be rebuilt to a large extent, showing a high level of similarity in general morphological features. These vessels had proportionally tall necks, with slightly outslanting walls and a vertical or inverted rim section.

The *paicas* make up an internally-consistent morphological group, as evidenced not only by shape features, but also by paste composition. The *paicas* tend to have a crumbly paste, fired at low temperature, and tempered with large rounded igneous particles (river sand). In terms of vessel function, this morphological type may be the best example of a multi-use vessel within the Cerro Chepén Alto ceramic sample. As indicated in a previous chapter, a starch-grain identification analysis conducted on organic residues retrieved from one specimen (Paica 1) proved that this vessel was used for cooking *chicha* beer (Vasquez and Rosales 2005b). Based on ethnographic information of traditional north coast *chicha* beer producers, we can infer that some of these vessels were also used to ferment the beer, or to store it for massive celebrations. Finally, the great volume of these vessels is also suited for long-term storage of liquids and solids. The vast majority of specimens of the sample (N = 27) bore no superficial soot deposits.

5. **Figurines** (Fig. A.18)

Figurines represent a singular part of the Late Moche domestic pottery group. Given that the figurines share the same paste, firing, and surface treatment of components
Figure A.17. Late Moche domestic pottery: paicas.
of the Late Moche domestic pottery group, they are included in this category. It is clear, however, that these artifacts were used differently from most ceramic containers. This function was apparently related to what Smith (1983: 227) called "ritual use".

It is difficult to discern proportional representation of figurines within the domestic pottery group, given that these objects lack the vessel part that was used in the quantification of specimens (rim piece). It is even difficult to estimate the minimum number of figurines present in the excavated sample, given that most are represented by small fragments which stemmed from different parts of the effigies. My impression is that their numbers were quite low, barely exceeding a dozen. The vast majority of figurine fragments came from inconspicuous fill deposits. The three most complete effigies were retrieved from an “Intermediate fill” layer of the Area of Irregular Architecture of Building IV, and from the garbage dump of the Vestibule of Building IX.

Figure A.18 illustrates the most representative figurine fragments found during the excavation of the buildings with galleries. All refer to relatively small (max. 20 cm long) hollow pieces that were made with bivalve molds (one mold for the frontal part of the body and another for the back part of the body). All the representations seem to allude to human females. These individuals are shown wearing necklaces and bracelets, and a short, plain shirt that leaves the sexual organs uncovered. Representations of Moche divinities and mythological beings, present in some Moche sites of the north coast (Bawden 1990: 163, Donnan 1978, Fig 250) are entirely lacking in our sample.
Figure A.18. Late Moche domestic pottery: figurines.
The Cerro Chepén Alto sample of domestic pottery includes a small proportion of an exogenous ware that I have called "Cajamarca Coarse Red" due to its stylistic similarity with a utilitarian component of the pottery assemblages of the Cajamarca Tradition (Julien 1988, Terada and Onuki 1982, Reichlen and Reichlen 1970[1949]). In our excavated sample, this ware includes a minimum of nine vessels (2.2% of the domestic group) and about three dozens body fragments. During the excavation of the buildings with galleries, four basic characteristics allowed for rapid differentiation of the fragments that belonged to this ware: a) paste color (which is light brown in contrast to the red-brick color of most Moche domestic sherds), b) the presence of a thick black core in the sherds, c) the presence of a dark red external slip, and d) the presence of a polished surface on some rim fragments. The differences with traditional Late Moche forms also include atypical vessel shapes and vessel decoration variants.

Terada and Onuki (1982: 107) distinguished five basic vessel shapes within the Cajamarca Coarse Red ware of the highlands, all relating to large constricted vessels with neck. The most distinctive shape is a large jar with a pointed base, a strong inflection at the shoulders, a tall concave neck, and an expanded, up-turned rim. Commonly, a pair of vertical strap-handles connect the rim with the shoulder of the jar (Fig. A.20 c). Three vessels of our excavated sample conform to these shape specifications, and fragments of two more vessels were found on the surface of the sector. The Cerro Chepén Alto repertoire of Cajamarca Coarse Red ceramic forms is completed with three pots with short concave necks, and three other small pieces with constricted bodies (Fig. A.19).
Another aspect that distinguishes the Cajamarca Coarse Red ware is the decoration of the pots. Besides the exterior dark red slip, most vessels bear three-dimensional decorative features consisting of a complex arrangement of incisions, punctations, and appliqué designs. The most common form of body ornamentation involves long “fillets flattened with a fingertip or blunt-pointed tool at short intervals, giving the appearance of a string of beads” (Julien 1988: 102). Other variants of appliqué decoration include isolated nubs and "semicircular knobs with two or more circular punctations placed near the lip" (ibid). We were able to retrieve an example of the latter ornamental appendages during our excavations (Fig. A.20 b). Finally, short incisions and punctations were also applied on the external surface of the vertical handles (Terada and Onuki 1982, Plate 94-8).

Unfortunately, the Cajamarca Coarse Red ware is an unreliable temporal marker. This ware persists throughout the Cajamarca sequence (ca. 250 BC - AD 1532), although it is more common during sub-phase C of the Early Cajamarca Phase and during the Middle Cajamarca Phase (ca. AD 350-900) (Julien 1988: 102, Matsumoto 1994: 185). In the case of Cerro Chepén Alto, the temporal correspondence of this ware with the occupation span of the buildings with galleries is corroborated by three lines of evidence: a) six of the nine vessels of our sample were retrieved from significant occupation contexts, b) in some particular locations – the Vestibule and the central courtyard of Building IX’s Patio-group – we detected a large concentration of body fragments that evidently belonged to vessels that were transported whole to the site, and c) the presence of some Late Moche domestic forms (vessels with undulating neck) that adapted body features typical to Cajamarca Coarse Red vessels (Fig. A.20 e, f).
Figure A.19. Cajamarca Coarse Red ware: jars with tall neck (a-c), jars with concave neck (d, e), and two small vessel shapes (f, g).
Figure A.20. Cajamarca Coarse Red ware: decorated fragments of jars with tall neck (a-d), and Late Moche domestic vessels that imitate Cajamarca Coarse Red forms (e, f).
APPENDIX C – OVERSIZED FIGURES

- Figure 5.2. Main topographic features and ecological niches of the Lower Jequetpeque Valley.

- Figure 5.14. The most important sites and irrigation canals of the *Early Moche* phase in the Jequetpeque Valley.

- Figure 5.17. The most important sites and irrigation canals of the Late Moche phase in the Jequetpeque Valley.
Figure 5.2. (page 2 of 4)
Figure 5.2. Main topographic features and ecological niches of the Lower Jequetepeque Valley.
Figure 5.14. The most important sites and irrigation canals of the Early Moche phase in the Jequetepeque Valley.
Figure 5.17. (page 3 of 4)
Figure 5.17. The most important sites and irrigation canals of the Late Moche phase in the Jequetipeque Valley.
LIST OF REFERENCES

Abbott, Mark B., Michael W. Binford, Mark Brenner, and Kerry R. Kelts

Abercombie, Nicholas, Stephen Hill, and Bryan S. Turner

Abrams, Elliot, and David Rue

Algaze, Guillermo

Almícar Torres, J.
1940 La fortaleza de Chepén. La Unión, Pacasmayo, January the 1st.

Alva, Walter

Alva, Walter, and Christopher B. Donnan
1993 Tumbas Reales de Sipán. Pearl River Printing Company, Hong Kong.

Anders, Martha B.


Anders, Martha B., Victor Chang, Luis Tokuda, Sonia Quiróz, and Izumi Shimada

Andres, Thomas C.

Anónimo

Arkush, Elizabeth, and Charles Stanish

Armas, José, Walter Alvarez, Alvaro Castañeda, Fernando Moncada, Wilmer Mondragón, José Peña, Rafael Rojas, Ester Calderón, and Fabián Soberón

Arnold, Dean E.

Athens, J. Stephen

Balkansky, Andrew K.

Barber, Richard T., and Francisco P. Chávez
Barr Argomedo, Genaro

Barth, Frederick

Bawden, Garth L.

Benavides, Antonio
Bender, Barbara

Bennett, Wendell C.

Bennett, Wendell C., and Junius B. Bird

Berdan, Frances F., and Michael E. Smith

Bernier, Hélène

Bernuy, Katiusha, and Vanessa Bernal
2005  Influencia Cajamarca en los rituales funerarios del Período Transicional en San José de Moro. *Corriente Arqueológica* 1:61-77.

Billman, Brian R.
Binford, Lewis R.  

Binford, Michael W., Alan L. Kolata, Mark Brenner, John W. Janusek, Matthew T. Seddon, and Jason H. Curtis  

Bird, Junius B  

Blando Dejardin, Marianne  

Blanton, Richard E.  

Blanton, Richard E., Gary M. Feinman, Stephen A. Kowalewski, and Peter N. Peregrine  

Blanton, Richard E., Stephen A. Kowalewski, Gary M. Feinman, and Laura M. Finsten  

Bonavia, Duccio  

Boone, James L., J. Emlen Myers, and Charles L. Redman  
Boserup, Ester

Bourget, Steve

Braun, David P.

Brennan, Curtiss T.

Brewster-Wray, Christine C.

Bronson, Bennet

Brumfiel, Elizabeth M., and Timothy K. Earle
Bueno Mendoza, Alberto R.  

Burga, Manuel  

Burger, Richard L.  

Burgos Debray, Elizabeth  

Burmeister, Stefan  

Calaway, Michael J.  

Campana Delgado, Cristóbal  

Cárdenas, Mercedes  
1979  *A Chronology for the Use of Marine Resources in Ancient Perú*. Publicación No. 104 del Instituto Riva-Agüero, Seminario de Arqueología, Pontificia Universidad Católica del Perú.

Carlstein, Tommy  

Carneiro, Robert L.  

Carrión Cachot de Girard, Rebeca  
1959  *La Religión en el Antiguo Perú (Norte y Centro de la Costa, Período Post-Clásico)*. Talleres Gráficos de Tipografía Peruana S.A., Lima.
Castillo, Luis Jaime
1996 *La Tumba de la Sacerdotisa de San José de Moro*. Centro Cultural de la Pontificia Universidad Católica del Perú, Lima.
2000 La presencia de Wari en San José de Moro. *Boletín de Arqueología PUCP* 4:143-79.

Castillo, Luis Jaime, and Christopher B. Donnan

Castillo, Luis Jaime, Andrew Nelson, and Chistine Nelson

Castro de Trelles, Lucila

Caviedes, César N.
Chagnon, Napoleón A.

Chapdelaine, Claude

Chapdelaine, Claude, Victor Pimentel, and Jorge Gamboa

Chauchat, Claude, and Bertha Herrera

Childe, V. Gordon

Chodoff, David

Cieza del León, Pedro

Claessen, Henri J. M.
Clark, John E., and William J. Parry

Cleland, Kathryn M., and Izumi Shimada

Collier, Donald
1955 *Cultural Chronology and Change as Reflected in the Ceramics of the Viru Valley, Peru.* Fieldiana Anthropology 43, Field Museum of Natural History, Chicago.

Conkey, Margaret

Conrad, Geoffrey W.

Conrad, Geoffrey W. and Arthur A. Demarest
Cook, Anita

Cordy-Collins, Alana

Costin, Cathy L.

Cowgill, George L.

Craig, Alan K. and Izumi Shimada

Culbert, T. Patrick

Czwarno, R. Michael

Dalfes, N., G. Kukla, and H. Weiss
1997 Third Millenium Climate Change and Old World Collapse. NATO ASI Series I, No. 49. Springer, Berlin.

D’Altroy, Terence N.

D’Altroy, Terence N., and Ronald L. Bishop

D’Altroy, Terence N., and Timothy K. Earle

Day, Kent C.

DeBoer, Warren R.
Delavaud, Claude

Del Carpio Perla, Martín

Del Carpio Perla, Martín, and Rocío Delibes Mateos


DeMarrais, Elizabeth

DeMarrais, Elizabeth, Luis Jaime Castillo, and Timothy Earle

Deza Rivasplata, Jaime

Diamond, Jared

Díaz, Amanda, and Luc Ortlieb
Dillehay, Tom D.

Dillehay, Tom D., and Alan L. Kolata

Dillehay, Tom D., Alan L. Kolata, and Edward Swenson

Dillehay, Tom D., Alan L. Kolata, Edward Swenson, Jeff Stvan, and John Warner

Dillehay, Tom D., and Patricia J. Netherly

Dillehay, Tom D., John Warner, José Iriarte, and Alan L. Kolata

Disselhof, Hans D.
1958a Tumbas de San José de Moro (Provincia de Pacasmayo, Perú). In *Proceedings of the 32nd Internacional Congress of Americanists*, pp. 364-67, Copenhagen.

Donnan, Christopher B.
1976  *Moche Art and Iconography*. Latin American Center Publications, University of California, Los Angeles.


1985a  Archaeological confirmation of a Moche ceremony. *Indiana* 10:371-81.


2007  *Moche Tombs at Dos Cabezas*. Cotsen Institute of Archaeology at UCLA, Los Angeles.
Donnan, Christopher B., and Daisy Barreto C.

Donnan, Christopher B., and Luis Jaime Castillo

Donnan, Christopher B., and Guillermo A. Cock

Donnan, Christopher B., and Sharon G. Donnan

Donnan, Christopher B., and Carol J. Mackey
1978 *Ancient Burial Patterns of the Moche Valley, Peru*. University of Texas Press, Austin.

Donnan, Christopher B., and Donna McClelland
Donnan, Christopher B., Jeisen Navarro Vega, and Alana Cordy-Collins
1998 Proyecto de Emergencia del Sitio Arqueológico de Masanca. Unpublished
field report presented to the Instituto Nacional de Cultura, Lima.

Doyle, Michael W.

Drennan, Robert D., and Carlos A. Uribe

Drucker, Philip
in Memory of Matthew W. Stirling, edited by E. P. Benson, pp. 29-47.
Dumbarton Oaks Research Library and Collection, Washington, DC.

Dunnell, Robert C.
1980 Evolutionary Theory and archaeology. In Advances in Archaeological Method
and Theory (Vol. 3), edited by M. B. Schiffer, pp. 38-100. Academic Press,
New York.
Evolutionary Archaeology: Theory and Application, edited by M. J. O’Brien,

Eagleton, Terry

Earle, Timothy K.
1981 Comment on P. Price, Evolution of Specialized Pottery Production: A Trial
1987 Chiefdoms in archaeological and ethnohistorical perspective. Annual Review
of Anthropology 16:279-308.
1990 Style and iconography as legitimation in complex chiefdoms. In The Uses of
Style in Archaeology, edited by M. Conkey and C. Hastorf, pp. 73-81.
2002 Bronze Age Economics: The Beginnings of Political Economies. Westview
Press, Boulder.

Eisenstadt, Shauel N.
Brunswick.

Elera, Carlos
1997 Cupisnique y Salinar: algunas reflexiones preliminares. In Archaeologica
Peruana 2: Arquitectura y Civilización en los Andes Prehispánicos, edited by

Eling, Herbert H., Jr.

Engel, Frederic

Erickson, Clark L.

Espinoza Soriano, Waldemar

Esquerre, Francisco, María Guerrero, Rosario Peltroche, María Espinoza y Gonzalo Rivera.

Esse, Douglas L.

Fagan, Brian M.
Farrington, Ian


Feinman, Gary M. and Joyce Marcus (editors)

Feinman, Gary M., and Jill Neitzel

Feldman, Robert A


Ferguson, R. Brian

Ferreyra, Ramón


Flannery, Kent V.

Flores Espinoza, Isabel

Flores Ochoa, Jorge A.

Flores Ochoa, Jorge A. and Percy Paz Flores
1986 La agricultura en lagunas (qocha). In Andenes y Camellones en el Perú Andino: Historia, Presente y Futuro, edited by C. de la Torre and M. Burga, pp. 85-106. CONCYTEC, Lima

Fogel, Heidi P.

Ford, James A.

Franco Jordán, Régulo

Franco Jordán, Régulo, and César A. Gálvez Mora

Franco Jordán, Régulo, César A Gálvez Mora, and Segundo A Vásquez Sánchez
Fresco, Antonio

Fried, Morton

Friedel, David A.

Friedman, Jonathan

Fundación El Monte

Gallardo I., Francisco, Mauricio Uribe R, and Patricia Ayala R.

Gálvez Mora, César A., Juan Castañeda Murga, and Rosario M. Becerra Arteaga

Garcilazo de la Vega, Inca

Gibbon, Guy

Gill, Richardson

Godelier, Maurice

Goldhausen, Marco
Gosselain, Olivier P.

Graves, Michael W.

Grieder, Terence

Gumerman, George J.

Haas, Jonathan

Hamblin, Robert L., and Brian L. Pitcher

Hassig, Ross

Hastings, Charles M., and Michael E. Moseley
Hayashida, Frances

Hayden, Brian

Hecker, Giesela, and Wolfgang Hecker
1985 *Pacatnamú y sus Construcciones; Centro Religioso Prehispánico en la Costa Norte Peruana*. Verlag Klaus Dieter Vervuert, Frankfurt.

Hecker, Wolfgang, and Giesela Hecker

Hegmon, Michelle

Heyerdahl, Thor

Hiebert, Fredrik T.
2000 Bronze age central Euroasian cultures in their steppe and desert environments. In *Environmental Disaster and the Archaeology of Human Response*, edited

Hocquenghem, Anne Marie

Hodder, Ian

Hodell, David A., Jason M. Curtis, and Mark Brenner

Hodge, Mary G.

Holmquist, Ulla

Horkheimer, Hans

Hosler, Dorothy, Jeremy A. Sabloff, and Dale Runge

Hrones Parsons, Mary
Huertas Vallejos, Lorenzo

Hyslop, John

Inomata, Takeshi

Isbell, William H.

Isbell, William H., Christine Brewster-Wray, and Lynda E. Spickard

Isbell, William H., and Anita G. Cook
Isbell, William H., and Alexei Vranich

Ishida, Eiichiro, Taiji Yazawa, Hisashi Sato, Iwao Kobori, and Manuel Chávez Ballón

Jacobsen, Thorkild, and Robert M. Adams

Jaeckel, Paul

Janssen, Marco A., Timothy A. Kohler, and Marten Scheffer

Janusek, John W.

Johnson, Allen W., and Timothy K. Earle

Johnson, Gregory A.

Jones, Julie

Joyce, Arthur A., Laura Arnaud Bustamante, and Marc N. Levine
Judge, W. James

Julien, Daniel G.
1993  Late pre-Inkaic ethnic groups in highland Peru: an archaeological-ethnohistorical model of the political geography of the Cajamarca Region. *Latin American Antiquity* 4:246-273.

Kaulicke, Peter

Keatinge, Richard W.


Keatinge, Richard W., David Chodoff, Deborah P. Chodoff, Murray Marvin, and Helaine I. Silverman.


Keatinge, Richard W., and Geoffrey W. Conrad


Keatinge, Richard W., and Kent C. Day


Keeley, Lawrence H.


Klein, Otto


Knobloch, Patricia


Kolata, Alan L.


2000  Environmental thresholds and the “Natural History” of Andean Civilization. In *Environmental Disaster and the Archaeology of Human Response*, edited

Kosok, Paul

Kroeber, Alfred L.
1944 *Peruvian Archaeology in 1942*. Viking Fund Publications in Anthropology No. 4, New York.

Krzanowski, Andrzej

Kubler, George

La Barre, Weston

La Lone, Darrell E.
La Lone, Mary B., and Darrell E. La Lone

Lanning, Edward P.

Larco Hoyle, Rafael
1945a  *Los Cupisniques*. Sociedad Geográfica Americana, Buenos Aires.
1945c  *Los Mochicas (Pre-Chimú de Uhle and Early Chimú de Kroeber)*. Sociedad Geográfica Americana, Buenos Aires.
2001b  *Los Mochicas, Tomo II*. Museo Arqueológico Rafael Larco Herrera, Fundación Telefónica, Lima.

Lau, George

Lavalle, José Antonio de

Lavallée, Daniéle

Lechtman, Heather


Lechtman, Heather, Antonieta Erlij, and Edward J. Barry Jr.


Lekson, Stephen H.


Leonard, Banks L., and Glen S. Russell


Lockard, Gregory D.


Longacre, William A. and Miriam T. Stark


Lumbreras, Luis Guillermo

1974  The Peoples and Cultures of Ancient Perú. Smithsonian Institution Press, Washington, DC.


Lumpkins, William

MacEachern, Scott

Mackey, Carol J.

Mackey, Carol J., and Charles M. Hastings

Mackey, Carol J., and Alexandra M. Ulana Klymyshyn

Mackey, Carol J., and Melissa Vogel

Makowski, Krzysztof, Christopher Donnan, Ivan Amaro, Luis Jaime Castillo, Magdalena Diez Canseco, Otto Elespuru and, Juan Antonio Murro

Malthus, Robert

Mann, Michael
Marcus, Joyce
of American Research Press, Santa Fe.

Marcus, Joyce, and Kent V. Flannery
Thames and Hudson, New York.

Marcus, Joyce, Ramiro Matos Mendieta, and María Rostworowski de Diez Canseco
1985 Arquitectura Inca de Cerro Azul, valle de Cañete. *Revista del Museo Nacional*
47:125-143.

Matsumoto, Ryozo
1994 Dos modos de proceso sociocultural: el Horizonte Temprano y el Período
Intermedio Temprano en el valle de Cajamarca. In: *El Mundo Ceremonial
Andino*, edited by L. Millones and Y. Onuki, pp. 167-197. Editorial Horizonte,
Lima.

McC. Adams, Robert
Research Press, Santa Fe.

McClelland, Donald H.
1986 Brick seriation at Pacatnamú. In *The Pacatnamu Papers, Volume 1*, edited by
C. B. Donnan, and G. A. Cook, pp. 27-46. Museum of Cultural History,
University of California, Los Angeles.

McClelland, Donna
1997 Moche fineline ceramics at Pacatnamu. In *The Pacatnamu Papers, Volume 2:*
Fowler Museum of Cultural History, University of California, Los Angeles.

McCown, Theodore D.
1945 *Pre-Incaic Huamachuco: Survey and Excavations in the Region of
Huamachuco and Cajabamba.*, University of California Publications in
American Archaeology and Ethnology, Vol. 39, University of California
Press, Berkeley and Los Angeles.

McEwan, Gordon F.
1989 The Wari Empire in the southern Peruvian highlands: a view from the
provinces. In *The Nature of Wari: A Reappraisal of the Middle Horizon


McGuire, Randall H.

Menzel, Dorothy


1968  New data on the Huari Empire in Middle Horizon Epoch 2A. *Ñawpa Pacha* 6:47-114.


Miller, Mary E.

Millon, Rene


Montenegro, Jorge

Moore, Jerry D.
1988  Prehistoric raised field agriculture in the Casma Valley, Peru. *Journal of Field Archaeology* 15:265-76.


Morris, Craig  

Morris, Craig, and Donald E. Thompson  

Moseley, Michael E.  
1983b  The good old days were better: agrarian collapse and tectonics. *American Anthropologist* 85:773-799.  
Moseley, Michael E., and Eric E. Deeds

Moseley, Michael E., Robert A. Feldman, and Charles R. Ortloff

Moseley, Michael E., and James B. Richardson, III

Moseley, Michael E., Jorge Tapia, Dennis R. Satterlee, and James B. Richardson, III

Mujica, Elías

Muller, Jean-Claude

Murra, John V.


Narváez V., Alfredo
National Research Council

Neiman, Fraser D.

Netherly, Patricia J.

Netting, Robert McC.

Nials, Fred L., Eric E. Deeds, Michael E. Moseley, Shelia G. Pozorski, Thomas Pozorski, and Robert A. Feldman

Nolan, James L.
Ochatoma Paravicino, José, and Martha Cabrera Vivanco

ONERN

Ortloff, Charles R., and Alan L. Kolata

Ortloff, Charles R., Michael E. Moseley, and Robert A. Feldman

Orton, Clive, Paul Tyers, and Alan Vince

Osborn, A.J.

Owen, Bruce D.

Palacios, Jonathan
Paredes, Juan, Berenice Quintana, and Moisés Linares

Paredes Botoni, Ponciano, and Regulo Franco Jordán

Parsons, Jeffrey R., and Norbert P. Psuty

Pauketat, Timothy R.

Pauketat, Timothy R., and Thomas E. Emerson

Peláez Ríos, Justo

Peñaherrera del Aguila, Carlos

Pérez, Ismael, Cirilo Vivanco, and José Almorín

Petersen Gaulke, Georg

Pimentel, Victor, and Gonzalo Alvarez
Plog, Fred T.  

Plog, Stephen  

Polo de Ondegardo, Juan  
1917 Del linaje de los Ingas y cómo conquistaron. *Colección de Libros y Documentos Referentes a la Historia del Perú* 4:45-94.

Possehl, Gregory L.  

Powers, Robert P.  

Pozorski, Shelia G.  

Pozorski, Shelia G., and Thomas G. Pozorski  

Pozorski, Thomas G.  

Pozorski, Thomas, and Sheila G. Pozorski  
Pozorski, Thomas G., Shelia G. Pozorski, Carol J. Mackey, and Alexandra M. Klymyshyn

Pozzi-Escot, Denise

Pozzi-Escot, Denise, Marleni Alarcón G., and Cirilo Vivanco

Protzen, Jean-Pierre

Proulx, Donald A.
1968 *An Archaeological Survey of the Nepeña Valley, Peru*. Research Reports No. 2, Department of Anthropology, University of Massachusetts, Amherst.
1973 *Archaeological Investigations in the Nepeña Valley, Peru*. Research Reports No. 13, Department of Anthropology, University of Massachusetts, Amherst.
1985 An Analysis of the Early Cultural Sequence in the Nepeña Valley, Peru. Research Reports No. 25, Department of Anthropology, University of Massachusetts, Amherst.

Prümers, Heiko

Quilter, Jeffrey
Quinn, William H., V.T. Neal, and S.E. Antunez de Manolo

Ramenofski, Ann F., and Anastasia Steffen

Ramírez, Susan E.

Rappaport, Roy A.

Rathje, William L.

Ravines, Rogger


Reade, William

Reichlen, Henry, and Paule Reichlen

Reindel, Markus

Renfrew, Colin


Reycraft, Richard M.
2000 Long-term human response to El Niño in south coastal Peru. In Environmental Disaster and the Archaeology of Human Response, edited by G. Bawden and


1990 Ethnohistorical considerations about the Chimor. In The Northern Dynasties: Kingship and Statecraft in Chimor, edited by M. E. Moseley and A. Cordy-

Rouse, Irving

Rowe, John C.
1942 A new pottery style from the Department of Piura, Peru. Notes on Middle American Archaeology and Ethnology 1(8):30-34.

Rowe, John C., Donald Collier, and Gordon R. Willey

Rucabado, Julio, and Luis Jaime Castillo

Ruiz, Karim

Rye, Owen S.

Sackett, James R.

Sahlins, Marshall D.
Sahlins, Marshal D. and Elman R. Service  

Salmon, Merrilee H.  

Sanders, William T.  

Sanders, William T., Jeffrey R. Parsons, and Robert S. Santley  

Sandweiss, Daniel H., and Alfredo Narváez  

Santley, Robert S., and Rani T. Alexander  

Santley, Robert S., Philip J. Arnold III, and Christopher A. Pool  

Santley, Robert S., Thomas W. Killion, and Mark T. Lycett  


Satterlee, Dennis R., Michael E. Moseley, David K. Keefer, and Jorge E. Tapia A.  
Schaedel, Richard P.

Schiffer, Michael B.

Schortman, Edward M., and Patricia A. Urban

Schreiber, Katharina J.
1992  *Wari Imperialism in Middle Horizon Peru*. Anthropological Papers No. 87, Museum of anthropology, University of Michigan, Ann Arbor.


Schreiber, Katharina J., and Josué Lancho Rojas

Scott, James C.


Service, Elman R.


Shady Solís, Ruth


Shady Solís, Ruth, and Aturo Ruiz
1979  Evidence for interregional relationships during the Middle Horizon on the North-Central Coast of Peru. *American Antiquity* 44:676-684.

Sharer, Robert J.
Shepard, Anna O.

Shimada, Izumi
1994a  *Pampa Grande and the Mochica Culture.* University of Texas Press, Austin.

Shimada, Izumi, and Raffael Cavalaro
Shimada, Izumi, and Jo Ann Griffin

Shimada, Izumi, and Adriana Maguïña

Shimada, Izumi, and John F. Merkel

Shimada, Izumi, Crystal B. Schaaf, Lonnie G. Thompson, and Ellen Mosley-Thompson

Shimada, Melody, and Izumi Shimada

Silva Pérez, Hernán, and Eduardo Silva Pérez

Silva Santisteban, Fernando

Simon, Herbert

Sinopoli, Carla M.

Skibo, James M.
Smith, Marion F.

Smith, Michael E.

Spence, Michael W.

Stanish, Charles

Stark, Miriam T.

Steffen, Anastasia, Elizabeth J. Skinner, and Peter W. Ainsworth

Steinitz-Kannan, Miriam, Mark A. Nienaber, and Melanie A. Riedinger

Steward, Julian H.
Steward, Julian H., and Louis C. Faron

Stothert, Karen E., and Rogger Ravines

Strong, William D.

Strong, William D., and Clifford Evans

Stuiver, Minze, and Paula J. Reimer


Stumer, Louis M.

Swenson, Edward R.

Tainter, Joseph A.
the Sciences of Complexity, Santa Fe Institute, Addison-Wesley Publishing Company, Reading.


Taylor, Walter W.


Tello, Julio C.


Tello, Ricardo


Tello, Ricardo, Giovanna Agreda, Jorge Chiguala, Giovanna Pinillos, Julia Tufínio, and Oliver Velásquez


Tello, Ricardo, José Armas, and Claude Chapdelaine


Terada, Kazuo, and Ryozo Matsumoto


Terada, Kazuo, and Yoshio Onuki

Thatcher, John P.

Thompson, Lonnie G.

Thompson, Lonnie G., and Ellen Mosley-Thompson

Thompson, Lonnie G., E. Mosley-Thompson, J.F. Bolzan, and B.R. Koci

Thompson, Lonnie G. E. Mosley-Thompson, P.M. Grootes, M. Poirchet, and S. Hastenrath


Toll, H. Wolcott
Topic, John R.

Topic, John R., and Theresa L. Topic

Topic, Theresa L.
Topic, Theresa L., and John R. Topic

Torres V., Neil, Jorge Solórzano S., and Manuel Asmat S.

Treacy, John M.

Trigger, Bruce G.

Tucto Chávez, Roque Miguel

Ubbelohde-Doering, Heinrich

Uceda, Santiago


**Uceda, Santiago, and Moisés Tufinio**


**Uhle, Max**


**Van Buren, Mary**


**Vásquez Sánchez, Víctor, and Teresa Rosales Tham**


Weaver, Muriel P.  

Webster, David  
2002  *The Fall of the Ancient Maya: Solving the Mystery of the Maya Collapse.* Thames & Hudson, London.

Weiss, Harvey  


Wenke, Robert J.  

West, Michael  

Whalen, Michael E., and Paul E. Minnis  

Wiessner, Polly  

Willey, Gordon R.  


Willey, Gordon R., and Philip Phillips

Willey, Gordon R., and Jeremy A. Sabloff

Willey, Gordon R., and Demitri B. Shimkin

Williams Leon, Carlos, and José Pineda

Williams, A. R.

Williams, Patrick R.


Williams, Patrick R., and Johny Isla

Williams, Patrick R., and Donna J. Nash

Wilson, David L.
1988 *Prehispanic Settlement Patterns in the Lower Santa Valley, Peru: A Regional Perspective on the Origins and Development of Complex North Coast Society*. Smithsonian Institution Press, Washington, DC.

Wittfogel, Karl

Wobst, H. Martin

Wright, Henry T.

Wright, Henry T., and Gregory A. Johnson

Yacovleff, Eugenio N. y Fortunato L. Herrera

Yoffee, Norman

Zapata, Julinho

Zarins, Juris
Zedeño, María Nieves

Zevallos Quiñones, Jorge

Zuidema, R. Tom