Design Analysis Of The Rio Grande Glaze Pottery Of Pottery Mound, New Mexico

J. J. Brody

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DESIGN ANALYSIS OF THE RIO GRANDE GLAZE POTTERY
OF POTTERY MOUND, NEW MEXICO

By
J. J. Brody

A Thesis
Submitted in Partial Fulfillment of the
Requirements for the Degree of
Master of Arts in Art History

The University of New Mexico
1964
This thesis, directed and approved by the candidate's committee, has been accepted by the Graduate Committee of the University of New Mexico in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

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DATE

May 28, 1961

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By

J. J. Brody

Thesis committee

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Chairman

[Signature]
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INTRODUCTION

The Problem

The purpose of this study is to analyze the indigenous pottery designs recovered from the Anasazi Site of Pottery Mound, New Mexico, and to demonstrate the usefulness of this design analysis to the interpretation of the prehistory of the Rio Grande. Special emphasis is placed on the use of design forms as unique evidence of contact between towns, and as an aid to chronology.

The Method of Solution

The first chapter gives the nonspecialized reader a general background knowledge of the era and area under discussion. This section also acquaints the reader with some of the specific technical and historical problems relating to the development of Anasazi pottery and pottery decoration.

Descriptions and discussions of pottery design styles relevant to and contemporary with those of Pottery Mound are found in the second chapter. These give the reader a basis for comparison and understanding of the design styles used at Pottery Mound.

Chapter III contains a description of the design styles of Pottery Mound and a discussion of their relationships with those described in Chapter II. The third chapter also discusses some of the technical and historical problems of the town that can be solved through design analysis, as well as problems of typology.
Chapter IV continues the discussion of the designs of Pottery Mound, with special emphasis on the iconography of the design styles and a discussion of art forms in other media.

The fifth chapter concludes the specific discussion of the pottery design styles by correlating these with generally accepted pottery types based on non-design criteria. This chapter places both design styles and pottery types into a chronological relationship based primarily on the development of design styles.

In addition to the five chapters and conclusions which summarize the results of this study, appendices are included with supporting evidence to the conclusions and illustrative plates wherever necessary to support the text.
CHAPTER I
BACKGROUND

To give one's own emotional reaction to a work of art is legitimate; to argue that this reaction is a test of the aesthetic quality of the work is questionable; but to infer from it anything about the original conditions in which the work was created is unsafe in the extreme. Whatever be the chances of a correct diagnosis when both art critic and artist share the same culture, they are reduced to a minimum when the former is an intellectual of the contemporary West and the latter an anonymous sculptor of some primitive community. (Firth, 1951: 160)

When dealing with the decorative traditions of a culture as far removed from our own as is the Anasazi of the fourteenth and fifteenth centuries of our era, it is necessary to have an understanding of the history, traditions, physical and social pressures on the community represented by its decorative arts. This chapter will therefore provide the reader with a general, abbreviated history of the Anasazi and of the town of Pottery Mound so that the decorative traditions discussed in following chapters may be considered within their own social context.

The Anasazi

The San Juan River rises in south central Colorado, flows south and west through New Mexico, turns sharply northward crossing Arizona to southern Utah in the Four Corners area, flows through southern Utah, crossing over into northern Arizona to join the Colorado River in north
central Arizona. About 2,000 years ago, the drainage area of the San Juan, on the southern periphery of the Great Basin and the northern margin of the Southwest, became the home of a people we call the Anasazi. The ultimate origins of these people are not clear. It has been surmised that groups of hunters and gatherers in that region acquired the rudiments of agriculture from the Mogollon or Hohokam people to the south, and took up the sedentary agricultural way of life which has been classified as Basketmaker II (Hawley, 1950:8).

That the new way of life was successful was evidenced over the course of succeeding centuries, as the population expanded, adjusting itself technologically, socially, spiritually, to the pressures first of small village, then large village, and, finally, town life. At about the time that William the Conqueror was reorganizing England into a feudal state, an even dozen community houses were being built along a three-mile strip on the edge of Chaco Wash, New Mexico. These had enough rooms to house a population of 10,000 or more. Built with a rubble core faced with finely fitted stone in decorative courses, rising as high as six stories, each containing twenty or more small ceremonial rooms (kivas) integrated into the building block, the Chaco Canyon apartment houses remained the largest in the world until late in the nineteenth century. With central plazas, ceremonial ball courts, huge kivas equipped for elaborate religious performances, they testify eloquently to the degree of complexity and organization achieved by Anasazi society. Other centers of Anasazi culture during this Classic Pueblo Period (Pueblo III) were at Mesa Verde in southwestern Colorado; Aztec,
New Mexico, midway between Chaco Canyon and Mesa Verde; and in the Kayenta Valley of northeastern Arizona (Wormington, 1956: 76-102).

While these developments were occurring in the San Juan drainage area, Anasazi influences were felt throughout other parts of the Southwest. Along the Little Colorado River in Arizona, the "Western Pueblo" people (Hawley, 1950:8) adopted cultural traits from both the Anasazi and Mogollon communities which are of importance to our story. Also important are the villages found along the upper and middle Rio Grande, including the valleys of the Rio Puerco of New Mexico, and the Chama River, the Pajarito Plateau, the Galisteo Basin, and the headwaters of the Pecos River. In these peripheral areas, small Anasazi communities developed. As the major centers along the San Juan differed somewhat from each other, so the peripheral communities differed from those on the San Juan. Slow to change, generally small in size, they seem to have held the same sort of relationships to the San Juan towns as folk communities have had with urban centers in other parts of the world.

Toward the latter part of the thirteenth century, the large towns of the San Juan were abandoned. Depopulation took place systematically over the course of several decades for reasons which are still obscure. Drought conditions, erosion and arroyo cutting were certainly contributory factors to the abandonment. Pressures of invading nomadic groups, and internal religious-political struggles have also been offered as reasons for the dissolution of the San Juan communities, though with slim evidence (Wormington, 1956:80-84). Whatever the cause, movement from the San Juan resulted in revolutionary changes in other
areas of the Southwest, forcing a chain reaction of resettlement of entire communities, a mingling of peoples, an exchange of ideas and technology, and a physical-geographical shift of the focus of Anasazi culture. The period following abandonment of the San Juan is called Regressive, Historic, or more properly, Pueblo IV. It continued through the first phase of Spanish occupation of the area, to the time of the Pueblo Revolt of 1680, terminating with Spanish reoccupation of the Southwest during the last decade of the seventeenth century.

The Pueblo IV Period on the Rio Grande

Distribution of modern Pueblos, while constricted and reduced in size and number, corresponds closely to that of the Pueblo IV Period. Centers are Tusayan (the Hopi Mesas of Arizona), Cibola (Zuni), and Acoma (the Little Colorado District of New Mexico), and the Rio Grande. Today, Pueblos extend along this river from Isleta to Taos, with an important group of villages along the Jemez River tributary. During the Pueblo IV Period, the southern limit of the Pueblo area was at San Marcial, the norther limit at Taos. The Jemez River supported many more villages and towns than are presently found. In addition, large and important settlements existed on the Pajarito Plateau and along the Chama River (apparently populated by descendants of the Mesa Verde people). Other important Rio Grande centers were in the Galisteo Basin, at the headwaters of the Pecos River, along the eastern sides of the Sandia and Manzano Mountains, and along the Río Puerco.

In contrast to Pueblo III times on the Rio Grande, when individual homesteads and villages of one hundred or fewer rooms were common, large
community houses were the style of the Pueblo IV Period. Often multi-
storied, these were built around a plaza or plazas in which were located
the kivas. The materials used in construction and the architectural
style employed were apparently dictated by the nature of the environment.
At Pottery Mound, where suitable building stone was scarce, the pueblo
was built of adobe. Tyuonyi in the Pajarito was built of stone and
adobe mortar, and is considered typical in plan and construction for
that time and place. The focus was the plaza with its kivas. The main,
multistoried building block faced the plaza, encircling and defining its
size and shape. With no exterior openings, it served also as a defensive
wall. In plan, the buildings were D-shaped. Vertical communities were
also built in the Pajarito. More loosely planned than those in open
sites, these were carved out of the soft rock of the cliff walls. The
best preserved of the cliffside towns of the Pajarito is perhaps that of
Puye near Santa Clara Pueblo. There the plaza is found on top of the
cliff, above the main building block. At Cañoncito, near Abiquiu, a
pueblo which resembles Tyuonyi in plan was carved out of the living
stone atop a mesa. On an open site near the Chama River in the vicinity
of El Rito is Sapawe, a very large adobe pueblo laid out in a formal
grid pattern, with the building units surrounding and defining six
square or rectangular plazas. On the eastern slope of the Manzano
Mountains are several towns built of dry wall and adobe mortared masonry.
The well constructed building units of these towns define rectangular
plazas without surrounding them. Further south, D-shaped pueblos of
either adobe or masonry construction are found; the building units of
these surround a central plaza.
On the Rio Grande, the Pueblo IV Period corresponds to the Glaze-Paint period. As Mera has shown (1940), the glaze paint region was in a constant state of change. Of one hundred and forty-four villages noted by Mera during the early glaze period, only seventy survived for as long as one hundred years. This he calls the "period of postulated consolidation" of towns for defensive purposes (1940:40). Fifty-seven of these managed to survive uninterrupted into Mera's Period 4, that is, from 1515 to 1650, but only thirty lasted until the end of the seventeenth century. By the end of the first quarter of the eighteenth century, only ten Rio Grande Pueblo villages were recorded. Of these, only six were surely founded as early as the beginning of the Pueblo IV Period.

To account for the population changes of the early glaze period, Mera gives convincing arguments that raids by Athapascan nomads, especially in the southeastern parts of the glaze territory, caused abandonment of many villages and consequent consolidation into large towns, or establishment of new settlements in concealed defensive locations (Mera, 1940:39). The southeastern part of the glaze territory was later the acknowledged range of the Mescalero Apache, and nomadic raids there and as far west as Acoma, are reported by the Spanish in the sixteenth century. Fear of the nomads may have caused abandonment of towns that were in poor defensive locations though still remote from areas that had suffered from Athapascan raids.

Pottery Mound

Pottery Mound is located on the south bank of the Rio Puerco of New Mexico about fifteen miles from its confluence with the Rio Grande.
Known formally as LA 416, its popular name came to it naturally, as literally millions of potsherds covered the several acres of its surface. It was a town of several hundred rooms, though its exact size will never be determined. The Rio Puerco, which within historic times has flowed on a level with the surrounding countryside, has in recent years become a canyon-cutting, meandering, destructive stream. Several times each summer during the rainy season a wall of water can be expected to rush down the Puerco and cut away another part of the site. It sits today about sixty feet above the river level; and within the last decade has lost several thousand square feet to the Puerco.

The accepted opinion today is that the town was founded between 1325 and 1350, and abandoned between 1450 and 1490 (Voll, 1961:49-54). It has been characterized as a Rio Grande Glaze A site of the Pueblo IV Period, and was excavated by the Department of Anthropology of the University of New Mexico during the seasons 1954, 1955, 1957, 1958, and 1961 under the direction of Dr. Frank C. Hibben. The author worked on the site in 1954 as a student, and in 1961 as an Assistant.

There are in the vicinity several sites of the preceding Pueblo III Period, apparently homesteads of only one or two houses, and on the lava hills several miles west of the site, a small village. The relationships between these small sites and Pottery Mound are uncertain. If they were occupied at the time of the founding of the larger town, their populations may have been absorbed into that of the later community. There is little doubt, however, that Pottery Mound's core population was immigrant; though they had not come directly from the San Juan, their movement to the Rio Grande was doubtless triggered by the exodus from
the San Juan region. They had strong trade relations with the people of Acoma and Zuni, and with the Hopis. Their relationships with the other towns of the Rio Grande are clouded.

Pottery Mound was built in the open near the river. It was of adobe, several stories high; the building blocks (two, three, and four or more rooms deep) surrounded several plazas, in which were at least nineteen kivas, though not all of these were in use contemporaneously. Sixteen of the excavated kivas contained layer upon layer of wall paintings, dry frescos numbering in the hundreds. These, and the fantastic quantity of broken pottery at the site, plus the unusual nature of some of the pottery, constitute its remarkable features.

On the Puerco several miles west of Pottery Mound is another, unexcavated site which from surface aspects appears to be similar to it. Both Pottery Mound and its near neighbor called Hummingbird (LA 415) seem to have been built and abandoned at about the same time. Neither place shows surface indications of warfare, nor is there any indication at Pottery Mound of a hasty, forced abandonment. Reasons for withdrawal from these towns are based on speculation. Neither is in a good defensive location; fear of nomadic raiders may well have been the cause. The ultimate destination of the people from these towns is unknown.

Anasazi Pottery, Black on White Wares

In Basketmaker III times, by the year 400 AD, the Anasazi were making pottery, beginning a tradition that is still very much alive. The idea of pottery making most probably came to the San Juan from the south, though the techniques may have been developed locally. The
method of building the body of the vessel by coiling was developed early and has not changed appreciably over the course of the last fifteen hundred years. Firing methods do not seem to have changed much, though there have been changes in fuels. Almost from the beginning, Anasazi potters have been able to control the firing atmosphere of their kilns, and consequently, the color of their wares. Tempering materials have varied considerably from place to place and from time to time. Choice of tempering material is sometimes considered to be a function of the potter's training, that is, a culturally defined and defining factor. On other occasions, choice of temper has been considered to be dictated by the availability of materials, a function of the environment.

All pottery produced by the Anasazi, at least through prehistoric times, was clearly functional. Two broad categories of ware, differing considerably in appearance as well as in function, appeared early and have persisted to the present. These categories are cooking or utility wares, and painted or table wares. There are considerable temporal and geographic differences in the appearance of vessels of each category. In general, however, utility wares are black, either fired in reducing atmosphere or soot-blackened. They are never painted, rarely polished, and often undecorated. Decoration of utility wares depends on manipulation of the surface, usually before the clay has hardened. Often the coils used to construct the vessel serve also as a decorative base, either for banding or corrugations. Corrugated designs manipulated with skill, exuberance, and imagination, reached their highest point of development during the Pueblo II and Pueblo III Periods. Other forms of
surface treatment include incising, scraping, pinching, and other digital manipulations of the clay. Stamping and engraving appear never to have been used; punctuation is rare.

Painted decoration appears very early on Anasazi pottery, initially on surfaces that have been smoothed and floated, somewhat later on slipped surfaces. Though red wares of Anasazi manufacture are occasionally found, there was a decided preference for white slipped wares with decorations in black paint throughout the Anasazi area until the end of the thirteenth century. Except during the formative period of pottery making on the San Juan when some attempts were made to imitate Mogollon red wares, the use of colored slips was usually confined to those peripheral areas subject to direct and continuous contact with Mogollon people.

Even after colored slips achieved popularity, black on white (or gray) carbon paint wares continued to be manufactured in certain enclaves including the Jemez Mountains, the Pajarito Plateau, the Santa Fe area, and the Galisteo Basin. Initially, black on white wares throughout the Anasazi area had much the same appearance. As time went on there was increasing specialization; and, by early Pueblo III times the variety of black on white types became bewildering as each village or group of related villages produced a ware differing somewhat from that of its neighbors. Either carbon (vegetable) or mineral black paints were used, and eastern and western divisions of the Anasazi are recognized on the basis of the paint technology. Since suitable materials for making either type of paint were generally available throughout the
area, the type of paint used is considered to have been determined by cultural rather than environmental factors, and the choice of paint type has been one of the keys to the reconstruction of Anasazi history.

Anasazi Pottery, Glaze Wares

Glaze paints were an autochthonous invention in the Southwest, and were nowhere else used in the New World prior to European contact. Glazes were used solely as linear or massive decoration, never to cover a vessel to make it waterproof as in the Old World. Their invention apparently stems from the use of mineral black paint; vitrified paints, probably the result of accidents, appear sporadically on the San Juan from Basketmaker III times (Kidder and Shepard, 1936:601-603). Purposeful and customary use of glaze paint decoration appears first about 1200 AD, late in Pueblo III times, on the Little Colorado of Arizona, an area sensitive to both Mogollon and Anasazi influences, which produced both red and white slip wares. Little Colorado red wares and polychromes (which also made their initial appearance in that fertile region) were among the most popular of foreign made ceramics in the Anasazi regions during Pueblo III times, though few efforts were made at imitation of them outside of the areas peripheral to the Little Colorado. By 1300, glaze technology had been adopted in the Cibola region, where Heshotauthla Polychrome, the first of the Zuni Glaze Series, was produced in quantity. This was a red slipped ware which became a popular trade item, appearing as far away as Pecos Pueblo during the second half of the century. It appears early in the fourteenth century on the Rio Grande just south of
Albuquerque, where, also, the first of the locally made Rio Grande glazes was manufactured, a copy of the Zuni ware (Mera, 1935:31-33). During the period between 1350 and 1375, glaze technology achieved dominance in that region referred to as the Rio Grande Glaze Paint area (See map). (Stubbs and Stallings, 1953:155; Mera, 1940:5)

Adoption of glaze paints carried with it as a concomitant the use of colored slips which radically altered the appearance of the pottery. The Anasazi had been exposed to colored slip wares throughout their history, had admired and valued them, but through the first nine hundred pottery making years had preferred to make white slipped wares. Rio Grande glaze paint pottery then represents a revolutionary change of taste among the Anasazi. (The value placed by the Anasazi on imported red slipped wares prior to the Pueblo IV Period is shown by their use in inhumation, and by their appearance out of chronological context, that is, as heirlooms.) Glazes continued as the dominant Rio Grande tradition until after the Pueblo Revolt of 1680. Even after the return to matte paint decoration, colored slips continued to be used un-interruptedly to the present.

The Social Role of Pottery Decoration

Almost from the beginning of Anasazi pottery making an entire class of vessels was decorated with painted designs. These functioned in any of three ways, either as storage containers, as serving dishes, or as ceremonial paraphernalia. Esoteric designs serve today as in the past to distinguish certain ceremonial pottery (Chapman, 1936:31-32;
Smith, 1952:249-252); however, esoteric designs may also be used on household wares, and, conversely, ceremonial purposes may be served by pottery bearing common decoration. In the Jeddito Valley of Arizona, at towns distant from Pottery Mound though with very strong and certain ceremonial relationships to it, it has been demonstrated that vessels used for ceremonials were no different in design than those used for general purposes (Smith, 1952:249-261). We may accept the premise that designs on the pottery of Pottery Mound served no specific esoteric function.

The role of pottery design at Pottery Mound was primarily as decoration or adornment of domestic implements. The decorative styles in use at the village conformed in every respect to the Anasazi tradition, being architectonic, and relying generally on the repetition of a limited number of geometric elements confined to one of several standard geometric patterns. Within the severe limitations of Anasazi style, a great variety of design was produced even though each village imposed further limitations on the decorative possibilities allowed the potters. These restrictions reflect the essential social character of Anasazi decoration. The decorative forms conformed to a socially standardized canon; the expressive content of the art reflected group rather than individual reactions and solutions to the tensions, insecurities, and conflicts that everywhere stimulate esthetic creation. During periods of relative stability and security, as on the San Juan from about the tenth to the thirteenth centuries there was great stability of style; changes occurred slowly in an orderly fashion, and reflected technical improvement and slow absorption of foreign influences as well as increased
craft specialization. During periods of stress and instability, changes of style were apt to occur abruptly and with frequency, but the social character of the decorative styles remained unchanged in that they reflected cultural rather than individual responses to the stress situations. When changes occurred, there was total commitment to the new style or styles which were adopted in a remarkably short time. The fourteenth century was a period of stress and upheaval in the Pueblo world. The pottery designs of Pottery Mound exemplify the quick and complete adoption of new decorative styles by the Pueblos. It is as though there were a tacit and unanimous agreement among the townspeople that the new times called for new forms of decoration which would then be prescribed. Discussion, criticism, protest, expressions of individuality, all of importance to the visual arts of the Old World, were reserved for other media of communication by the Pueblo people.

The speed and unanimity with which the Pueblos change decorative styles in response to externally caused stress situations has been demonstrated in historical times (Mera, 1939:27-28). At the Hopi Pueblos during the last decade of the nineteenth century, the Sikyatki style of decoration was revived by the potter Nampeyo, quickly adopted by the other potters of these towns, and has been the Hopi style ever since. A similar revival occurred at San Ildefonso and Santa Clara Pueblos on the Rio Grande somewhat later, personified by the almost legendary figure of Maria Martinez. In both areas cited, pottery making had seriously declined in excellence. Within the last decade a change in style has occurred at Acoma Pueblo that is perhaps more relevant. There
pottery making and decoration had maintained high standards, and there were perhaps a dozen potters of equal excellence working in the old polychrome tradition. All, seemingly at the same time, adopted a new, black on white mode of decoration.

Pueblo design styles and the Pueblo way of life have often been described as conservative. The implications of the word can be misleading in that they reflect a Western European set of art values that are irrelevant to the social non-Western role of Anasazi art in Anasazi life.

In Western visual arts, individual responses to human situations have an important value, and the artist is expected to perform in an imaginative way. The new and the different have acquired value in themselves as each generation is expected to create unique pictorial forms expressive of its own time. Old pictorial styles are relatively devalued in a cultural situation that requires visual artists to be intensely competitive and inventive.

The Pueblo towns are farming communities culturally isolated from their European neighbors. Individual expression in the visual arts is not expected, and radical innovations have little or no cultural value. Change therefore occurs slowly and anonymously, and always within a culturally accepted mode. To criticize the pueblo visual arts as conservative, that is, as lacking in invention and innovation, is to ignore the relative lack of importance placed on these values by the Pueblos, and to accept ethnocentrically the Western value as universal.
Classification of Rio Grande glaze wares on the basis of a sequence of rim shapes (from Mera, 1933)

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Glaze Wares at Pottery Mound

Six Rio Grande Glaze groups are distinguished, each with temporal significance (Kidder, 1917; Mera, 1933). Recognition of each group depends primarily on bowl rim shape (Fig. 1), on the degree of control of the glaze paint, and to some extent on the slip color. Mera's glaze paint sequence establishes Pottery Mound as a fully developed Glaze A site (Voll, 1961). Several Glaze A wares have been defined; four are dominant at Pottery Mound. These are: Agua Fria Glaze on Red, Cieneguilla Glaze on Yellow, San Clemente Glaze Polychrome, and Pottery Mound Glaze Polychrome. At Pecos Pueblo, it was demonstrated that Agua Fria Glaze on Red appeared somewhat earlier than Cieneguilla, that they coexisted for a period, with the yellow ware gradually superseding the red and finally replacing it. The position of San Clemente Polychrome in relation to other Glaze A wares has never been demonstrated because of its scarcity at other sites. Pottery Mound Polychrome has been found so rarely elsewhere that it was considered to be a variant of San Clemente (Lambert, 1954:77). Because of the great quantities of San Clemente at Pottery Mound (it is the second most common ware), the site represents an opportunity to place the early polychrome glazes in their proper sequence. Stratigraphic associations were such that it was impossible for Voll to place any of these wares in sequential order by traditional archeological methods. The terminal dates given for the town (1450-1490), are almost unreasonably late for a Glaze A site and depend on cross dating of extremely small amounts of Glaze C sherds and Acoma-Zuni trade wares. Classification of the four types as mentioned
above as Glaze A argues for early abandonment of the town; logical 
necessity supported by the trade wares argues for abandonment about 
the end of the fifteenth century or even later. Typological criteria 
require classification of Pottery Mound Polychrome as a Glaze A ware, 
forcing Voll to temporize; reclassification of that odd ware on the 
basis of design style as a local substitute for the Glaze C wares 
produced elsewhere resolves the dilemma.

No wares transitional between Heshotauthla and fully developed 
Rio Grande glazes were found at Pottery Mound, forcing the conclusion 
that the potters of that town had developed their skills, techniques 
and decorative styles before the founding of the town. Trade contacts 
with the Little Colorado of New Mexico, Cibola, and Tusayan Province, 
were strong as evidenced by large proportions of pottery produced in 
those regions. Pueblo IV black on white (or gray) wares were uncommon, 
indicative of little or no contact between Pottery Mound and the black 
on white enclaves of the middle and northern Rio Grande. Though Pottery 
Mound was clearly similar in most respects to contemporary Rio Grande 
Glaze towns, pottery analysis gives no evidence of contact with its 
neighbors. The reason for this is clear. Typological criteria used 
to recognize provenience depends primarily on technological factors: 
slip color, paste color, tempering material, color and composition of 
paint. When all of these factors are virtually identical at more than 
one place, provenience is impossible of recognition. When, in addition 
to identity of technology there is also homogeneity of design, the 
problem is compounded. Such is the case at Pottery Mound and in other 
towns of the Rio Grande Glaze Paint area. A technique of design analysis
that provides recognition of the minor handwriting characteristics which serve to distinguish the otherwise identical design styles of each village provides the means for recognizing provenience. This analysis has demonstrated very strong trade contacts between Pottery Mound and its eastern neighbors, especially along the trade route between that town and the Galisteo Basin.
CHAPTER II

THE DECORATIVE TRADITIONS OF ANASAZI PAINTED POTTERY

Four Anasazi design styles roughly contemporary with the two locally produced styles of Pottery Mound are particularly relevant to this study and are described below. These are the styles of the Acoma-Zuni area, the black on white (or gray) of the middle and upper Rio Grande, the Glaze A style in use at other Rio Grande towns, and the Sikyatki style of the Hopi towns in the Jeddito Valley of Arizona.

The Acoma-Zuni Glazes

Pueblo IV wares from the Acoma-Zuni area are the most commonly recognized foreign ceramics found at Pottery Mound, and they have been essential to the cross-dating of the site (Voll, 1961:53-54). The design style of this area is characterized by the use of wide, unpaneled bands on bowl interiors, usually, though not always leaving the bottom interior of the vessel undecorated. The continuous band is filled with repeating geometric elements laid out obliquely. Heshotauthla Glaze Polychrome, the earliest of the Zuni Glaze series, is also decorated on bowl exteriors with a continuous, narrow-line band of matte white paint, usually a repeat of a simple geometric element. Slip color of Zuni glaze wares is either red or white. The red slipped Heshotauthla is considered to be both ancestral to and contemporary with the Rio
Grande Glaze A wares. Kwakina Glaze Polychrome, which succeeds
Heshotauthla in the Zuni series, uses slips of contrasting colors,
white on one surface and red on the other, and may have been ancestral
to the Rio Grande Glaze Polychromes (Voll, 1961:50). The glaze paints
used in the Zuni series range in color from black or brown to green and
purple. The colored glazes are usually thin and transparent and can be
seen only on white-slipped surfaces, appearing as black or brown when
on a red ground. It is uncertain whether the color variations of the
glaze paints are intentionally achieved or the accidental results of
the mixture of impurities with the lead oxide glaze.

In spite of the high incidence of Zuni wares found at Pottery
Mound, the design styles of that town seem to have been little more
affected by Zuni styles than those of the other Rio Grande glaze pro-
ducing towns. With the exception of a very few examples of locally
made Zuni wares noted by Voll (1961:43; Fig. 2), which are atypical in
design, and the generic relationships between Heshotauthla and Rio
Grande Glaze A designs, Zuni influences on Pottery Mound design styles
are minimal.

Rio Grande Pueblo IV Black on White (or Gray) Decoration

Pueblo IV black on white (or gray) decorated wares are rarely
found at Pottery Mound. Nevertheless, a certain affinity to some late
Pueblo III and Pueblo IV black on white designs of the Santa Fe area is
noted. The design structures of these wares take several forms, including
quartering of the interior space of bowls, and most commonly, band
Figure 2

Copy of Pinnawa Glaze on White ware (Zuni) made at Pottery Mound. The vessel is of the "bean pot" shape with interior lugs. Design is in runny black to brown glaze on a white slip.
structures on bowl interiors. Bands are generally narrow, and often sectioned, the sections filled with geometrical motifs and elements, repeated and in symmetrical balance. The use of sectioned bands as a primary means of division of the design area is a characteristic shared with the Rio Grande Glaze A style, but not found as a rule on Zuni glazes. Another common form of banding is the continuous narrow band, usually confined to the upper wall of bowl interiors. Narrow bands are simple, made by a series of parallel thin lines, a series of small triangles, or a combination of both (Stubbs and Stallings, 1953:60-91). Life forms are occasionally found on the bottom interior of banded bowls; bird motifs (Fig. 11) and the awanyu (horned and feathered serpent) are often incorporated into the band design.

A carbon black paint is used on a variety of slipped surfaces ranging in color from white to gray to yellow. The use of carbon paint is one of a number of factors that relate the middle and upper Rio Grande Pueblo IV towns to a Mesa Verde ancestry; however, the pearly white slip characteristic of Mesa Verde pottery is absent along the Rio Grande. Colored slips characteristic of the glaze ware towns are also absent.

The continuous narrow band structure characteristic of Rio Grande black on white Pueblo IV decoration is also found in quantity at Pottery Mound, though black on white wares are rare there (Fig. 3). This design form is not characteristic of Rio Grande glaze ware (Kidder and Shepard, 1936:44) except at Paa-ko Pueblo on the east slope of the Sandia Mountains (Lambert, 1954:69). Paa-ko produced both black on
Figure 3

Agua Fria Glaze on Red Bowl with narrow line band structure
white and glaze paint wares contemporaneously; the use of narrow bands on glaze wares there is not therefore unexpected. Because use of narrow band structures on glaze wares centered in the Paa-ko area, appearance in quantity of that form at Pottery Mound confirms a here-tofore suspected contact between the two areas. Kidder (1958:320) suggests the possibility of extensive trade between the eastern Pueblos (specifically Pecos), and the western (Hopi) Pueblos with Pottery Mound as a possible clearing house between the two areas. The trade route from Pottery Mound to Pecos would follow the Rio Grande to Tijeras Canyon, cross to the eastern slope of the Sandias, going north, by Paa-ko, to the Galisteo Basin and its towns, and finally to Pecos. The presence at Pottery Mound of a design style popular along this route but not elsewhere supports Kidder's suggestion. It is likely that some if not all of the narrow banded vessels found at Pottery Mound were not manufactured there, rather that they were imported from the eastern slope of the Sandias where pottery making methods and materials were sometimes identical to those of Pottery Mound.

The Rio Grande Glaze A Decorative Style

Of the two design styles dominant at Pottery Mound, one is identical to the Rio Grande Glaze A style. This style, as found at Pecos Pueblo has been exhaustively described (Kidder and Shepard, 1936); it has also been described from Paa-ko Pueblo (Lambert, 1954). Though descriptions of design styles from other Glaze A sites are nowhere as comprehensive as the two mentioned above, the decorative style described
by Kidder, Shepard, and Lambert seems to have been dominant throughout the Rio Grande Glaze Paint area in Glaze A times.

The Glaze A style is characterized by the use of sectioned or paneled bands as the field of decoration. These are located along the upper wall of bowl interiors or on the upper shoulder of jars or ollas. The band panels are filled by a series of geometrically inspired motifs balanced according to one of several rigidly symmetrical formulas. Life forms are occasionally used in the normally empty bottom area of bowls. Exterior designs of a very simple order are common, as is the use of a wide line band immediately above the design area. The Glaze A style for Pottery Mound (Fig. 25) as described in a later chapter, is in its gross characteristics identical to that of other Rio Grande Glaze A sites. Each town, however, uses certain elements and motifs as well as certain structural forms more or less than the other towns, and it is in these preferential details that the substyles of individual towns can be recognized. For instance, the birdlet (a conventionalized bird symbol also used on the Pajarito, Fig. 13 d, e, g, h) and stemmed oblique key figures (Fig. 13 a, f) are among the most popular motifs reported from Pecos (Kidder and Shepard, 1936:33-35). Stemmed oblique keys are also popular at Pa-ko, but birdlets are rare there (Lambert, 1954:75); both motifs are rare at Pottery Mound.

The paneled band, whether on glaze or matte paint wares, is a northern and middle Rio Grande design characteristic which developed during the Pueblo III Period. A continuous evolution of the structure can be shown in those regions. The upper part of the band extended
originally to the rim with no upper banding or framing lines (Santa Fe Black on White). Somewhat later, both the banding line and upper framer were added along with isolated exterior motifs, and the key figure (Galisteo Black on White) (Hawley, 1950:68-70). There was an ever-increasing Mesa Verde influence on this development as evidenced by replacement of hachure by solid elements. When glaze techniques were introduced to the middle Rio Grande, this design system, half indigenous and half Mesa Verde in origin, was used in that region in place of the Little Colorado design system.

Since manufacturing methods and materials as well as design styles are virtually identical from many of the Rio Grande Glaze A sites, it has been extremely difficult to recognize trade wares from other Rio Grande towns at a Rio Grande site. At Pottery Mound approximately 3% of all identified types of pottery are Western trade wares (Voll, 1961:61-72), but the proportion of identifiable Rio Grande trade glazes is extremely small. Recognition of the preferential design details used by various communities, as in the examples above, serves to identify trade wares almost as surely as differences of paste and temper, thus indicating contacts and chronological relationships between the various towns. If motifs rare at Pottery Mound but common at other Rio Grande towns are accepted as evidence of manufacture at the other towns, the proportion of Rio Grande trade glazes at the site is raised to about 6%, adding further support to the belief that the town was a trade center.
The Sikyatki Design Style

The second most popular design style of Pottery Mound is related strongly to the style of design associated with Sikyatki Polychrome. The Sikyatki style developed in northeastern Arizona among the villages ancestral to the modern Hopi towns. It was the dominant design style in that region from about the fifteenth through the seventeenth centuries (Colton, 1955:56), and Sikyatki Polychrome was perhaps the most widely traded ware of its time. Despite the evident popularity of the pottery and the design style in other areas, it is not known to have been adopted by any eastern Pueblo other than Pottery Mound during prehistoric times.

True Sikyatki pottery utilizes a matte black mineral (iron) paint and a matte red-orange as a secondary color, both on an unslipped, highly polished yellow surface. The iron paint sometimes tends to be brown and is always warm in tone; at times a partial (or pseudo) glaze is noted, though this never seems to be intentional. The design style is far more dynamic than is the Rio Grande Glaze A style, utilizing curvilinear elements, spiral and rotational structures, texture, and bold play of solid and patterned areas. Sectioned or paneled bands are used as well as all-over design structures often with freely drawn life forms. Except for those designs using life forms in a narrative fashion (which are not common), the style is a formal one; common motifs include highly conventionalized feathers and bird forms, and simple geometric figures repeated. Rhythm is achieved through repetition of motifs balanced symmetrically or asymmetrically within the confines
of a design field, most commonly a band. Sikyatki designs are among
the most pleasing ever produced in the Southwest.

This design style is one of several that are found on wall
paintings of the period in the Jeddito Valley of Arizona, and at
Pottery Mound. Sikyatki designs on wall paintings are most often
confined to representations of textiles, wall hangings and kilts,
and though no extant textiles of the period are reported to have this
style of design, it must have been used for blankets and costumes, at
least those used for ceremonial occasions at Pottery Mound and in the
Hopi towns.

Though the majority of Sikyatki designs produced at Pottery
Mound are freely drawn, several (Fig. 4) show unmistakable evidence of
being copied with no great understanding. Textured brush work, never
used with Rio Grande Glaze A designs or with any other design style of
the Southwest, is an important element of Sikyatki design that is used
sparingly at Pottery Mound. Pottery Mound-made Sikyatki uses fewer
motifs by far than are found in the Jeddito, and they are as a rule
much more static. All indications point to the design style at Pottery
Mound having been adopted by potters trained in the Rio Grande Glaze
A tradition.

Conclusions

Influences of four major Anasazi design styles contemporary
with Pottery Mound are seen in the design styles of that town. It
should be noted that the four styles, though easily recognized, had
San Clemente Glaze Polychrome olla, Sikyatki design. Two panel structure (AA); complex panel dividers. Panel designs: pair of facing birds meeting in the center of each panel; central panel area confused; poor planning results in lower panel being too large, extra area filled by hachured rectangular scroll or hook.
much in common. Vessel shape, a design determinant, was similar in all districts of the time, and designs were placed in the same vessel area in all districts. (An exception occurs in the Rio Grande black on white area where bowls, but few jars were manufactured.) The main decorative area on bowls was always the interior; ollas or jars were always decorated on the upper shoulder. Designs were confined to a given area or field and used conventionalized motifs; designs were architectonic, formal, and geometric. Confinement of the design area to an even-sided band, use of a wide framing line, and a series of elements and motifs are characteristics common to all of the design districts.

Though Pottery Mound had strong trade contacts with the Acoma-Zuni area, design influences from that region were minimal though locally made copies of Zuni wares were made there.

Direct contacts between Pottery Mound and the black on white producing villages of the Rio Grande to the north were not strong; however, a number of specific northern design influences are apparent. These probably reflect contact between Pottery Mound and other Rio Grande glaze towns that were themselves in direct contact with the black on white area.

Two design styles were in use at Pottery Mound; one was in no essential way different from the contemporary style of decoration dominant throughout the Rio Grande Glaze Paint area. The other was a variant of Sikyatki style design, popular throughout the Anasazi area but hitherto known to have been made only at the Hopi Pueblos.
CHAPTER III

THE DESIGN STYLES OF POTTERY MOUND

Pottery classification is a cornerstone of Southwestern archeology. Pottery design plays a small role in archeological classification, especially of the Rio Grande glaze wares. A certain amount of confusion is therefore inevitable when these wares, previously classified by non-design criteria, are classified on the basis of design style. The first part of this chapter deals with this problem. Classification by any criteria is artificial in that it attempts to create a model or ideal into which all of the factors that have been recognized or isolated will neatly fit. At best, it can only approach reality; it is unlikely that the potters were as self-consciously aware of the factors used today to pigeon-hole their wares.

The remainder of this chapter defines and describes the design styles used on the pottery of Pottery Mound.

Pottery Classification

Aside from the intrinsic value that pottery has to the archeologist as an artifact or a facet of culture, it is also one of his most important tools. Ever since stratigraphic excavation techniques were introduced, pottery, especially in its fragmentary form as sherds has been of tremendous "index" value in establishing chronological
sequences and cultural correlations. The stratigraphic method in essence relies on excavation in levels, (often artificially established) and comparison of the contents of one level with that of all others. For the comparisons to be meaningful, the material recovered must be classified; when that material is pottery, this necessarily means the establishment of classification criteria that can be used to type sherds, since many more sherds than whole vessels are involved. The criteria used in typing Rio Grande glazes are mainly technical: the composition of tempering material, color of the body paste, color of the slip, color, texture, and apparent viscosity of the glaze paint, and the shape of the bowl rims. These characteristics define a sequence and serve to distinguish Rio Grande glazes from those produced elsewhere, but they are relatively useless for distinguishing pottery produced at one Rio Grande town from another without resort to such refined laboratory examination techniques as spectroscopic analysis. The inability to distinguish trade wares from other Rio Grande glaze towns at Pottery Mound is due to the limitations of the typological system.

Except for the design factors of slip and paint color, little attention is paid to design as a typological criteria. Examination of whole vessels recovered from a number of Rio Grande glaze sites shows that a Rio Grande Glaze A design style, differing appreciably from all other Anasazi design styles of the time did exist. Further, designs from three towns that have been studied, Pecos, Paa-ko, and Pottery Mound, indicate that the decorations produced at each are recognizably different, though all are in the major style. The differences are
in minor details and can be shown statistically (Appendix A); since only design details are necessary, selected sherds can be used as well as whole vessels for a design analysis whose main purpose is to discover provenience.

A design analysis using statistical techniques, whose sole intent is to isolate the details of style that define the unique character of pottery decoration in a measurable way has been used. The technique and its results are described more fully in Appendix A. Insofar as it affects pottery classification, it is too refined to be useful as a field method, especially where hundreds of thousands, or even millions of sherds must be classified as at Pottery Mound.

Traditional classification methods using the technical criteria noted above isolates four types of Glaze A ware manufactured at Pottery Mound. These are Agua Fria Glaze on Red. (synonyms: Glaze A Red, Glaze I Red, Schoolhouse Glaze on Red), Cieneguilla Glaze on Yellow. (synonyms: Glaze A Yellow, Glaze I Yellow), San Clemente Glaze Polychrome (synonyms: Glaze A Polychrome, Glaze I Polychrome), and Pottery Mound Glaze Polychrome. The first two of these have been shown elsewhere to be sequent (Kidder and Shepard, 1963). The sequential position of the other types is not clear. Examination of whole vessels from the town shows that two design styles were in use there. Correlation of these styles with pottery types will be discussed below (Chapter V), but it should be mentioned here that identity between decorative style and technically defined type do not always exist. Classification by technique and by style is demonstrably useful, but the validity of the classifying
criteria holds only in the aggregate; any individual vessel can be a "sport" that fits into no artificial category.

Technique of Analysis and Description of the Sample

The design analysis depends on the isolation of formal factors which when combined repeatedly in a similar or identical manner are the design style. These factors are studied under three broad headings: design structure, elements, and motifs. Design structures are the methods used to divide the area of vessels into decorative zones, in other words, the spatial organization of design areas. Elements are the minimal decorative units, lines, dots, basic geometric shapes. Motifs are design units formed by combinations of elements, arranged in a given manner and repeated on several vessels. Complex arrangements of elements to form a visual unit, and recognizable figures such as life forms are also considered as motifs, as are any meaning-forms found.

Every pottery design has within it these formal units which are categorized. Despite the infinite variations of design from the town, remarkably few categories of formal units are noted, and most designs are made of combinations of ten or fewer parts. Comparison of each category with all others shows that certain form units tend to appear in combination with each other, and conversely, that certain form units tend to be mutually exclusive. The intention is to arrive at a series of models, which ideally describe the design styles of the town (See Appendix B).
The differences in design between Rio Grande Glaze A towns lie not in the use or non-use of certain designs or design elements at each, but in the degree of popularity of any given structure, element, or motif at each town. Provenience of a vessel with a certain design may be suggested statistically if it contains elements popular at one place and rare at all others, that is, if the vessel fits the model created for one town but not others by an artificial analytical technique. Thus the goal of design classification here is concerned with probabilities.

Design elements, motifs, and some sub-structural forms can be analysed from sherds; whole or nearly whole vessels are necessary for complete design analysis. Only ninety-seven vessels whole enough for complete analysis are known to have been recovered from Pottery Mound, and these, plus four hundred and eight-four sherds are used in this study. An attempt is made to confine the sample only to locally manufactured wares. The criteria used to determine locality are based on Voll (1961:12); but the key determinants, paste color and the use of basalt as a tempering material, are common to several Rio Grande Glaze A towns. The design analysis demonstrates that about 6% of the sample was not of local manufacture.

All vessels and sherds are classified as Rio Grande Glaze A, and are either contemporaneous with each other or sequential over a period of not more than one hundred and fifty years. They are analyzed as a group rather than by type, since the typing criteria are arbitrary and irrelevant insofar as the designs are concerned. Vessel descriptions include type classification, and a discussion of the relationships
between design styles and pottery type follows in Chapter V. Though the recovery of whole vessels from any site is dependent on chance alone, the distribution of types in this sample is in accordance with that given by Voll for the entire town, and the sample may be considered representative of the wares made at Pottery Mound.

Anasazi pottery of the Pueblo IV Period is notable not only for its revolutionary change in character, but also for the limited number of vessel shapes produced. Only two shapes, bowls and ollas (jars) are reported for most Rio Grande glaze sites; these, plus a third shape described below are almost the only forms found at Pottery Mound. Vessel shape is considered only to the extent that it affects design.

Bowls are round-bottomed, about twelve inches in diameter and four inches deep. Sides rise rather abruptly and vertically, with some tendency to incurve; sides are even, rims either rounded or squared. They are always slipped completely, and polished. The major decorative field is in the upper part of the inner wall, an area usually no more than three inches wide. Because of the abrupt angle with which this wall rises, there is seldom much shape distortion caused by differences of circumference of the top and bottom of the design area.

Ollas are also round-bottomed, about twelve to fourteen inches wide, and equal in height. They are about five inches wide at the base, expand abruptly to the widest point about midway between base and rim at the shoulder; the shoulder rises at a flattened angle to the neck, about the same width as the base and midway in height between the shoulder at its widest point and the top of the vessel. The neck rises vertically
about three inches and sometimes outcurves slightly at the rim. The interior of the neck and the upper surface of the vessel exterior are slipped, the lower part of the exterior is usually unslipped though polished, the interior below the neck is neither slipped nor polished. The major decorative field is the upper part of the shoulder, an area sometimes as much as five inches wide. Because of the angle of rise of the shoulder, designs are distorted by the difference in circumference between the upper and lower parts of the design area.

Shape-caused design differences are minimal, the potters adjusting designs on ollas to compensate for the added height of the design field and the distortion caused by the rising shoulder. As a rule, bowl designs are more pleasing than are those on ollas; more imagination is shown, and there is greater variety, leaving unmistakable the impression that design problems related to the high-shouldered olla (a new form), were rarely solved on the Rio Grande during Glaze A times.

The third vessel form, unique to Pottery Mound, is a rounded or pointed bottom vessel three to five inches wide and twice as high. It reaches maximum width two or three inches above the base and is even sided from there to the top with a rim that tends to outcurve. It has a pair of interior lugs immediately below the rim. These are pierced, enabling the vessel to be hung. The form resembles a Navajo drum pot, or a Lister bag with no lid. It has been referred to popularly (and erroneously) as a bean pot. Slip and design are confined to the exterior surface; with the exception of the basal area, the entire exterior surface is used as a design field.
Figure 5
Agua Fria Glaze on Red olla with matte white paint (dotted area) in one panel. Four paneled band (ABAB) with framing lines above and below. Panel A fillers: diagonal checkerboard and checkerboard ribbon. Panel B fillers: checkerboard ribbon, triangles on line half opposed, horizontal line fillers and dotted lines.
Rio Grande Glaze A Design at Pottery Mound

Sixty of the ninety-seven vessels from Pottery Mound are classified as Rio Grande Glaze A design style. Thirty-six are a local variant of Sikyatki style, and one is unclassifiable as to design. With one exception, all designs of the Rio Grande Glaze A style use only two colors on a surface: the slip color and the glaze paint. The exception uses a matte white paint in addition to the glaze (Fig. 5). Slips of three colors are used, brick red, yellow, and white. Red is used most often, white least often; on some examples slips of differing colors are used on the interior and exterior surfaces of a bowl. The exterior color in these is red, the interior either yellow or white. The glaze paint color ranges from opaque black to transparent brown, from matte to high gloss; it has a tendency to bubble, especially when applied thickly and is sometimes runny. All paint variations can occur on the same vessel, occasionally in the same brush stroke. Regardless of final appearance, the intent seems always to achieve an even-toned, high gloss, black line with even edges. On the rare occasions when an even high gloss is achieved, the textural contrast between the paint surface and polished slip background is quite pleasing; most often, however, the potters seem unable to take advantage of the special qualities of their paint. The design style is a precise one, dependent on a tight, even line for effect. When the paint is runny or uneven, it ruins the effectiveness of the design. In later periods (Glaze C to F), glazes became looser and more runny, and designs progressively more slovenly. The Anasazi potters were never able to resolve the dilemma posed by a
design style which was ideally precise and a paint which is at its best when loose and allowed to run. Glazes were finally abandoned in the eighteenth century. Today one wonders not so much why they were abandoned, but rather why the Pueblo people kept using them as long as they did. During the Glaze A period, the Pueblo potters had far greater control of the glaze paints than in later times, and the problem of runniness was not extremely pressing. The glazes are used in the same manner as mineral paints had been in former times, and at their best are most effective on the brick red slip.

The main design area is always on bowl interiors, continuing a tradition as old as Anasazi pottery, or on the upper shoulders of ollas. Secondary designs of a very simple order are found on bowl exteriors or on olla necks. The exterior or neck design is a simple motif, most commonly a pair of oblique slashes leaning to the right or an X; the motif is usually repeated four times, quartering the vessel, or twice, at opposite halves of the vessel (Fig. 7b). It always appears on bowls, only occasionally on ollas, and is always drawn quickly and calligraphically.

The major design is confined to a band, either on the upper interior wall of a bowl, or on the upper shoulder of an olla. Some bowls have a central design as well which is unrelated to the band. Central designs are either life-forms or simple geometric motifs, especially an X cross. Several kinds of band structures are found, including six examples of a simple form. On these, the designs consist solely of a series of vertical stripes or S-shaped squiggles. These
Figure 6

Fragments of "bean pot" shaped vessels.

a) Glaze on Yellow, overall design of large diagonal hachures.

b) Glaze on Yellow, figure holding a staff.

c) Glaze on Yellow, overall design of vertical stripes, possibly representing a melon.

d) Pottery Mound Polychrome: vertical striped areas indicate matte red paint; dotted areas indicate matte white paint; black areas indicate glaze paint; blank area indicates yellow slipped background.

e) Glaze on Yellow, overall design of quickly drawn diagonal squiggles.

f) Glaze on Yellow, overall design, probably paneled.
occupy the space usually reserved for a band, but the area is not delineated (Fig. 6e). They are swiftly and sometimes carelessly drawn on bowls somewhat smaller than the average, and are also found on vessels of the bean pot shape; because this design is found only on specialized shapes, it may have some esoteric significance.

Another band structure not commonly used (nine examples) is the narrow band. As noted earlier, this form is related to contemporary black on white designs of the upper and middle Río Grande and probably came to Pottery Mound from the eastern slope of the Sandia Mountains in the neighborhood of Paa-ko Pueblo. Several variations of the narrow band are used. The simplest consists only of a series of three, four, or five parallel horizontal lines encircling the bowl interior along the upper wall. Another variant uses a series of small right angle triangles suspended from a line encircling the upper wall of a bowl. The triangles touch each other, so that the suspension line is, in effect, one side of all of the triangles (Fig. 7a). The triangles are even in size and under two inches in length. A third variant of the narrow band structure combines the first two, having a series of slung triangles suspended from the lowest of a series of line bands. The final variant of the form is a line band with a series of stepped dashes between the lines resembling musical notations (Fig. 7a).

All narrow band designs are well executed; lines are from an eighth to three-sixteenths of an inch wide, even, and usually uniformly black and glossy. Triangles are solidly filled and match the color and texture of the lines. Bowls using this structure are well formed,
Figure 7

Bowl sherd, Agua Fria Glaze on Red. Narrow band (continuous band) structure. Elements: line bands; stepped dashes between lines; triangles on line with the "dotted eye" motif.

a. interior  

b. exterior
slipped brick red, and somewhat smaller than average for the town, suggestive either of specialized use related to the design or a different point of origin for the vessels. The relationship of narrow band designs to those from Paa-ko supports the latter suggestion. No central designs are found in combination with narrow bands; the contrast between the well executed, very black and glossy, and somewhat delicate design with the undecorated parts of the polished red slipped bowl is quite effective.

The design structure most commonly used with Rio Grande Glaze A style decoration is the paneled band (forty-five examples). Used on both bowl and olla shapes, but never on bean pots, the paneled band is usually about three to four inches wide. The design field is delineated by upper and lower banding lines; on bowls it is located one to one and a half inches below the rim and extends, on the upper wall, to that vague point where the wall becomes the bottom of the vessel. The band on ollas begins about an inch below the juncture of neck and shoulder, and continues on the upper shoulder to the widest point of the vessel. The band encircles the vessel unbroken; there is usually a wide framing line above the upper banding line. On some ollas a framing line is also found at or below the shoulder. Because many of the vessels are in a fragmentary condition, it is impossible to know always whether an exit space or ceremonial break occurs in the framing line. Eighty percent of the vessels with intact framing lines have such a space or break, usually about one quarter of an inch wide; ceremonial breaks never occur in the band itself, the major design area.

Bands are subdivided into panels, usually four, sometimes two, and in one case, three. All panels in a band tend to be equal in size,
a) Panel dividers used at Pottery Mound.

2) Most commonly used (32 vessels); usually associated with Rio Grande Glaze A design style.

3) Next most common (12 vessels); usually associated with Rio Grande Glaze A design style.

8) Found on seven vessels; associated with either of the two styles.

More complex dividers (Fig. 4) are usually associated with the Sikyatki decorative style.

b) Methods of panel structuring, all Rio Grande Glaze A style, sometimes associated with locally made Sikyatki design style wares.

1) eight appearances (vessels)

2) three appearances

3) four appearances

4) fifteen appearances

5) eight appearances

6) ten appearances

7) five appearances

8) five appearances

9) one appearance

10) one appearance

11) two appearances

12) one appearance
but there is no evidence of any preliminary layout, and all seem to
have been drawn freehand. As a result, they are never absolutely equal
in size, and in some examples panel size varies considerably. As a
rule, the best executed and most pleasing designs have panels of unequal
size. In proportion, panels are about twice as wide as they are high,
but there is considerable variation, especially on ollas, where the
wide decorative field occasionally results in panels which are as high
as they are wide at their widest point. Panel proportions are deter-
mined to some extent by the size and shape of the vessel bearing the
design. Since the design area never extends into the bottom of bowls,
a wide bowl with low sides has a narrow band and panels that are wider
in proportion to height than is usual. The converse is equally true.

Panels in a band are separated from each other by the use of
one of several standard devices (Fig. 8a). Most often, panel dividers
are formed by simple combinations of vertical bars. Though several
forms of panel divider are known for the style, with rare exceptions
only one form is used on any vessel.

Panels are considered as separate design areas, and panel fields
are subdivided according to standard geometric schemes (Fig. 8b). All
panels of a vessel are usually divided according to one scheme; for a
four-panel band this would be expressed by the formula AAAA. Occasion-
ally unlike panels are alternated, ABAB. The single three panel vessel
has all unlike panels, ABC, and its design is among the poorest found
at the site; it is exceptional not only in design structure, but in
quality as well, and may be dismissed as an aberration. Panel sub-
than those used to describe the design fields. Very broad lines, sometimes one half to five-eighths of an inch thick are used between the panels, and above the band as a framing line. The broad line is also made with a single stroke of a heavily loaded brush. Solid bars wider than one half inch are usually delineated first with a narrow line and then filled with broad parallel strokes of a wide brush.

Lines are also used as space fillers within a panel, usually two, three, or four thin lines drawn in a parallel series. These line series are on a vertical, horizontal, or diagonal axis; diagonals are usually at about forty-five degrees. The outer lines of such series are often embellished by a series of closely spaced dots or ticks (Fig. 5). Linear crosshatching of any sort is very rarely used, though a crosshatched checkerboard motif combining line and mass is common. Hachure is a common design element of black and white wares of earlier periods in this and other Anasazi areas, and is also used as a filler element on Sikyatki wares contemporary to Rio Grande glazes. It is not commonly used on Rio Grande glazes, perhaps because of the tendency of the glaze paint to run and spread, characteristics which would destroy the effectiveness of the fine line crosshatch. This is especially so of later glazes; but even during the Glaze A Period when the potters were able to maintain great control over their paint, they seem unable to draw a line narrower than about one-eighth of an inch, and they required the thickness of at least one line between parallel lines.

Other linear motifs include the simple cross, usually an X, and life-forms drawn occasionally on the bottom interior of bowls.
These are conventionalized or naturalistic, and are unrelated to the rigidly formal paneled band. With the exception of some isolated motifs, such as a cross on a bowl bottom or the oblique slashes on bowl exteriors, lines are drawn neatly and with care. No preliminary layout is used, but the potter knowing what the final result should look like delineates the major design field first, subdivides this into panels, and further subdivides the panels before filling these with other elements and motifs (Kidder and Shepard, 1936:29-32). Mistakes do occur, and once the paint has been applied, they cannot be corrected. It is not uncommon to find vessels with one panel too short or too long, with lines extending beyond the area they are supposed to delineate or with bisymmetrical panels that are unbalanced. These and other errors occur; when the potter has been able to maintain a straight and even line, they are not objectionable. However, when the potter has also lost control of line, the errors become obvious and the design disappointing. Fortunately, this rarely happened at Pottery Mound, though in later years, elsewhere in the Río Grande district linear discipline was forgotten and the decorative style deteriorated.

Solid mass is the second most common element of design used at Pottery Mound. Mass is used only as a two dimensional filler within a delineated area and is usually achieved by having a loaded brush, often wide, follow the contours of the previously described shape. About one half of the design field is occupied by massive shapes; these combined with line, throw the balance of dark and light within the design field to the dark side. Very little use is made of the negative possibilities
Figure 9

a) San Clemente Glaze Polychrome sherd, lizard (?).

b) Pottery Mound Glaze Polychrome, rim sherd, lunettes with anten na-like projections, possibly the terminus of a feather design.

c) triangles on line, half opposed, forming a wide negative zigzag band.

d) triangles on line, opposed, forming a negative diamond pattern.

e) triangles on line, opposed, forming a negative pattern of oblique rectangles.
inherent to large solid two-dimensional areas, not only at Pottery Mound, but throughout the Rio Grande Glaze Paint area. Complex negative pottery designs had been used with great success during the preceding period in the Mimbres area of Southwestern New Mexico, at Mesa Verde, and in the Little Colorado District on black and red wares ancestral to the Rio Grande glazes. The Rio Grande potters were almost certainly aware of these ancestral designs so that non-use of negative design would seem to evidence indifference to that particular solution. Because negative designs are spatially dynamic in that foreground and background are interchangeable and ambiguous, rejection of their use is in keeping with the static character of Pottery Mound decoration.

The only other minimal elements used are dots and ticks or short dashes. Dots, made by simply applying the tip of a loaded brush to the surface are commonly used in series as embellishments on a line or along the outer edge of a solid geometric area. They are used also to enrich a pattern, as in the center of each white square of a checkerboard or, commonly, in the center of a small reserved figure within a solid geometric mass. This "dotted eye" (Fig. 7) is one of two common negative design patterns used at Pottery Mound.

Random dots are used very seldom to fill a prescribed area. Occasionally a random group of dots is found on an otherwise empty bowl bottom; these seem always to be accidental drops of paint fallen from an overloaded brush. They can be distinguished from intentional dots by the painter's habit of applying a dot with the brush tip which usually gives it a right hand bias, so much so on occasion that a dot becomes a dash.
San Clemente Glaze Polychrome olla, Sikyatki design. Four panel structure (ABAB) with complex panel dividers.

Panel A: Quartered structure; rectangular hooks in opposite corners, dashes forming diamonds in other corners. Pair of conventionalized birds diametrically opposed in the center, each formed by a combination of an unstalked right angle key with a reserved "dotted eye" (body and tail), and a rectangular hook or scroll (head).

Panel B: Diagonal structure, two large triangles bisymmetrically opposed, filled with small triangles, triangles on line, series of stepped dots or dashes ("blop steps"), right angle keys. Structure and all elements are in Rio Grande Glaze A design tradition.
Dashes and/or ticks are also used as line embellishments. Most commonly though the element is used in a stepped series, short dashes overlapping each other on a right hand bias. These oblique stepped ticks or dashes are almost always used in parallel series as space fillers within a prescribed geometric area. The individual elements are between one-quarter and one-half inch long, almost always parallel to the long sides of a panel (that is, they are horizontal), and each tick is started at about the mid point of the one below. Each line of stepped ticks in a series is placed no more than one-quarter of an inch from the line parallel to it, or as close as the painter dared put it to be sure of a blank area between lines (Fig. 11). Short stepped ticks or dashes in series have been referred to by Kidder as "blop steps" and are common at Pecos, Paa-ko, and other Rio Grande Glaze A towns (Kidder and Shepard, 1936:32).

The elements of decoration described above--line, two-dimensional mass, dots, and ticks or dashes--are the only ones used on Rio Grande Glaze A style pottery of Pottery Mound. Line is used most basically to define the field of design, to lay out the subdivisions, and to describe the filling motifs. The other elements are used to reinforce the linear pattern and to give it additional textural interest gained principally by contrasting dark, light, and spotted areas. The severe limitation of means is in keeping with the austere and static quality of the design style.

The band panels are geometrically subdivided and then elaborated or filled with one or several of a limited number of motifs. Any
Figure 11

Agua Fria Glaze on Red bowl, Rio Grande Glaze A design. Four panel structure; no framing line; incomplete lower banding line; central bird representation. Panel A: diamond structure with solid corner triangles; diamond filled with short stepped dashes in series ("blop steps"). Panel B: interlocking scrolls with bases and oblique stems, a variation of the "birdlet." The incomplete banding line and motif of Panel B are Pecos and Galisteo characteristics.
recognizable design unit formed by a combination of elements or any meaning form (such as a life form) or any recognized symbol is considered here as a motif. Motifs are used not only in band panels, but also on bowl exteriors as described above (p. 41) and occasionally on the bottom interior of bowls. Few panels use more than three motifs; many use but two. Because all panels are alike on most vessels and the others (with one noted exception) alternate unlike panels, no more than six, and usually four or fewer motifs are used on any one vessel.

Simple geometric forms are considered here as motifs; the triangle in any of several variations is used in virtually every design of this style. In its simplest form a right angle triangle solidly filled is used in the corners of a panel or in the corners of panel subdivisions. Often, a small area is left unpainted near the right angle corner. This reserved area is either a circle or a rectangle and almost always has a dot in it. (See above, the "dotted eye," p. 55) The single corner triangle tends to be equilateral and is large in proportion to the height of the panel, being two to three inches long on a side. Because mirror imagery is commonly used in structuring a panel, large triangles are often paired in opposition. A variant of the simple large triangle paired in opposition is fringed or stepped along the hypoteneuse. Stepping is accomplished by either running a continuous zigzag line along the hypoteneuse or by using a series of dashes along that line as though making a single line of stepped dashes or ticks. Fringed or stepped triangles are usually paired in opposition with the fringed sides facing each other forming a negative zigzag line
Cieneguilla Glaze on Yellow bowl, Sikyatki design. Overall design, open three panel band structure with paneled lunette appended from band in center. (Part of band lost prehistorically when bowl was cut down to a platter or dish shape.)

Panel A: Structure problematical; reserved X (star ?) in a triangle.

Panel B: Informal structure, conventionalized bird in center, reserved X in triangle in bird's body.

Panel C: Quartered structure, reserved dashes in rectangles, opposed fringed triangles.

End elements: Fringed triangles with reserved figure in each.

Lunette: Series of small panels, opposed fringed triangles, small areas filled with oblique stepped dashes ("blop steps").
between (Fig. 12). They are always filled solidly and usually have a
dotted eye figure in the right angle corner. Stepping, especially when
made with a continuous line, is often carelessly drawn.

Simple large triangles are rarely left in outline form. When
not solidly filled, oblique stepped dashes are used in series as space
fillers. These are placed close together and create a negative pattern
of oblique zigzags. They are never used within fringed triangles or
combined with the dotted eye motif.

Small triangles, always solidly filled and with no other
elaboration, are used in various combinations as panel fillers. They
are usually found in panels that are either subdivided along the hori-
zontal axis, or by a large inverted V (Figs. 5, 8b-6). A single series
of small, solid triangles touching on line is used occasionally, but
most often two of these series are found in opposition to each other.
Lines of triangles in full opposition, each triangle touching its
facing partner at the apex, form a negative pattern of diamonds in the
space between lines (Fig. 9d). The negative diamonds are sometimes
elaborated with a dot in the center of each. The other common use of
lines of triangles in series finds two lines, half opposed to each
other and not touching, the apexes of each line pointing to the junction
of touching triangles in the opposing line (Fig. 9c). A wide negative
zigzag band is formed between the lines of triangles.

Almost one-third of all motifs used in the Rio Grande Glaze A
decorative style at Pottery Mound are triangles. The next most common
motif, occurring only half as often are keys or stepped figures. Six
variants of keys are used (Fig. 13a, b, c). Two-thirds of all keys used
Figure 13

a, b, c) Key figures (from Kidder and Shepard, 1936:fig. 26)

a) oblique stalked key with base.

b) stemmed (stalked) right angle key, no base.

c) unstalked right angle key, no base.

(Key figures of Pottery Mound are either oblique or right-angled; variations are in the use of the stalk or stem, and of the base.)

d) Birdlet. (from Kidder and Shepard, 1936:fig. 28).

e) Birdlet (from Kidder and Shepard, 1936:fig. 31).

f) Agua Fria Glaze on Red rim sherd, from Pottery Mound. Oblique stalked keys with base, opposed, forming two conventionalized birds (?). The extremely narrow band, and use of the oblique form of the key identify this as a trade piece, probably from the vicinity of the Galisteo Basin.

g, h) Agua Fria Glaze on Red, body sherds, from Pottery Mound. Paired birdlets, probably used as a central motif; probably trade vessels from the upper middle or northern Rio Grande.

i) San Clemente Glaze Polychrome, rim sherd. Double cross motif with filled corners, a free form within a non-structured panel. Sikyatki design style.
at Pottery Mound are simple, unstalked, right angle, without base. The form is identical to the large right angle triangle with the exception that the long side, that is, the side facing inward in a panel, has three or four large steps instead of being straight. The square steps are usually drawn with care. Unstalked right angle keys are finished in the same manner as corner triangles, either solidly filled with a dotted eye or filled with a series of stepped dashes. Keys are often used in opposition, forming negative zigzags between the stepped sides. Key variants most often used at Pottery Mound are of the right angle variety. These are sometimes stalked or stemmed and occasionally have bases. Oblique keys are seldom used, and are always drawn more swiftly and carelessly than are the right angle forms of the motif. Oblique stemmed keys are commonly used at Pecos and seem to be an often used motif in the Galisteo Basin (Kidder and Shepard, 1936:34). Their use at Pottery Mound is limited to vessels whose handwriting characteristics differ from the norm at that town in being less precise and rigid; they give the panel a more dynamic character than is usually the case at the site. For these reasons vessels with stemmed oblique keys at Pottery Mound may be considered as trade wares, with provenience in the Galisteo Basin or elsewhere in the northeastern part of the glaze paint district.

Other motifs less commonly used than triangles and keys, and usually found in combination with these, include various forms of checkerboard. Commonest of the three checkerboard forms is the un-elaborated right angle type with solid dark squares. The squares (or rectangles) are usually about one-half inch high and somewhat wider.
Figure 14

Life forms on sherds.

a) Cieneguilla Glaze on Yellow bowl rim sherd, Sikiyatki design. Probably a line band structure with central bird design.


d) Agua Fria Glaze on Red, bowl sherd, center interior, Rio Grande Glaze A style, insect, possibly a naturalistic dragonfly.
Because checkerboards are usually used to fill an area longer than it is high, rectangles are more commonly used than squares. There are seldom more than six to a side. Oblique parallelograms are sometimes used instead of right angle rectangles; shape distortion, especially of designs on ollas, often squeezes the top of a panel, forcing it into a triangular shape (Fig. 5) though the rectangle is preferred. Use of the oblique parallelogram in these situations de-emphasizes the distortion. A single right angled checkerboard line or ribbon is often found in panels that are horizontally subdivided. The dark panel of all checkerboards is always filled solidly. A dot adorns the light or unpainted panel of a checkerboard in about half of all uses of the motif in any of its forms.

The double cross motif, as mentioned earlier, is used occasionally, and on bowl wall exteriors. It is

A double cross form, resembling the format of checkers, is very rarely used in panels; singly on sherds. Another seldom used motif is noted of the use of simple rectangular

They are always small, occur singly, only in Richly elaborated and complex scroll patterns before, during, and since the early Pueblo Glaze A potters could not have been unaware of the scroll form. Their rejection of chure, and complex negative patterning, is consistent with the static quality of the style.
Figure 15

Life forms: a, c, and d, Agua Fria Glaze on Red sherds;
  b, Cieneguilla Glaze on Yellow sherd.

a) Deer or antelope
b) Bird, road-runner or long legged water bird
c) Rabbit (?)
d) Butterfly
Figure 16

a) Frog or lizard; San Clemente Glaze Polychrome sherd.

b) Problematical animal; Agua Fria Glaze on Red sherd. (Millipede?)

c) Toad (?); San Clemente Glaze Polychrome sherd.

d) Human (?); Agua Fria Glaze on Red sherd.

e) Bear claw; Agua Fria Glaze on Red sherd.
The only other motifs used in Glaze A style pottery are life forms. These occur only as independent designs on bowl interior bottoms, unrelated physically or visually to the paneled band on the upper wall of the bowl. They are used very rarely, occurring on fewer than 3% of the vessels and sherds examined. With the exception of a conventionalized bird form, life forms of this style are naturalistic. They include birds, insects, humans, other animals including a bear (Fig. 16e) and deer (Fig. 15a), a rabbit (Fig. 15c) and reptiles resembling lizards (Fig. 9a), frogs (Fig. 16a), and toads (Fig. 16c). The naturalistically drawn figures are usually linear, cursive, and simple. The conventionalized bird mentioned above is decorative, and fits Kidder's description of the "birdlet" used on the Pajarito Plateau and on glaze wares of Pecos (Kidder and Shepard, 1963; Kidder, 1915). The form is made by simply drawing an X, filling the triangle of the upper part of the X (this is the bird's body) and adding a hook in front for a head. The bottom strokes are the feet. There are a number of variations of this motif reported from other sites; the only variant found at Pottery Mound opposes two legless birdlets by filling the lower as well as the upper half of the X, and adding a hook to both sections. The rarity of this motif at Pottery Mound opposed to its popularity at Pecos, the Galisteo Basin, and the Pajarito Plateau, argues for its being imported to Pottery Mound from one of those areas.

The only variants of the two- or four-paneled, banded Glaze A designs at Pottery Mound include the continuous line band (pp. 44, 46), the simple vertical band (p. 44), use of three panels, use of banded
Figure 17
Agua Fria Glaze on Red bowl, slung triangle structure, four panel (AAAA) with central bird design
structures with a central motif unrelated to the main design area, and use of slung triangles in a band.

The slung triangle structural form is a variant of the band with rectangular panels that substitutes large triangles dependant from the upper banding line for rectangular panels. Each triangle is subdivided much as rectangular panels are, and the rhythmic patterns, AAAAA or ABAB, are followed (Fig. 17). Only two examples of this structure are noted among the whole vessels; about the same proportion (2%) is noted among the sherds. At Pecos, slung triangles are a popular device, probably imported from the Galisteo area, and their rare appearance at Pottery Mound may be further indication of trade contacts between that town and the Galisteo Basin.

Sikyatki Style Design at Pottery Mound

Thirty-six of the ninety-seven restorable vessels recovered from Pottery Mound are decorated in a style akin to that of Pueblo IV Hopi towns known as Sikyatki. More than half of the vessels using this style of design are true polychromes by the addition of a matte red paint to the glaze and slip colors. Yellow and white slips are more often used in this style than in the Rio Grande Glaze A style; in most instances slips of contrasting colors are used on each surface of a bowl, red exterior and white or yellow interior are most common. Where only one slip color is used, it is invariably yellow. There is a tendency to use a thinner and more transparent glaze paint with Sikyatki style decoration, and brown glaze seems to be used more often. The
seeming preference for brown over black glaze color may be an illusion because a light glaze on a yellow ground may appear to be brown; on a red ground it would be considerably darker. The red matte paint is a thick slip and is used sparingly as a secondary, descriptive color. With the exceptions noted above, vessels, slip, and paint, are identical to those bearing Glaze A designs.

Design placement is similar to that of the other style except that the entire interior surface of a bowl is sometimes used as the design field. Structure, especially on ollas, is not much different. The thin, continuous band is never used; wide paneled bands are used as are wide continuous bands. Vertical bands, more formal and precise than in the Glaze A style are found on bean pot shapes. The slung triangle structural form is also used in combination with a central design.

Paneled band structures differ in two respects from the Glaze A style. Panel dividing units are far more complex (Fig. 4), at times resembling full panels, though much narrower. Panel subdivisions are less formal, not as rigidly balanced, sometimes asymmetrical; sometimes they use one or two free motifs within the panel area instead of formally dividing the space. More two-paneled bands are used in the Sikyatki style than in the Glaze A style. The rhythm of repeated panels is about the same in both styles. Continuous or unpaneled bands use the same design field as do paneled band structures, but the continuous band is usually filled by an informal and dynamic design.
Figure 18

Pottery Mound Polychrome bowl, overall design, rotational structure
Of the other Sikyatki structural forms, slung triangles occur but once and, as with that form in the Glaze A style, merely substitutes a large triangular shape for the rectangular panel normally found in a band. The vertical structure found on bean pots is a formal one which utilizes the entire exterior of the vessel as the design field. Vertical bars, each about one-half inch wide, alternately red and yellow and separated from each other by stripes of glaze paint are the sole elements of the design (Fig. 6c).

Central designs are often used in combination with bands. These always relate to the band either directly, through physical contact, or indirectly through use of similar or identical motifs or structure. When both band and central designs are used, the central design area is always considered as an extension of the design field confined by the band. Over-all designs are also used occasionally in this style. These are unbanded structures utilizing the entire bowl interior surface as the design field. Rotational or spiral structures are commonly used for over-all designs (Figs. 12, 18).

Bowl exteriors, as in the Glaze A style, are used as subsidiary design fields; the simple motifs and structures of Glaze A style design are also used on Sikyatki style vessels, but more often a continuous band is found on bowl exteriors. This is usually narrow, under two inches in width, bordered top and bottom by a line of glaze paint, and filled solidly between these lines by a slip color contrasting to that used over the rest of the bowl exterior. The continuous band is often terraced (Fig. 19a) and resembles strongly similar structures found on
the exterior of Glaze C bowls, presumably later in time. Elaboration of exterior designs during Glaze C times was an important step leading to the eventual transfer of the main design area from the interior to the exterior of bowls. Appearance of similar elaborations on Sikyatki style Glaze A ware is an important clue to the dating of that ware.

The organization of design space by the Sikyatki style potters of Pottery Mound conforms in most respects to the Sikyatki style of the Hopi Mesas (Fowkes, 1898:650-728). It differs from the organization of Glaze A style wares at Pottery Mound primarily in utilizing a greater area of the available design space in a more dynamic way. Space within the design field is less rigidly formal and static than in the Glaze A style; life forms are used within bands, curvilinear motifs appear, and motifs in bands and panels are balanced asymmetrically. A greater variety of motifs and textures are used, and these space fillers are bolder and more dynamic than is the rule for Rio Grande Glaze A designs.

The elements of decoration used for Glaze A style designs are also used on Sikyatki style vessels. These are line, two-dimensional mass, dots, and ticks or dashes. As in Rio Grande Glaze A designs, line is used to define the design field, to lay out subdivisions, and to describe the shapes of motifs. Broad framing lines with exit breaks are used above the band with the same consistency in both design styles. Framing lines below bands on ollas are more often associated with Sikyatki style designs. In addition to the use of dots as line embellishment, or singly within a prescribed area, many dots are sometimes used to fill a prescribed area. Dots are also used descriptively with
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life-form drawings. Two dimensional mass is used in a like manner in both styles of decoration as are ticks and dashes. Carefully drawn dashes, about one-quarter of an inch wide and one-half to a full inch long are sometimes used in combinations of three or four as line embellishments on Sikyatki style vessels. These are stepped to form triangles or diamonds (Fig. 20).

One other design element absent on Rio Grande Glaze A style wares that is occasionally used on Sikyatki designs is paint texture. Stippling and dry-brush textures are the ones used, primarily for filling a described area. No evidence of spattering textures occasionally found on true Sikyatki vessels is noted from Pottery Mound. Brush textures and the use of red matte paint as an additional descriptive color on many Sikyatki style designs give them a textural interest and vitality missing from the static and rigidly formal Rio Grande Glaze A designs (Fig. 21f, h). The additional color is sometimes used descriptively as line, but is more often found as mass, filling an area described by a glaze paint line. It gives the potters four filling possibilities for completing their designs: glaze paint mass, matte red paint mass, linear textures, and brush formed textures.

With one exception, all of the motifs noted for Glaze A style decoration are also used in the Sikyatki style, though the geometric forms of the former do not dominate to the same degree in the latter style. Triangles, key figures, and checkerboards are used in identical fashion in both styles. In addition, unstalked right angle keys are also used with other motifs to form a conventionalized bird. Small,
Figure 21

All sherds of Pottery Mound Glaze Polychrome. Matte red paint indicated by striped areas, matte white paint indicated by dotted areas, glaze paint indicated by dark areas.

a and d) Sun symbols (?)...

b) Moon symbols (?)...

f) Spattering, matte red paint; dry brush texture in glaze paint.

g) Dragonfly.

h) Dry brush texture in glaze paint.
neatly drawn X crosses and double crosses are found in panels, and occasionally in reserved areas; the large X cross is not commonly used, and appears mostly on bowl exteriors. Several sherds of the Sikyatki style also have a double cross motif with filled corners also seen on Glaze C wares though not found on Glaze A style decoration (Fig. 13i). The exception noted above is the birdlet motif, believed to be foreign to Pottery Mound, which is not used on Sikyatki style pottery there.

Other motifs not found on Glaze A style pottery include the rectangular hook (Fig. 20) usually used as the terminus or a finial in combination with other motifs. It is found often as the head and beak of a conventionalized bird described below. Feather designs are a common panel motif. Most often they are formed by a series of three expanding bars laid horizontally in a panel. They terminate at the wide end with triangular or arc elaborations (Fig. 21i). They are usually delineated with glaze paint lines and filled with red matte paint applied solidly. The feather motif is sometimes curvilinear, and occurs also as the central design in a bowl bottom. Small lunettes or semicircles touching along a line (Fig. 21i), triangles or circles with two or three antenna-like projections (Fig. 6f), triangles nicked at their apex (Fig. 21a), and circles ticked around their outer perimeter (Fig. 21d) are also used as motifs as are bulls-eyes (Fig. 21a, d) and several other circular or semicircular variants (Fig. 21b).

Life forms including birds, insects, reptiles, humans, and other animals also occur. Birds and dragonflies are common; the others are not. Life forms of this style tend to be conventionalized and more
Figure 22

a) San Clemente Polychrome bowl sherd, Sikyatki design in panel, conventionalized bird.

b) Pottery Mound Glaze Polychrome bowl sherd, red indicated by striped areas, glaze paint and dry-brushed glaze paint by dark areas. Free flying bird, perhaps a parrot, in a panel.

c) San Clemente Glaze Polychrome bowl, sherd from center interior. Sikyatki design, conventionalized bird.
decorative than are those of the Glaze A style. They often combine line and mass by delineating a fairly complex form and filling the defined area with matte red paint, glaze paint, texture, or unelaborated base slip color in any combination. Dragonflies are always linear representations in either glaze or matte paint. They are formed simply by a long line representing the body crossed at right angles by a pair of shorter lines representing wings (Fig. 21g). A red dot is sometimes used for the head though more often no head is indicated. A pair of dragonflies is shown by doubling the body line. This insect is used in a variety of situations, usually in random placement as space fillers either in panels or in bowl bottoms.

A variety of bird motifs is used. Most common is a conventionalized form used as a panel filler. It is always shown in profile, with the rectangular hook, noted above, as the head, a solidly filled rectangle as the body, and triangles in series one above the other as a tail (Fig. 22a). Three triangles are usually used as the tail feathers, occasionally other shape combinations similar to the conventionalized feathers are used to represent the tail. Legs and wings are never shown. This bird form is sometimes used in pairs opposed in a panel. It is usually the major motif of the panel it occupies, and on occasion is the only motif used. Similar birds are found on true Sikyatki ware, and on Glaze C wares.

Large highly stylized birds are also used in unpaneled bands, or as central motifs. These are neatly and decoratively drawn; they use wing and tail feather conventions similar to those noted above as
Figure 23

Pottery Mound Polychrome, bowl sherd. Sikyatki design, conventionalized birds in a panel; complex panel divider.
feather motifs; and they sometimes use curvilinear forms (Fig. 22c). One large bird (Fig. 22b) is freely drawn and seems to be intended as a naturalistic representation, possibly of a parrot. Other naturalistic representations are of humans (Figs. 6b, 24), and reptiles, toads, and frogs (Figs. 16a, c). These drawings combine line and mass; the figures described in line, further filled with descriptive or decorative massive or textural areas.

The Sikyatki style uses several more motifs than are used in Rio Grande Glaze A designs, as well as most of the motifs used in the latter style. All of the additional motifs are found in true Sikyatki design (Fewkes, 1898). These additional motifs tend to be bold and dynamic; they rely on curvilinearity, play of texture, and complexity of form for interest. They seem to be meaningful on occasion, rather than purely decorative. Though formal elements of structure and balance are heavily relied upon, when contrasted to the Glaze A style of decoration, Sikyatki designs seem informal and dynamic. Band structures are more freely organized, and there is a strong tendency to use the entire bowl interior as the design field; when so used the dynamic characteristics of the style are emphasized through curvilinearity and the use of rotational or spiral axes. Central designs are well integrated with bands when both structural forms are present; on occasion a band or panel extends into the central area or even bisects it (Figs. 12, 20). Additional elements of color and texture add excitement to the style.

When the Sikyatki style of Pottery Mound is compared to that of true Sikyatki ware from the Hopi Pueblos, the Pottery Mound group seems
Figure 24

San Clemente Polychrome bowl sherd, unpanelled structure, Sikyatki design.
...a representation is properly a likeness, picture, model, image, or reproduction of an object, whereas a symbol is rather a sign by which one knows or infers a thing or idea. (Smith, 1952:168)

To a people living in an arid area and dependent on marginal farming for their subsistence, whose religious and ceremonial life is intimately involved with attempts to control nature, especially the distribution of life-giving water, art forms and symbols suggestive of water have obvious significance. As expected, most representations and abstract symbols used on the pottery decoration of Pottery Mound are ultimately concerned with water, though they are not necessarily religious (as opposed to secular) symbols. Before the introduction of foreign religions by Western Europeans in the sixteenth century, all Pueblo people presumably shared a common religion, and the religious-secular dichotomy familiar to Western Europeans did not exist in this homogeneous environment. A dichotomy did exist, however, between the commonly held, all pervasive religion and the beliefs and ceremonials of the esoteric societies. These societies blossomed during the Pueblo IV Period which saw (probably) the introduction of the Kachina Cult and
the horned and feathered serpent. Of the nineteen kivas excavated at Pottery Mound, sixteen possibly belonged to one or another of the secret societies, and it is probable that most men of the town were members of at least one of these. The iconography of Pottery Mound takes one of two forms, either relating to popularly held religious beliefs, and, in that environment being comparable to Western secular art, or relating to specific cult beliefs and comparable to Western religious art.

In a discussion of Pueblo (or any Indian) iconography, two extreme points of view need to be avoided. One of these, in an excess of romantic mysticism sees a profound religious truth expressed in every line of Indian decoration; the other, in extreme reaction to the first, refuses to recognize symbolic content in any Indian design and sees all as decoration only. The truth, of course, lies somewhere between the two extremes. In the tightly knit and homogeneous Pueblo community it would be virtually impossible for a potter to use a decorative motif that had no common religious symbolic value. Use of such symbols need not imply any profundity or deep religious feeling on the part of the potter or the person who would use the vessel. It demonstrates the depth with which the common religion penetrated every aspect of Pueblo life, but no more than that. If a model religious-secular dichotomy of Pueblo iconography is to be of any value, then the commonplace symbols must be considered as secular. Symbols and motifs were used at Pottery Mound that refer (or seem to refer) to specific religious beliefs or to specific elements of religious ceremonialism, and these will be considered as religious in purpose.
Iconography of the Rio Grande Glaze A Decorative Style at Pottery Mound

An extremely limited number of motifs are noted in the Glaze A style; the vast majority are abstract, though representational forms are also found. The representations, life forms, at times have an added meaning, and are then both representations of something and symbols of something else. The repertoire of life forms is limited to include reptiles and amphibians (some with obvious water symbolism), other animals (though snakes are excluded), and birds. Most animal representations are fragmentary; if any had associative meaning, that meaning is now lost along with the rest of the vessel bearing the design. Bird motifs as noted earlier are of two sorts, one representational, the other conventional. Only one bird, a roadrunner, is drawn descriptively enough for positive identification (Fig. 15b).

Birds possess symbolic importance in some modern Pueblo ritual as do bird feathers; the latter do not occur separately in Rio Grande Glaze A designs. Fewkes (1898:688) suggests that in ancient times birds were sacrificed. Bird burials, including a turkey inhumation at Pottery Mound, tend to support this surmise. According to Fewkes again, birds were used to represent mythic conceptions (1898:691). Ample support for this belief is found among the wall paintings of Awatovi (Smith, 1952), Kuaua (Dutton, 1963), and Pottery Mound. Identification of a bird representation with a mythological figure is only possible if the specific attributes of a known character are represented or if the figure is shown in a narrative situation where its actions and environment would identify
it. Neither of these conditions is met with in Glaze A style bird representations. In modern Pueblo ritual, birds are sometimes representative of the cardinal directions. However, a given direction is not always represented by the same bird, and one bird may be used to refer to more than one direction. This inconsistency of usage is found not only from Pueblo to Pueblo, but even within the same town (Smith, 1952:189). It is therefore impossible to identify sacred birds and their meanings with any reliability.

Life forms drawn in the Glaze A style are always monochromatic, drawn loosely and descriptively. Interior masses are usually solidly filled, giving the figures a silhouette appearance. Profile views predominate and figures are rarely static, the linear style being well suited to render the action implied by a curved spine, tensed, bent legs, or an open mouth (Figs. 15a, b, c). Figures of this style are found only in the bottom of bowl interiors, divorced physically and stylistically from the static, formal band which usually encircles the bowl. The foregoing description applies to all life forms of the Glaze A style with the exception of the conventionalized birdlet which, though placed on the bowl in a fashion identical to all other life forms, in its formality and geometric structure is related to the main design area of the band. The naturalistic life forms of the Glaze A style seem to be a continuation during the Pueblo IV Period of a persistent though never widely used tradition of Anasazi art. Similar drawings are found on black on white pottery of earlier periods, and the style is related to Pueblo III rock art of Mesa Verde (Smith, 1952:63, Fig. 7F).
as well as to petroglyphs of uncertain date scattered throughout the Anasazi area. The conventionalized birdlet was often used on both glaze and carbon paint wares of the Pajarito Plateau in Pueblo IV times, as well as in areas adjacent to that (Kidder, 1917). The form is Pueblo III or earlier in its origin and may have developed out of the use of paired opposed triangles in a bow-tie design during that period.

Geometrically formed abstract motifs of the Glaze A style are symbolically associated with stars, clouds, and lightning. With the exception of some star symbols, the abstract motifs are used only in geometric band designs where they are integrated into a formal decorative pattern which obscures any symbolic content. Used decoratively, the motifs are meaningless in that they lack any specific symbolic intent.

Stars are most frequently represented in Pueblo art by a four pointed form, often elaborated, sometimes personified by the inclusion of facial features. The simple X cross is the only star convention used with the Rio Grande Glaze A style at Pottery Mound. It is found only on bowls, always isolated, either on the interior bottom or the exterior wall. The form is simply and sometimes carelessly drawn; identification of every X cross as a star symbol is probably erroneous; use of the form (especially on exteriors) appears to be decorative in intent. The simple star motif cannot be definitely associated with any specific Pueblo myth or ritual. The form as used on Glaze A design is so simple and basic that any attempt to establish a developmental sequence is pointless. Elaborate star forms with specific mythical and ceremonial associations were already in use in Glaze A times at Pottery Mound and elsewhere
Figure 25

Cieneguilla Glaze on Yellow bowl; four panel band structure (ABAB).
Panel A: inverted V structure; upper corner triangles with reserved dot (dotted eye) motif; solid right angle key without stem or base in reserved area, center. Panel B: X structure; opposed right angle keys without stems or bases on each side, careless brushwork has keys becoming fringed triangles; negative lightning lines formed between keys.
(Sims, 1949:5, Pl. 2; Dutton, 1963:Figs. 42, 54), supporting the assumption that the simple X served a decorative rather than a symbolic purpose.

Cloud conventions are everywhere found in Pueblo art. In the Glaze A style, only terraced forms are used: key figures, and, on occasion, triangles. As with other motifs of the style they are always used in bands, integrated into a formal, geometric, decorative pattern. Terraces are among the earliest motifs found on Anasazi pottery and have been continuously used to the present at virtually every village in every period. The modern kiva altar form resembling a three- or four-stepped truncated pyramid developed probably during the Pueblo IV Period. This form of the terrace is not noted on Glaze A style pottery designs of Pottery Mound; the unstalked right angle key figure resembling a truncated pyramid split vertically down the middle comes closest to that motif. As used in the Glaze A style, cloud motifs are decorative rather than meaningful.

Lightning in Pueblo art is indicated by a zigzag line associated with clouds or other rain symbols. The only motifs resembling lightning lines that are found in Glaze A style designs are negative images formed between, and as the result of, the opposition of stepped forms (Fig. 25). The short-dash oblique stepped figure used as a filler in a key or triangle sometimes forms what seems to be a purposeful lightning line; however, because the zigzag occurs only as the necessary by-product of the juxtaposition of other decorative forms, reading of any of these as an intentional symbol is hazardous.
Decoration of pottery in a Glaze A style seems always to be secular and decorative. Motifs with popular symbolic meaning are used, but rarely or never with the intention of conveying a specific meaning beyond the simple representation of the object, whether abstractly as a cloud convention or realistically as a bird representation.

Iconography of the Sikyatki Decorative Style
at Pottery Mound

A greater number of motifs are found in the Sikyatki than in the Rio Grande Glaze A style. Sikyatki motifs tend to be richer, more elaborate and complex. Though purely geometric abstractions and realistic representations are used, there is great dependence also on conventionalized representations of recognizable life forms. All life forms, whether realistic or conventionalized will be considered as a group.

Human representations are rare. Only two certain examples are known, though some sherds have design fragments reminiscent of human forms. One example (Fig. 24) represents a frieze of dancers shown in frontal position. Though a real life enactment seems to be drawn, the dancers cannot be associated with any known ceremony or performance for lack of detail. Both figures, though fragmentary, seem to represent the same character, apparently identical in costume detail and facial characteristics. Eccentric headresses or hair ornaments project from each side of their heads, which are rectangular boxes similar in appearance and shape to those of certain modern kachinas (Colton, 1959:Tables 11,
33, 38). Three dots in each face represent the eyes and nose, again resembling some modern kachina conventions. They are apparently naked above the waist with either a sash or a broad band of body paint indicated about at the midriff; a skirt, kilt, or wide loin cloth is worn below that. No further details of facial or body paint or of textile designs are indicated, and there is no clear correspondence between these figures and any known kachinas, though kachinas they almost certainly are. Unlike Glaze A style figurative drawings which are profile silhouettes, these frontal figures are outlined, and the background slip color is allowed to double as body and face color. The technique of outlining a figure whose mass is represented by a solid color differing from the outline color, is identical to that used in the kiva murals of Pueblo IV towns, including Pottery Mound. Similarity to the kiva murals, and to Sikyatki designs of the mid-fifteenth century is also noted here in the use of a narrative form, of figures interacting in contrast to the complete isolation of figures in the Glaze A style.

Another masked figure, found on a small fragment of a beanpot shaped vessel can also be classified as Sikyatki in style. The figure here (Fig. 6b) is also masked, apparently with a triangular bag-like affair tasselated along the bottom edge. It holds a long staff, possibly a hooked paho or prayer stick, and wears dark body paint with three large lunettes on the chest. The silhouette appearance results from the attempt to represent body paint, rather than the simple filling of an area as in the Glaze A style. The figure is frontal, the sherd too fragmentary to determine whether any interaction with other figures takes place. The
Figure 26

Pottery Mound Glaze Polychrome bown, Sikyatki design. Two panel structure (AA) with large central motif, complex panel dividers. Conventionalized bird motifs in each panel; double headed bird (turkey ?) in central area.
fragment of a vertical, possibly a staff similar to the one held by this figure, is suggestive. Almost certainly, another unidentified kachina is here represented.

The human representations of the Sikyatki style at Pottery Mound seem closely related in style to the kiva murals of that town. They differ from the Glaze A style drawings in their narrative content, and in their method of outlining the figure and indicating its mass with a contrasting color, as well as in its attention to details of costume which (presumably) serve to identify the character represented. They are similar to the Glaze A style drawings (and differ thereby from true Sikyatki style representations) in their tightness of line and formality.

Frogs and toads are the only life forms other than humans, birds, and insects noted in this style at Pottery Mound. Because of their association with water, frogs have obvious associative meaning in Pueblo iconography. The significance of the horned toad is less clear (Fig. 16c). The dots on the side of figure 16c which are suggestive of spines identify it as a horned toad.

Two kinds of bird representation are found in the Sikyatki style. The more spectacular type is used as a major motif, either on the interior portion of a bowl or within a band panel that has not been geometrically subdivided (Figs. 4, 22b, 26). No two of these are alike; they range in style from a highly conventionalized form (Fig. 4) to a bird form that approaches unadorned representation. The more conventionalized of these figures are highly decorative; the body, tail, wing,
and head areas are treated as separate decorative units and are sometimes filled with motifs more or less unrelated to the major figure. None of the large bird forms is positively recognizable as to species, though Figure 22b may be a parrot and Figure 26 may be a turkey.

The significance of birds to Pueblo ritual is discussed briefly above (pp. 97-98); feathers are dealt with below. When the bird is used as a major motif, association with a specific mythical figure or religious practice seems intended, especially because each bird seems to be unique in character and detail. Some (Fig. 26) are closely related to birds which appear on kilt decorations painted on several murals in the kivas of the town. Figure 26 differs from mural kilt designs only by the fact of its double-headedness. Kilt designs in the murals seem always to be an element of the paraphernalia of specific characters, serving to identify each. The double-headed bird may therefore be intended to represent a deity or mythological figure otherwise pictured on the walls as a human being wearing a kilt with a similar design. The identity of the figure is unknown today.

The other bird representation of this style is described above (pp. 88-89), and is used solely in band designs. It is highly conventionalized and bears no specific resemblance to any actual bird, though the rectangular hook often used as a head and beak is suggestive of a parrot or a raptorial bird.

Both conventionalized and large bird forms of Pottery Mound's Sikyatki style are directly derived from true Sikyatki designs that were evolved on the Hopi Mesas. Use of these forms at Pottery Mound is unique in the history of Rio Grande glazes.
Figure 27

Pottery Mound Glaze Polychrome bowl, Sikyatki design. Probably two panel, (AB) structure with central design of flying birds. Rotational structure in central area, bird feather conventionalized in panel A. Matte red paint indicated by striped areas.
Feathers are a common motif of the Sikyatki style of decoration at Pottery Mound. Most often they are stylized beyond the point of identification with any specific bird (Fig. 27 panel). Usually they are grouped in threes and subdivided into three parts. It is difficult to know if these divisions are suggested by the appearance of an actual bird; it seems more likely that they derive rather from the feathered paho or prayer stick. Kiva mural representations of feathers closely resemble those used on the pottery. Like the bird forms, feathers are derived directly from true Sikyatki designs.

In Pueblo ritual, feathers are intimately associated with prayers and with clouds, and are used to convey petitions for rain to the supernaturals (Smith, 1952:173). Feathers are used individually and in groups on pahos, and are also found on almost every item of ceremonial paraphernalia from costumes and masks to ceremonial pottery. It has been suggested that feathers have sometimes been used as symbolic effigies of, or substitutions for, birds (Fewkes, 1898:688). Feathers from specific birds are sometimes an integral part of the identifying paraphernalia of a supernatural, as road runner feathers used by the Road Runner Kachina. Otherwise, great latitude is permitted in the use of specific kinds of feathers for specific purposes or by given groups (Smith, 1952:174-175).

On the pottery of Pottery Mound, feathers are associated only with Sikyatki style designs; they are used either in panels or as discreet motifs in bowl interiors. As noted above, they are directly derived from the Sikyatki designs of the Hopi towns, and are similar to the motif as painted on kiva walls. By the 17th century, Hopi feather and
bird designs were in use at the Zuni Pueblos and are found on late Zuni glazes; not until the 18th century were they extensively and permanently adopted by Rio Grande Pueblos (Mera, 1939:25-28). Use of these motifs at Pottery Mound as early as the middle of the 15th century implies a direct affinity between Pottery Mound and the Hopi Pueblos, a relationship that ended in the Rio Grande Province after the abandonment of the town.

Of other Sikyatki life forms, dragonflies are commonly found. As with frog representations, dragonflies because of their association with water have an obvious symbolic reference. They are associated also with the sprouting of corn and, perhaps, with the entire phenomenon of growth (Fewkes, 1898:630, 680). At Zuni Pueblo, there is a taboo against killing dragonflies, and there they are associated with water. At Hano, a Hopi town, dragonflies are "a cure for sore eyes" (Smith, 1952:223). On the pottery of Pottery Mound, dragonflies are found in panels and in the central design areas. They seem often to be merely hovering around a design area and are associated with geometric abstract decorations as well as with designs using life forms of other kinds. In its simplest form, a long line crossed at right angles by two short lines (Fig. 21g), the insect is identical to those found on Hopi Sikyatki. More complex forms with shaped wings and with heads are almost certainly derived from Hopi prototypes.

The Pueblos are dependant on agriculture; and growing plants, especially corn, are an essential and often used element of Pueblo ceremonialism. Representations of corn, sunflowers, evergreens, and
other plant forms are commonly used in Pueblo IV mural art; however, there is an almost total absence of vegetative representation in pottery decoration. Only two possible vegetable designs are noted, and in both cases their identification is purely speculative. Several beanpots in the Siskyatki style have an over-all striped design, alternating yellow and red slip in broad vertical bands separated by thin glaze lines. These bear a vague resemblance to the shell of a melon or gourd and may be intended as effigies of these plants (Fig. 6c). The other design that may be intended to represent or symbolize a plant is even more speculative. This is the checkerboard ribbon, used on both Rio Grande Glaze A and Siskyatki style decorations. This motif alternates dark and light squares on a line, and often uses a dot in the middle of each white square (Fig. 5). A similar pattern, more neatly drawn than any pottery decorations of Pottery Mound, and with many more squares than are found on any of the checkerboard ribbons on these vessels, is found on several Pottery Mound murals and is often used on pottery decoration of the Casas Grandes style of Chihuahua in Northern Mexico. In both of these instances, the motif is identified as representing a row of corn kernels (interview, Dr. F. C. Hibben). The checkerboard ribbon, though shorter always, and more clumsily drawn, may also represent corn.

Terraced forms, crosses, and negative zigzags are motifs used in the same manner with both styles of decoration at Pottery Mound. In addition to these, some motifs found only in Siskyatki style designs seem to be more specifically symbolic in intent. These include a lunette or semicircular motif (Fig. 21i) usually drawn in series on a
line. In Pueblo art the lunette is also used to represent clouds and is the common method of cloud representation used on the narrative murals of Pottery Mound. It is found only occasionally on pottery, usually in association with a narrative design or grouped with a series of motifs that exclude the standard triangle-key arrangements commonly found in band panel substructures. Use of the lunette only occasionally, and in decorative situations that are not standard, reinforces the meaning possibilities of the form and suggests that it is intended to be symbolic. Derivation of the motif is not clear; it seems to have a history almost as long as the terraced forms of clouds, but is not used as frequently. It appears occasionally on Sikyatki pottery, almost never on Rio Grande or Zuni glazes, and in modern usage is confined almost solely to specific meaning situations, often combined with lightning, rain, and other cloud symbols (Chapman, 1936:32). Its use at Pottery Mound may be directly derived from Hopi designs. The only zigzag motif noted on any of the pottery of Pottery Mound is negative, as described above (pp. 44, 66). Of the other Sikyatki style motifs, only two have a recognized meaning, one (with variations) is a sun symbol; the other represents the moon. Two forms of sun symbol, both derived from Hopi prototypes are recognized. One is a bulls-eye, usually of three concentric circles; the other is made up of concentric circles surrounded by dots or an aura of dashes (Figs. 21a,d). A moon motif is found only once, on a very small sherd. The form is a linear semi-circle embracing a dot (Fig. 21b). It is repeated several times within a prescribed area which appears to be a fragment of a representational
drawing; it may have been used as an element of costume serving to identify the figure. Raptorial birds are also associated with the sun in Hopi mythology (Fewkes, 1898:688); and some, similar to Hopi designs, are noted at Pottery Mound (Figs. 22b, 26). Curiously, none of the major sun motifs identified by Fewkes on Sikyatki ware (1898:699-701) are found at Pottery Mound. The double cross motif with filled corners (Fig. 13i) used also on Sikyatki wares is identified by Fewkes as "related" to the sun symbol (1898:Pl. CLXI). Important as sun symbolism was to the ancient Hopi Pueblos as evidenced by Sikyatki design, it seems not to have penetrated deeply into the life of the people of Pottery Mound.

Missing also are representations of serpents. The horned and feathered serpent (awanyu) is an important symbolic element found often on black on white wares of the Pajarito Plateau during this period. It is represented also on rock art of the time, and appears also frequently and impressively on kiva murals at Pottery Mound. It is also occasionally used on Sikyatki pottery. There is no doubt whatever that this figure played an important role in the ceremonial life of the town, and absence of its representation on the pottery is even more remarkable than the absence of vegetative symbols. Traditionally, Pueblo potters have avoided plant life representations; there was no such reluctance on the part of potters at other villages to the use of the awanyu, and its total absence from the iconography of Pottery Mound is unexplained.

In contrast to the Rio Grande Glaze A style of decoration which as a rule has no clear symbolic intent, Sikyatki style decorations at
Pottery Mound often have symbolic content as well as decorative value. Specific meaning forms and motifs were adopted from the Hopi Pueblos, along with a Hopi system of decoration that differs from the Glaze A style by the use of curvilinear forms, a greater variety of textural devices, and freer and less rigid handling of the design space. Among the meaning motifs of Hopi origin, birds and feathers are particularly prominent. Of importance also is the use of life forms in narrative situations, and, possibly, the picturization of kachina figures.

Despite the plentiful adoption of Hopi characteristics, the Sikyatki style at Pottery Mound is not identical to that of the Hopi Pueblos and is easily recognized. The most obvious non-Sikyatki characteristics are the use of slips, especially red and white which are almost never found on Hopi wares of the time. The yellow slip of Pottery Mound is also different in appearance from the Sikyatki yellow, which is not a slip, but is the actual color of the polished body paste. Slip colors at Pottery Mound are Río Grande as is the use of glaze paint, which differs radically in appearance and handling quality from the matte paints of the Hopi country. Less obvious than the physical appearance of the vessels are the design differences. Sikyatki designs of Pottery Mound tend to be far more rigid and formal, use many less motifs and textural variations than those found on true Sikyatki.

Mural Decorations and Pottery Design at Pottery Mound

The media of decoration used at Pottery Mound no doubt included woven and dyed textiles, carving and painting of masks and other
ceremonial paraphernalia, basketry, body painting, wall painting, possibly sand painting, and rock art as well as pottery. Of these, pottery and fragments of wall mural art are the only ones that have been directly experienced by any one in recent times; the other forms have been destroyed by time. Even the murals have met with destruction as they have been laboriously uncovered, and, though ample records have been made of them, the fact remains that pottery designs are the only actual art works of Pottery Mound that have physically survived.

Of the other decorative media, the murals give ample evidence of a rich textile art using dyed and woven designs. Some are in the Sikyatki style; others, in a tie-dye technique are perhaps comparable to the Rio Grande Glaze A pottery design style. Basketry, ceremonial equipment (including masks), and body painting are also recorded on the kiva walls. Use by Pottery Mound people of sand painting and rock art techniques is a supposition based on analogy but lacking in evidence.

Wall painting had been practiced by the Anasazi people and some of their near neighbors (Gallina Culture) at least as early as the Pueblo II Period (ca. 900 - ca. 1100). There is fragmentary evidence at Mesa Verde, Chaco Canyon, Canyon de Chelly, El Morro, and elsewhere, of a mural art that must be considered as incipient. Life forms seem to have been used but seldom, and then in a relatively disorganized way, controlling no given wall area, seemingly placed directly on a surface with no thought given to pictorial organization. The only pictorial space considered is that occupied by the figures; and with that characteristic, these wall paintings closely resemble rock
art, especially pictographs, of that and later periods. Abstract wall painting of earlier times is both better organized and simpler than early life form paintings. The entire wall space, often including all four walls of a room, is included in a continuous composition. This, as a rule, is of the simplest possible order, often being no more than a dado of one color with one or more broad lines of another color encircling the room parallel to the floor. More complicated patterns resemble continuous bands found on bowl designs of the Pueblo III and Pueblo IV Periods. A series of interlocking scrolls in several colors, as at El Morro (personal communication, Gordon Vivian), is about the most complex of the abstract designs (Smith, 1952:53-105).

Pueblo wall painting became an impressive means of pictorial expression during the Pueblo IV Period. Steps between incipient Pueblo III painting and fully developed narrative Pueblo IV painting are missing, and the genesis of the art is almost totally unknown. Mural fragments from Pecos Pueblo, the Pajarito Plateau region, and recently, from a Pueblo IV kiva at modern Picuris Pueblo (personal communications, Dr. Herbert Dick, Peter Wells) seem all to be extensions and, in the Picuris kiva, elaborations of the simple Pueblo III mural style. A fully developed narrative art style with no clear antecedents, making full use of the two dimensional picture plane and occasionally exploring the possibilities of three dimensional illusionistic space, is known from the late prehistoric Hopi Pueblos of Awatovi and Kawaiaka-a, from Kuaua on the Rio Grande near Bernalillo, New Mexico, and from Pottery Mound. Historically, narrative wall paintings are also known from
Jemez and Isleta Pueblos, from Zuni, Zia, and possibly Taos. Though no definitive stylistic study has as yet been made of all of these, it seems probable that narrative paintings enjoyed a wide distribution through both Eastern and Western Pueblos during the late prehistoric and historic periods, that is, from about 1400 to the present.

A descriptive synthesis that would be in any way definitive is not yet possible for Pueblo IV mural art. Paintings are known from only three sites. Watson Smith published a descriptive study of the murals of Awatovi and Kawaika-a in 1952; Dr. Bertha Dutton's study of the murals of Kuaua was published late in 1963; a full description of the Pottery Mound paintings will not be completed for several years. It will not be possible to put the paintings into a clear stylistic sequence until the development of Sikyatki style pottery design is more fully understood. Dr. Smith's study of that style is in preparation and, when completed, should clarify many interconnected stylistic problems concerning the murals as well as pottery design. The description and characterization of Pueblo IV mural art is therefore tenuous, incomplete, and subject to gross errors of fact and judgment.

Perhaps five hundred paintings and fragments of paintings have been recovered from fewer than forty rooms and kivas at the towns of Awatovi and Kawaika-a in Hopi country, and Kuaua and Pottery Mound on the Rio Grande and Rio Puerco. At the Hopi towns, Watson Smith recognizes four design systems or layout groups. These and the Sikyatki Polychrome pottery designs are tentatively related to a pottery design system developed during the Pueblo III Period in the northern part of the Little Colorado area of Arizona. As developed in Four Mile Poly-
chrome and related wares, the system consolidated the bordering band and central design field into an integrated, asymmetrical pattern and established the point of departure for the free-flowing Sikyatki style (Smith, 1952:148-150). The concept of integrating the band and central decoration was adopted by the mural painters to the flat surface of the wall and the geometric and elementary zoomorphic paintings of earlier times developed into the dynamic narrative compositions of the Pueblo IV Period. This tentative and simplified developmental theory has the important virtue of finding a prototype close at hand and allows for the passage of a reasonable amount of time between the fully developed mural art of the Jeddito Valley and the appearance of the ancestral form there. Other influences were undoubtedly at work in the development of the mural style but the sources of these need not have been far removed in time or space from the Hopi mesas.

The first of Smith's layout groups for Jeddito Valley paintings has a horizontal band across the lower part of the wall out of which the decorative details of the compositions evolve; often combined with or growing out of the band are framing panels which define the space to be occupied by the decorative elements. The second group uses naturalistic figures, often in anecdotal relationship. These occupy the entire unframed wall space and tend to be freely and "dynamically" drawn. The third group has banding lines top and bottom with no other subdivision of the wall space. Geometric, non-representational, and highly stylized motifs are used with this group. The top and bottom framing lines of this group merely delimit the design area and do not function as an
integral part of the composition as do the framing lines of the first group. Group Four uses no framing lines whatever, and a single major design dominates a wall without filling the area (Smith, 1952:106-148).

Further distinctions between paintings of the various layout groups include a static, rigid, tableau-like quality characteristic for the empaneled figures of Group One. In Group Two, "...the figures seem to be in vigorous movement, even though they may have been momentarily arrested like a moving-picture film that has suddenly stopped at a particular frame. Whereas the stories told by the Group I paintings are complete, those of the designs in Group II are, as it were, still in the process of development." (Smith, 1952:135) Group Three paintings, within the confines of their band are filled completely with a solid color on which is painted an intricate over-all pattern. Two kinds of patterns are used: one is described as resembling a maze, the other "...indicates a major preoccupation on the part of the artist with the problem of covering his area with as great a variety of geometric design as possible." (Smith, 1952:143) These are in a style directly related to the Sikyatki style of pottery design. They are built with combinations of basic elements: volutes, scrolls, feather devices, bird wings, and geometric figures, usually arranged radially around a central circular device. Within the limitations imposed by the different shapes, the flat wall surface on the one hand and the convex or concave sphere on the other, they are identical in style to Sikyatki pottery design. Group Four paintings are simpler and more elementary than paintings of the other styles. They tend to be crude; they lack many
of the elements of decoration used in the other styles; and they are, perhaps not incidentally, the earliest of the Jeddito Valley paintings.

Seventeen paintings from a single kiva were recovered from Kuaua Pueblo (Coronado State Monument) near Bernalillo on the Rio Grande. All fit stylistically into Smith's Layout Group Two except that the vigorous quality of drawing characteristic of the Jeddito murals is absent from most of the Kuaua paintings. With few exceptions, figures from Kuaua are more timid and static; they interact with each other less directly; and they are placed on the wall more haphazardly as though the artist had drawn and painted each independently without thinking of the compositional possibilities of the wall.

Several hundred paintings were recovered from the walls of sixteen rooms and kivas at Pottery Mound. All seem to fit into Smith's stylistic Groups One and Two; several of the Group Two class are similar to those of Kuaua in composition, the figures having the same independence from each other and consequent lack of compositional control of two-dimensional space. In detail, even these differ from the Kuaua paintings in vigor and richness of elaboration. Except for differences of costume, subject, and preferential use at one or another of the towns for certain motifs (some of which are compositionally important), the Pottery Mound and Jeddito Valley paintings are remarkably alike. There seems to be a preference at Pottery Mound for the narrative, action-packed Group Two style (an impression that further research may prove erroneous). The horned and feathered serpent which appears frequently at Pottery Mound, rarely in the Jeddito Valley, is a bold and elongated figure
Figure 28

Wall painting, Pottery Mound Kiva 8, West Wall, Southwest Section, level 6. Interlocking warrior figures.
often used as a compositional bridge, a horizontal, active form, joining several static verticals. Lightning lines, used with apparently equal frequency all over, are compositionally more active at Pottery Mound, performing the same horizontal function as the awanyu. At Pottery Mound, there seems to have been greater realization of the dimensional value of pictorial depth; and overlapping forms, including the motifs noted above, are more commonly found. Among these is an apparently unique use of interlocking figures (Fig. 28) which create an ambiguous space, more flat than deep that may have had symbolic as well as pictorial value. In almost all instances the deepest illusionistic space created remains close to the picture plane. Infrequently attempts are made at illusionistic modulation of the surface; these are extremely aberrant and never integrate well in their compositional environment (Dutton, 1963:58, Figs. 92, 94). The essential flatness of the picture plane is maintained, even where figures overlap, by flat application of the paint, and by limited range of color values.

Other than the Group Three designs of the Jeddito, some of which are identified with the Sikyatki style, elements of Sikyatki design appear frequently associated with narrative or anecdotal painting. Sikyatki bird and feather motifs are especially prominent in paintings of the Jeddito Valley, where they are integrated into essentially realistic settings such as free-flying birds or shield designs; or they may be mythic representations (Smith, 1952:Plate E, Fig. 73 a, Fig. 77 a). Use of the design style on textiles as represented in these paintings is not common. Elements of the Sik-
yatki style are almost totally absent from the Kuaua murals. The Pottery Mound murals use Sikyatki elements in much the same way as those of the Jeddito towns, except for the absence of Layout Group Three designs. Feather and bird motifs are found in "real" environments, occasionally in the rendering of a bird, or as part of the character of a mythic figure. Much more frequent than in the Jeddito are representations of textiles that are decorated in the Sikyatki style. For the most part these are kilts and other articles of clothing, sometimes on human beings with or without masks, at other times on zoomorphic mythical figures; it is not possible to tell with certainty whether the designs are painted on or woven into the fabric. There are also at Pottery Mound several flat Sikyatki patterns painted within a framed area on a wall with no obvious relation to any representational drawing or group of figures. These are similar to the Sikyatki designs of Layout Group Three in the Jeddito, though they occupy a smaller amount of wall area. At the modern Pueblos of Zuni and Hopi it is customary at certain times to hang textiles, sashes, kilts, and blankets on or immediately in front of a wall, apparently as a decorative device. (This custom occurs at Zuni during the Shalako ceremony.) One wall painting (Fig. 29) at Pottery Mound consists of no more than a series of framed rectangles, each with a different pattern of geometric designs similar to those of many textile designs depicted on the dancers in the murals. Though this painting is not associated with any anecdotal or narrative figures, it is obviously representational of a group of hanging dance kilts and blankets. The
Wall painting, Pottery Mound Kiva 8, Level 11. Textiles (blankets, kilts, sashes) hung as a backdrop.
framed Sikyatki designs on the walls of Pottery Mound kivas may also represent textiles, blankets or cloaks. The larger Sikyatki designs of the third layout order in the Jeddito are framed top and bottom, as noted by Smith; they also have side frames near the wall corners, and are thus completely within a prescribed area and may also represent textiles. If this assumption is correct, the abstract Sikyatki style of design was never used on the murals except in a representational way; the style had nothing to do with mural art; but on the murals, it had to do with textile art.

The Pueblo IV mural art is primarily representational, narrative, anecdotal. Its decorative aspects are secondary. Sikyatki style designs, both abstract and conventionalized, are used in the murals in a primarily descriptive manner rather than as a decorative or aesthetic expression on a wall. Though the decorative character of the design style is inescapable, it is used only because it is an integral part of an object or thing depicted; and the design style belongs to the object or thing, not to the painting.

Figurative paintings on the murals are related to the figurative pottery designs associated with the Sikyatki style. The figures are outlined with a broad, even stroke, and the outlined areas are then filled with a decorative design associated with the figure, as body paint, an article of clothing, or a mask. Most often front or side views are used; foreshortening is attempted occasionally. Layout Group Two figures interact in a narrative manner, and the greatest experimentation with three-dimensional spatial effects is in paintings
of that order. Layout Group One figures are sometimes in direct relationship to each other, by gesture, pattern repetition, or by physical contact. Even where no direct relationship connects the figures, they are associated by the compositional device of paneling. Often the broad paneling band which isolates the figures is continuous and by this continuity the panels, and the figures within each, are unified. Mural figures are drawn with far more detail than are figures on pottery in either true Sikyatki or Pottery Mound Sikyatki style; the only correspondence is in the method of outlining and filling and in use of masked figures as subject.

None of the animals drawn on pottery at Pottery Mound correspond to those on any of the murals in detail. The dragonfly, and feather and bird motifs are sometimes alike on both murals and pottery. Dragonfly, used as free motif on the pottery (that is, not compositionally bound to the structured design area) is used in the same manner on some murals and drawn in the same convention. Birds and feathers on the murals are used in several ways; feathers appear attached to paraphernalia, as around the edges of a shield, as textile pattern, or as prayers (either representing pahos or apparently direct representation of prayers being wafted upward). Most often feathers are drawn in the Sikyatki style. Birds of that style are also found as textile design and are sometimes representative of actual birds or of actual mythical beings.

The Rio Grande Glaze A design style had no direct or detailed association to mural art style at any towns from which murals have been recovered with the possible exception of that of Picuris. It appears
that the mural style of the Jeddito, Pottery Mound, and Kuaua originated in the Hopi district. There is close similarity between the murals of the Jeddito and of Pottery Mound, both in subject and style; and they seem also to be more directly contemporary with each other than either is with those from Kuaua, which may be later by as much as fifty years than the latest murals of Pottery Mound. Another important difference between the Kuaua paintings and those from the other towns may be in the limited use of murals at Kuaua. The town has been almost entirely excavated; and, though it is about the same size as Pottery Mound, only one painted kiva has been found, in contrast to sixteen from the partially excavated town on the Puerco. Mural painting seems to be associated with certain esoteric societies which flourished in the Hopi country and for a relatively brief period in the Rio Grande district at Pottery Mound. Pottery Mound was probably abandoned by the time of the mural paintings at Kuaua, and those paintings may represent both an extension of the art and of the societies with which the art form is associated. It is an extension weak in numbers as it relates to the societies, and changing in style in the direction of rigidity in drawing and isolation of design areas in composition, both factors conforming to the dominant Rio Grande pottery design style.

The intangible relationships between the mural art of Pottery Mound and the Sikyatki pottery design style are probably of more importance than are the direct relationships. The broadest similarities between the two, aside from the use of a very limited number of identical motifs, is in the tendency of each to compose a pattern that integrates
all of the available design space and to fill this composition with active, informal, and imaginatively drawn figures. Specific identity between isolated Sikyatki patterns on the murals and geometric or abstract Sikyatki design on the pottery is misleading in that the Sikyatki style paintings are representations of textiles, and the identity therefore is between the pottery design and textile designs. The appearance of a locally made pottery with Sikyatki-inspired designs on the Rio Grande is unique to Pottery Mound, and the tradition was not continued elsewhere in the Rio Grande district after that town was abandoned. Close similarities between murals at that town and those of the Jeddito Valley are also part of a pattern of direct Hopi influence; the appearance of each supports and tends to explain the appearance of the other.
Agua Fria Glaze on Red bowl fragment, atypical design. Overall design, quartered, all sections probably identical with one solid triangle and two checkerboard ribbon bands in each section.
CHAPTER V

CORRELATION OF DESIGN CLASSIFICATION OF POTTERY MOUND
WITH RIO GRANDE GLAZE TYPES. PROPOSED REVISION OF
CHRONOLOGY BASED ON DESIGN CLASSIFICATIONS

Various types of Rio Grande Glaze A ware have been classified by technical criteria. Four Glaze A types and two design styles are recognized at Pottery Mound. The stratigraphic record at the site is too homogenous to show any clear sequence of types, making the chronological reading of the ceramic data difficult. Founding of the town between the years 1325 and 1350 seems clear, and the pottery data supports this supposition (Voll, 1961). Terminal dates for the town are much less clear; classification of all major types produced at Pottery Mound as Glaze A in time argues for abandonment not much later than 1425, a date that is much too early judging from the architectural evidence as well as the evidence of foreign ceramics. There are three distinct architectural levels, and a fourth is probable; if the town were occupied for only one hundred years, each level of rooms would have served a single generation only, a supposition which is highly improbable (personal interview, Dr. F. C. Hibben). Further, foreign ceramics at the site dating from the period 1450 to 1490 and later are plentiful. These contradictions have not been resolved.

Both of the design styles of Pottery Mound are intimately related to design styles used elsewhere in the Anasazi area during the
fourteenth and fifteenth centuries, and they may be used as chronological indicators. Correlation between the design styles and the archeological types must be made in order to determine the relationships between them. If, for instance, each design style is used in equal proportion to all types of ware, it must be assumed that all co-existed in equal proportion through the life of the town. On the other hand, if an archeological type uses one design style only, that type can be presumed to have an identity with the style; and both type and style can be considered chronologically equal.

Correlations between design styles and ceramic types are given in the section below, and a proposed solution to the chronological dilemma is offered which requires reclassification of one of the four types of ware produced at Pottery Mound. The major criterion used in this reclassification is design style.

Correlation Between Design Styles and Archeologically Classified Types

Rim shape is considered the diagnostic feature for Glaze A wares (Mera, 1933:1, Fig. 1). Individual types of Glaze A ware are recognized by slip color. A brick red to orange colored slip covering both surfaces of a bowl identifies Agua Fria Glaze on Red. A yellow to yellow-orange slip covering both surfaces of a Glaze A bowl is diagnostic of Cieneguilla Glaze on Yellow. San Clemente Glaze Polychrome is red-slipped on the exterior and has either yellow or white slip on the interior; ollas of this type are recognized by the use of yellow or
white slip in the design area of the shoulder with red slip above and below. Pottery Mound Glaze Polychrome is slipped in the same manner as San Clemente, but differs diagnostically by the addition of matte red paint as a design feature. Rim form and slip and glaze paint characteristics other than color are identical for all types.

Agua Fria Glaze on Red and Cieneguilla Glaze on Yellow are among the earliest of the Rio Grande Glaze A types. Both are also widely distributed and are usually the dominant wares at Glaze A sites (Kidder and Shepard, 1936; Lambert, 1954). They are both contemporary and sequent, the yellow ware appearing somewhat later, coexisting with and then replacing the red ware (Kidder and Shepard, 1936:39). Both Glaze A polychromes are found in direct association with Agua Fria and Cieneguilla; their sequential position is not known. Neither type has been found in great quantity prior to the Pottery Mound excavation (Voll, 1961:49-51). San Clemente is the second most popular ware at Pottery Mound; Pottery Mound Polychrome is a new type previously reported as a variant of the San Clemente type (Lambert, 1954:77; Mera, 1933:4).

The following chart correlates these wares with the design styles of Pottery Mound described in Chapter III above. All shapes are included in each classification.

<table>
<thead>
<tr>
<th>Archeological Type</th>
<th>Rio Grande Glaze A Style</th>
<th>Sikyatki Style</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agua Fria Gl/Red</td>
<td>33 (97%)</td>
<td>0</td>
<td>1 (3%)</td>
<td>34</td>
</tr>
<tr>
<td>Cieneguilla Gl/Yel.</td>
<td>6 (60%)</td>
<td>4 (40%)</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>San Clemente Gl. Poly.</td>
<td>20 (61%)</td>
<td>13 (39%)</td>
<td>0</td>
<td>33</td>
</tr>
<tr>
<td>Pottery Md. Gl. Poly.</td>
<td>1 (5%)</td>
<td>19 (95%)</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>60 (61%)</td>
<td>36 (37%)</td>
<td>1 (1%)</td>
<td>97</td>
</tr>
</tbody>
</table>
Two of the types correlate closely with the two design styles; Agua Fria with Glaze A style, and Pottery Mound Polychrome with the Sikyatki style. Agua Fria appeared sometime between 1325 and 1350 as a fully developed ware, and the Rio Grande Glaze A style developed at about the same time; they appeared together, style and ware, and were used almost exclusively throughout the Rio Grande Glaze area until about 1375.

Pottery Mound Polychrome seems to be a local ware of limited distribution; there are hints of its appearance elsewhere at Glaze A and Glaze C towns (Kidder and Shepard, 1936:69-71; Lambert, 1954:77; Toulouse and Stephenson, 1960:23), but the small amounts reported and the spotiness of its distribution suggests that it is a trade ware rather than indigenous to Pecos, Paa-ko, Pueblo Pardo, or any town other than Pottery Mound. The close correlation of the Sikyatki decorative style with Pottery Mound Polychrome is further evidence that the ware is aptly named because that decorative style was used at no other Rio Grande glaze-producing town yet reported.

The Sikyatki decorative style evolved on the Hopi mesas and first appeared in Arizona (in the form copied at Pottery Mound) sometime between 1400 and 1450 (Colton, 1955:56). The design style evolved from a style of decoration used on Jeddito Black on Yellow (a 14th century Hopi ware) and became progressively more free and dynamic and used more life form motifs. It continued as the dominant Hopi ware and Hopi design style through the 17th century. Since the design style does not appear at its place of origin until sometime after 1400, it could not have had a
strong influence on decorative style of the Rio Grande much before 1425. About 60 percent of the two other wares dominant at Pottery Mound, Cieneguilla Glaze on Yellow and San Clemente Glaze Polychrome, are decorated in the Rio Grande Glaze A style, the remainder in the Sikyatki style. Cieneguilla at the other towns appears somewhat later than Agua Fria, perhaps from 1350 to 1375, and eventually displaces the red ware. San Clemente does not appear in great quantity elsewhere. At Pottery Mound the ratio is reversed; San Clemente is popular, and the yellow slipped ware is not. At Pottery Mound, several Cieneguilla bowls appear to be purposely darkened near the rim on the interior wall, and are light near the center interior. This type of shading is characteristic of some Jeddito Yellow and Sikyatki Polychrome wares and may be evidence of the development of the yellow slipped wares on the Rio Grande as an attempt to copy Hopi yellow ware. Similarly, Voll (1961:53) suggests that the use of slips of contrasting colors on Rio Grande Polychromes results directly from their use at the Zuni Pueblos after about 1375 (Kwakina Glaze Polychrome). White slips are found far more often at Pottery Mound than at other Rio Grande towns of the time and are often used on Zuni Polychromes, adding support to Voll's thesis. However, yellow slips are rarely used at Zuni at this time and it seems more likely that the use of white slip is the result of Zuni influence rather than the principle of polychroming. Both red and yellow slips are used at the Hopi Pueblos though yellow is used far more often; slips of contrasting colors are not normally found on the same vessel there. It is suggested that the use of red and white slips on Rio Grande glazes was introduced (along with the glaze paint itself) from the Little Colorado
region, red slips about the year 1325, white slips fifty or more years later. Yellow slips were introduced to the Rio Grande Glaze paint area during the second half of the 14th century from the Hopi region. Polychroming by the use of slips of contrasting colors was either developed on the Rio Grande (perhaps in the general vicinity of Pottery Mound though not at that town) or was introduced about 1375 from the Little Colorado. It is certain that the yellow and red slip combination is a Rio Grande invention. Polychroming by the use of two decorating colors on a colored slip was introduced to the Rio Grande at Pottery Mound from the Hopi Mesas no earlier than about 1425.

The Rio Grande Glaze A style of decoration which developed in the Santa Fe area about 1325 was in use at Pottery Mound from its founding sometime after 1325 until perhaps 1450. During most of the period of its use, virtually all of the pottery made at the town was decorated in that style. At a date no earlier than 1400, and probably a generation later during the years from 1425 to 1450, pottery decoration in the Sikyatki style began to be used at the town; by 1450 this decorative style became dominant, replacing the Rio Grande Glaze A style during the last fifty years of the active life of the town which was largely abandoned by 1490 or 1500. Agua Fria Glaze on Red, a Glaze A design style ware, was the only type of pottery made at Pottery Mound until about 1375; it probably continued to be produced well into the 15th century. The yellow slipped ware, Cieneguilla, was introduced about 1375 and was also decorated in the Glaze A style until about 1425, when some vessels of the type were decorated in the Sikyatki style. Yellow slipped ware originated among the Hopi Pueblos, but its appearance at Pottery Mound
with Glaze A decorations argues for introduction of the type to the Puerco from the Galisteo Basin where it had great popularity. The type was never popular at Pottery Mound and was probably not made often after 1425. San Clemente Polychrome probably originated along the Rio Puerco in the vicinity of Pottery Mound which may have been among the first towns to use the ware. Association of the type with the Glaze A decorative style argues for its appearance about 1375; Sikyatki style decoration was adopted for the ware after 1425, and it continued popular. The great quantities of San Clemente ware at Pottery Mound suggests that the type was the dominant one at the town during most of the period of its production which could not have lasted much beyond the year 1450. The wares mentioned above are classified as Glaze A; the terminal date for Glaze A wares is 1450 at the latest (Voll, 1961:53).

According to the archeological nomenclature Glaze A is followed by Glaze B which is followed by Glaze C. Glaze B wares were manufactured only in a restricted section located in the northeastern part of the glaze paint area (Mera, 1940:5). Appearance of this ware in extremely small quantities at Pottery Mound is not surprising because it would have been a trade ware. Glaze C wares, recognized by a distinctive rim form, a change in decorative habits that produced true polychromes, and placing of the main design area on the exterior of bowls, were produced in the Rio Grande Valley from about 1450 to 1490 (Mera, 1940:5). Enough Glaze C wares have been found at Pottery Mound to support the supposition that the town was occupied during those years, but it is doubtful that the C types were produced there (Voll, 1961:53).
Pottery Mound Polychrome, on the basis of rim shape and the habit of placing the main design area on bowl interiors, is also classified as a Glaze A ware. It is almost always associated with the Sikyatki style of decoration, and could not have been made much before 1425; it is suggested that this type was made from about 1425 to about 1490 and that it was the dominant type at Pottery Mound during the latter years of the town's existence. As such, it would have been a local manifestation, replacing the Glaze C wares produced elsewhere on the Rio Grande during that period. Though it fits most of the Glaze A criteria, in time it is Glaze C. The glaze classifications are useful as chronological indexes and for their sequential implications as regards vessel shape, glaze paint development, and to some extent design. Because Pottery Mound Polychrome departed from the sequence followed elsewhere on the Rio Grande by bearing a design style unique to that area, and by retaining Glaze A characteristics during Glaze C times, classification of the ware as either Glaze A or Glaze C is equally misleading.
Design fragments, all life forms from Agua Fria Glaze on Red bowl body sherds, all Rio Grande Glaze A style.

a) Probably tail of an unidentified bird.
b) Tail and part of wing of a bird, possibly a Roadrunner.
c) Wing and part of the body of an unidentified bird.
d) Body and part of the wing of an unidentified bird.
CHAPTER VI

CONCLUSIONS

The site of Pottery Mound, before excavation, was of interest to a small and specialized group of people primarily because it was hoped that the site could shed light on the period of transition from black on white to glaze wares on the Rio Grande. On excavation, this hope proved fruitless, but discovery of the many murals there added unexpected importance to the town, and considerably broadened the range of interest in it. The murals are of considerable esthetic and historical interest and have added and will add much to our limited knowledge of the development of a sophisticated art form among the Anasazi. Pueblo mural art (as we know its history today) appeared five hundred years ago in its fully developed form little dependent on any known antecedents; after flourishing for about one hundred years, invention ceased, and the art continued to the present day as a skeletal shadow of itself.

In the shadow of the interest created by the murals, the pottery designs of the town have caused little excitement beyond tacit recognition of their unique character. Painted pottery designs have been associated with the Pueblos for about two millenia, a continuous tradition almost unique in world history. During that time, Pueblo ceramics have had a placid character; once the basic techniques were
established more than fifteen hundred years ago technical innovations were few and affected only the surface, the appearance of the vessel, never the method of manufacture. Decoration of the pottery, despite the infinite variety of designs produced over the course of the centuries, has also changed only on the surface; radical design innovations have seldom occurred and have been radical only in context. Foreign influences that could affect the core traditions, such as the potter's wheel, have been ignored. That which is foreign in Pueblo ceramics has been reshaped to fit Pueblo tradition; by the time a foreign influence is accepted, such as a new surface treatment or a new motif, it is no longer foreign; it has become indigenous.

In the microcosm of the Pueblo village, the foregoing generalization is not completely valid. Within the tradition that we have called "Pueblo" are many minor traditions, usually with geographic limitations, and within each design area, each village has tended to specialize, to have its own design tradition. In general, the styles of adjacent villages can be expected to be closer than the styles of towns further separated; exceptions to this rule are not rare. Historically they have occurred for one of two reasons; either potters from a distant village marry into a town and affect changes in the design style of that town that are in the tradition of their home area, or a group migrates into a distant and perhaps unrelated area. At Pottery Mound, two separate design traditions are evident. One of these, more commonly found and dominant in the early history of the town, is in every way similar to the Rio Grande Glaze A stylistic tradition and
geographically is the expected style for the town. The other (and later) style relates very strongly to the Sikyatki style of the distant Hopi Pueblos and is not only unexpected, but unique because that style was nowhere else used in the Rio Grande district.

The Rio Grande style is characterized as rigidly formal and geometric and at Pottery Mound is perhaps more consistently static than at other towns in the area. The Sikyatki style is less formal and more active; it depends often on a rotational structure, a certain amount of asymmetry, and on motifs (especially feathers and birds) which, though conventionalized, are imaginatively conceived. At Pottery Mound, this style is used conservatively and with a greater degree of stiffness than it is at its sources in the Hopi area. Still, it is by far the most active, and compositionally the most exciting design style of the Rio Grande Glaze A area.

The history of Pottery Mound is the history of its pottery, and though design style has played but a small role in the reconstruction of Anasazi history, understanding the story of that town depends on a reconstruction of its design history. The traditional archeological indices of the Southwest, by a freak of chance, do not work there. Tree ring material is entirely lacking, the stratigraphic record is almost hopelessly homogenous; too much of the pottery does not fit into the typological categories that work so well elsewhere along the Rio Grande. The solution lies in a study of the design styles of the town involving three media. The murals will ultimately be the most informative of these; however, comparative material is still too sketchy to allow for
an historical reconstruction of the mural development that would be in any way definitive. Textile art is reproduced in the murals, apparently with great fidelity and with fair frequency, but even less is known and available about textile design styles than about the mural form. Much more is known about pottery design than about design in other media, and there is an infinitely greater amount of comparative material available. Though great gaps exist in the story of the development of Anasazi pottery styles, especially concerning Sikyatki design, this most staid and perhaps dullest of the design media of Pottery Mound can today supply more answers to questions of history, including the history of its own development, than the other art media can.

A reconstruction of the design history of the pottery of Pottery Mound answers many questions about the town and its people, especially those relating to chronology, trade, and migrations. Pottery Mound was settled between 1325 and 1350. At the time of its founding only one kind of pottery and one style of design were made there. The pottery was a red-slipped glaze ware radically different in appearance from anything that had been produced along the Rio Puerco before: both glaze paint and slip had developed in the region of the Little Colorado in northeastern and north central Arizona; the decorative style was in the fully developed Rio Grande Glaze A tradition. This style was in wide use along the Rio Grande drainage between the modern towns of San Marcial and Taos by 1350 or 1375. As at Pottery Mound it appears in almost all places fully developed, with no transitional forms evident, and radically different in appearance from anything made previously. The history of the development of the style is not clear, though it seems to incorporate
elements of Little Colorado and Middle Rio Grande ancestral design traditions. The earliest dated appearance of the style is 1337, at Pindi, a town just south of modern Santa Fe (Mera, 1940:2) in the heart of the district that seems to have supplied many of the design elements of the style, especially its basic structural forms. The earliest locally made Rio Grande glazes are dated about 1300 from several small towns between modern Los Lunas and Albuquerque (Las Padillas). Design styles of these is pure Little Colorado, and distribution is very limited in time as well as area. While it is possible that the Las Padillas area may have been the gateway through which glaze techniques entered the Rio Grande district, pottery produced in that area had little or no effect on the development of the Rio Grande Glaze A decorative style.

Although evidence in the form of trade wares from the Little Colorado district (especially the province of Cibola) shows strong trade relationships between that area and Pottery Mound and the glaze paint technique and colored slips came to the eastern Pueblos from that district, the town need not be among the earliest of the Rio Grande glaze producing communities. On the assumption that the design style in use at the time of its founding was developed in the Santa Fe area not much earlier than 1325, Pottery Mound is believed to have been settled during the second quarter of the fourteenth century by a people who preferred the design style of the Santa Fe area to that of the Little Colorado. Even though Pottery Mound is located at the geographical crossroads where western ceramic techniques and an eastern design tradition might be expected to meet, transitional wares and designs are totally absent. The amalgum of
technique and style that we call Rio Grande Glaze A appears at Pottery Mound in its fully developed form; the design evidence clearly implies that initial occupation of the town was by people strongly related to those of the Santa Fe area. The strong trade and cultural relationships with the western Pueblos of Acoma, Zuni, and Hopi, seems to be a consequence of the geographical location of the town.

The design style of Pottery Mound was virtually unchanged until some time after 1400. Yellow slipped pottery with designs no different from those used on red ware appeared between 1370 and 1390 (Mera, 1940:3) and eventually replaced the red wares at most Rio Grande towns. Yellow wares also made an appearance at Pottery Mound, but were never extensively adopted. Instead, as evidence of strong contacts with the Little Colorado, a Zuni color system using slips of contrasting colors on each surface of a bowl was adopted, though the design system remained essentially unchanged. For a brief period, perhaps from 1400 to 1425, three variations of the Rio Grande style were made: red slip, yellow slip, and slips of contrasting colors. Other than slip color, there were no design differences, and the style was as it had been from the time of first settlement.

Sometime about 1425, a second design style began to make its appearance, and red wares were no longer manufactured. The second design style had its source in the Hopi Pueblos far to the west and is known as the Sikyatki style. The tradition developed in the Hopi district and included decorative elements from the northern part of the Little Colorado of Arizona. Though Sikyatki style wares were traded
extensively through the eastern Pueblos, they were copied only at Pottery Mound. The style took hold slowly there, and was adopted for use on yellow slip and polychrome slip wares, which were now decorated in either of the two styles. The yellow slip ware probably did not last much beyond 1425. Sometime between 1425 and 1450, a true polychrome decorated only in the Sikyatki style made it appearance. This ware, unique in the ceramic history of the Rio Grande, used glaze and matte paints for its Sikyatki decorations, as well as slips of contrasting colors. By about 1450, by which time a significant change in bowl shape had been adopted by most of the Rio Grande Pueblos, the true polychrome of Pottery Mound became the dominant ware, and the Sikyatki design style had replaced the Rio Grande Glaze A style of design. The impulse that had led most other Rio Grande towns to adopt a change in bowl shape and some corrolary changes in design did not affect Pottery Mound; though the town imported some of the new Rio Grande glaze vessels, it did not manufacture them; potters concentrated instead on developing their new style of design. From this point on, until the town was abandoned at the close of the fifteenth century, its design style was no longer in the Rio Grande tradition, but was rather an eastern extension of the Hopi system.

The same forces that supported the potters of the town in their efforts to adopt a design style foreign to the established traditions, eventually to the complete exclusion of the old style, were also responsible for the adoption of mural art at Pottery Mound. This can be presumed to have begun between 1400 and 1425, and to have come from the same area as the new pottery style of decoration. The kiva paintings
and, of equal significance, the multitude of kivas implies the spread of a religious movement of great vitality to Pottery Mound from Hopi. Though the movement had little apparent effect on the other Rio Grande Pueblos, it was adopted wholeheartedly by the occupants of Pottery Mound during the lifetime of a single generation. The Rio Grande style of Pottery Mound as well as of the other Rio Grande towns is essentially decorative in intent. Conscious symbolism or specific religious-meaning forms are seldom used, and the style can be categorized as secular. The Sikyatki style contains far more in the way of symbolic motifs, and meaning-forms of specific religious significance are found more often in this style. It is certainly decorative; the Western consensus is that the Sikyatki style is among the most decorative and pleasing of Anasazi pottery design styles (Hawley, 1950:74). There is no evidence and little implication that pottery decorated in this style was not secular in use; on the contrary, the evidence suggests that with few exceptions pottery used for ceremonial purposes was no different from commonly used household wares (Smith, 1952:249-261). The Sikyatki style of pottery decoration, in its use of symbolic forms with religious overtones on what is almost always common household wares, reflects the depths reached by the new religious movement into the lives of the people of the town.

Although the town changed its orientation from eastern to western Pueblo, there is no evidence of any large scale or sudden influx of western people into the area. The new design style was Hopi inspired; but the technology, especially the use of glaze paints and
colored slips, was unchanged, and differed significantly from the unslipped, matte paint Hopi ceramic techniques.

All during the life of the town substantial amounts of pottery from other Anasazi areas were in use. We find quantities of western wares from the Little Colorado (Acoma and Zuni) and the Hopi Mesas, and we find Rio Grande glazes, including easily distinguished late 15th century types, as well as earlier wares from the Galisteo vicinity.

Early Pottery Mound pottery is indistinguishable on casual inspection from other Rio Grande wares, and there is therefore no evidence that early ceramics from that town were used elsewhere. Fifteenth century wares of Pottery Mound, especially the late true polychromes and those with Sikyatki designs, are remarkably different from other Rio Grande glazes, and are reported in very small quantities from three contemporary towns, Pecos and Paa-ko in the northeast, and Pueblo Pardo almost due east on the other side of the Manzano Mountains. Hopi Sikyatki wares are also reported from these towns, as well as from others along the eastern perimeter of the Pueblo world. Pottery Mound wares seem to have had little popularity elsewhere, though true Sikyatki design was deservedly popular among the eastern Pueblos. It would seem then that Pottery Mound, located along one of the major routes connecting the eastern and western Pueblos, was a trading town as well as a self-sustaining agricultural one, bringing western pottery designs to the eastern Pueblos, and maintaining strong ties with both halves of the Pueblo community. The design history of the town indicates that initially the ties were strongest with towns to the east, both north and south,
and that early in the fifteenth century western influences, especially from the Hopi towns began to be felt. The Hopi designs are inextricably associated with an esoteric religious complex, with mural painting, and with textile designs; and apparently they affected every phase of the life of the town during the latter part of the fifteenth century. This western impact was felt at other Rio Grande towns to a much smaller degree and is evidenced primarily by the popularity of Sikyatki pottery along the Rio Grande; significantly, no other eastern Pueblo adopted that style for its own wares.

No adequate reason can be given for the abandonment of the town. Mera's surmise that fear of Athabascan raiders was responsible (1940:39) is still tenuous. At the time the town was abandoned, its design styles and religious practices, and presumably its entire cultural orientation was pointed to the west rather than to the east. Though it retained certain Rio Grande characteristics, such as the continued use of glaze paints and colored slips, these had a strong western flavor which was not continued elsewhere in the Rio Grande district after Pottery Mound was abandoned. In the light of present knowledge, it would seem that when the town was deserted, its people either dropped the adopted Hopi ways, or migrated to the Hopi country.
The design factors used to decorate the wares of Pottery Mound include structural forms (the organization of the design areas), motifs (complex design units or meaning forms that are more or less standardized), and elements (the basic and minimal decorative units). These factors occur in a variety of combinations which, when isolated, describe in part the design styles.

The analytical procedure requires first the recognition and objective categorization of all structural forms, motifs and elements used. These were tabulated for each of the vessels analyzed, and totaled as well, so that it is possible to compare each vessel with all others objectively, and also to synthesize the design styles of the entire town. Each category of design structure, element, and motif is considered as an individual unit; when found in combinations, the units are considered as factors. Two groupings of units, one of design structures, the other including elements and motifs, were mathematically correlated, each unit with all others in its group, in order to isolate clusters of units; these clusters are called factor matrixes. In some instances, strong mathematical correlations were found between the appearance of some units and the non-appearance of others, and these occurrences of mutual exclusiveness are included in the factor matrixes.
The sample was not large enough to permit use of the Chi-square technique to give precise statements concerning the expectancy of occurrence for any unit within a matrix. Since no precedent could be found for computer analysis of design factors, Dr. William Rook of Sandia Corporation, who programmed the data, had to test a number of analytical techniques. Much of the data in the form collected could not be used for computer analysis, limiting the results. The author is indebted to Dr. Rook, and to Sandia Corporation, the former for his expenditure of time and energy, the latter for use of valuable computer time.
APPENDIX B

TABLES

Table A lists the total occurrences for each of the six structural forms recognized on the pottery of Pottery Mound. Table B lists the twenty-three factor matrixes and the units comprising each one. Table C lists the units that occur in more than one factor matrix. Table D lists the factor matrixes used with the Río Grande Glaze A style of design. Table E lists the factor matrixes used with the Sikyatki design style of Pottery Mound.

Table A

Structural Forms

1) Paneled Bands .................. 44
2) Unpaneled Bands ................ 7
3) Slung Triangles .................. 3
4) Narrow (Continuous) Bands ....... 9
5) Vertical Lines in Series .......... 8
6) Central, Overall ............... 26

97 (total sample, whole vessels)
Table B

Factor Matrixes

1) geometric central design; banding; panels; framing line.
2) banding; panels.
3) small slung triangles; line bands. (Sample small)
4) large slung triangles; central bird design. (Sample small)
5) lunettes; bulls-eye; triangle nicked at apex.
6) right-angle checkerboard; conventionalized linear bird; single triangle.
7) feather; complex conventionalized bird.
8) unstalked right-angle key, no base; fringed triangle; tick embellished line; dotted eye in key.
9) broad bar as lineal unit; hook or rectangular scroll.
10) fringed triangle; diagonal line fillers; dotted eye in triangle.
11) ticks forming triangle; dotted eye in triangle.
12) "blop step" filler; zig-zags.
13) triangle nicked at apex; dots as filler; dotted line.
14) ticks forming triangle; dotted eye in key; triangles on line.
15) crosses.
16) stalked right-angle key with base; unstalked right-angle key, no base; conventionalized linear bird.
17) broad bar between thin lines; broad bars as lineal units; triangles nicked at apex.
18) dots as filler; dots adjacent to line; circle with antenna-like projections; stalked right-angle key, no base.
19) horizontal line filler; dotted line.
20) diagonal checkerboard; dotted eye in triangle.

21) dotted line; triangles on line; unstalked right-angle key, no base; dotted eye in triangle; absence of thin lines as units.

22) curvilinear scroll; triangle nicked at apex.

23) rectangular scroll; triangles opposed half in line; unstalked right-angle key, no base.
Table C.

Units That Occur in More Than One Factor Matrix

1) dotted eye in key (Fig. 10): matrixes 8, 14.
2) dotted line (Fig. 5): matrixes 13, 19, 21.
3) ticks forming a triangle (Fig. 20): matrixes 11, 14.
4) unstalked right-angle key, no base (Fig. 13c): matrixes 8, 16, 21, 23.
5) stalked right-angle key, no base (Fig. 13b): matrixes 16, 18.
6) broad bars as units (Fig. 22c): matrixes 9, 17.
7) triangles in series (Fig. 9c, d, e): matrixes 14, 21.
8) fringed triangle (Fig. 12): matrixes 8, 10.
9) triangle nicked at apex (Fig. 21a, c): matrixes 5, 13, 17, 22.
10) conventionalized linear bird (Fig. 13d, e, g, h): matrixes 7, 16.
11) dotted eye in triangle (Fig. 7): matrixes 10, 11, 20, 21.
Table E

Characteristics and Factor Matrixes
of the Sikyatki Design Style of Pottery Mound

Structure:

1) paneled banding.
2) common use of central design related to banding (Fig. 26).
3) curvilinear (rotational, spiral) structures common (Fig. 18).

Panel Structure:

1) rectilinear.
2) "free" motifs used within panels.

Elements and Motifs:

1) triangles.
2) keys.
3) conventionalized motifs formed with combinations of common elements (Fig. 23).
4) solidly filled areas (mass).
5) short-ticked oblique steps (blop steps) as fillers.
6) third color as filler.
7) dry-brush as filler.

General:

1) bilateral symmetry.
2) asymmetric balance.
3) curvilinear structures.

Factor Matrixes Unique to the Style: 4, 5, 7, 9, 11, 13, 17, 18, 22.
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