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A Revision of the Distribution of Armor in Native North America

Norman D. Thomas

ARMOR IN NATIVE NORTH AMERICA

THOMAS

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A REVISION OF THE DISTRIBUTION OF ARMOR IN NATIVE NORTH AMERICA

By

Norman D. Thomas

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I. INTRODUCTION

The Problem and Purpose of this Study.

Historical and anthropological literature has clearly indicated the use of body armor in warfare by the native inhabitants of North America. However, few scholars have dealt with this subject, and only one distribution of armor, of limited scope, has been published.[1] Several contrasting types of armor have been distinguished for North America, yet there has been no published attempt to scrutinize a majority of the sources now available in order to obtain a total picture of the native armor distribution and the relationships the armor types bear to one another. It is the purpose of this study to attempt such a distribution and to illuminate the relationships among various types of armor, in order to advance argument in the defense of the proposition that there existed in North America at least three separate areas of armor usage, none of which were historically or geographically related in any direct manner.

There is a sizable vocabulary for the armor traditions of both Europe and the Far East which nominally distinguishes the various types and parts of the complex armor of those areas. North America has not yielded to us any formalized

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[1]Spier, Havasupai Ethnography, 1928, pp. 257-58.

armor vocabulary from native sources, and yet its armor was sufficiently distinctive to render the application of Old World terminologies unwise. Since the pertinent excerpts from the literature are composed primarily of descriptive statements, it is upon these that the armor of this continent must be typologically distinguished. In this paper only the most obvious and more easily distinguished categories of North American armor are described, all of which have been recognized by previous authors. These armor categories are plate armor, slat armor, rod armor, hide armor of both tunic and short jacket types, and curtain shields. Minimal definitions will suffice until these armor subjects are handled in more detail later in this study.

Plate armor was identified by construction from rectangular plates of some hard material such as bone, flat in cross-section, with multiple perforations for lacing them parallel, and imbricated into bands which were then arranged in tiers in a jacket or tunic type of armor. Slat armor also consisted of rectangular pieces of some hard material, usually wood, flat in cross-section, and were also arranged in parallel fashion in jackets; but the slats were not imbricated and were used in only one major band for the trunk of the body and were therefore considerably longer than the plates in plate armor. Furthermore, these slats were generally not perforated for attachment but were connected to each

other instead by an over and under weaving technique, utilizing some type of cordage. Rod armor was similar to slat armor except that the vertical strips were round in cross-section. Hide armor referred to any type of hide protection for the trunk of the body which involved close contact envelopment of the body. Curtain shield denoted a flexible sheeting, usually of hide, which was suspended in front of the body by hand or attached by a thong at the neck only, in which case it could be manipulated by one hand. The curtain shield was not primarily intended to envelope the body. Further elaboration on the character of these armors will evolve as they are discussed in the text.

The format of the text to come will consist first of a brief presentation of the present status of the problem by critically reviewing the work of previous investigators on this subject. Following this will appear a statement concerning the sources of data for this particular study, method of procedure, and treatment of the findings. The main text will consider Alaskan plate armor, slat, rod, and hide armor in western North America, and eastern rod armor in that order. Distribution tables, some supplemented by maps, will be presented for plate, rod, and slat armors; hide tunic and jacket armors; belt armor; the curtain shield; local armor not of rod or hide construction; helmets and visors; arm, leg, and kilt armor; and the use of an adhesive with sand

and gravel to fortify armor. A summary chapter will briefly review the conclusions of the previous chapters in defense of the proposition that North America possessed essentially three separate areas of armor usage. An appendix will present a tabulation of the data from which the distribution tables were constructed.

Previous Work Done on North American Armor.

The vast majority of material on native North American armor consisted of short descriptive statements for individual groups and localized areas. There have been no papers which were intended to deal intensively with armor distributions in this area and only one paper which was specifically an attempt at the description of a variety of North American armor.

This latter paper was Hough's Primitive American Armor published in 1895.[2] Hough identified and described six types of body armor for North America. These types he called plate, slat, rod, band, skin, and cotton-padded armor, none of which varied essentially from types identified in the present paper. Although Hough described these in some detail under the geographical headings of Bering Strait area, Western area, and Eastern area, his work was not intensive

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[2]Hough, Primitive American Armor, 1895.

enough to be called a distributional study. Much of his data came from available museum specimens and early travel accounts; he appeared to have been unconcerned generally with filling in regional gaps in occurrence.

Hough's conclusions are interesting in that he decided that the majority of armor-using tribes in America were sedentary tribes. The use of armor, he believed, implied a differentiation of weapons which made armor necessary and was initiated through diffusion or independent invention. Though he felt hide armor was likely to have arisen independently in both the Old and the New Worlds, he was certain that American plate armor had diffused from Asia, very likely Japan, and passed into Northwest Coast slat armor which possibly developed from the plate idea.

The only published distribution of the principle native North American armors was presented in 1928 by Spier in his Havasupai Ethnography.[3] He identified and gave distributions for hide tunic type armor, rod and slat armor, and the curtain shield. Since his chief purpose was to illustrate the wider occurrence in Western North America of traits possessed by the Havasupai, he did not feel the need for pursuing the armor distributions intensively or to their ultimate limits. Although the present study attempted to be

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[3]Spier, loc. cit.

more intensive, it was not able to extend appreciably the outer limits of Spier's distributions. It is pertinent to note that he classed slat and rod armor together for a single distribution.

The problem of plate armor in the New World was discussed by Collins in 1937.[4] As well as a critical review of the literature on this subject, he indicated that New World plate armor was limited to the Bering Straits area only and was very definitely of the same continuum as the immediately contiguous Asiatic plate armor. His own work at St. Lawrence Island suggested its first appearance there in the relatively recent Punuk period of shortly pre-contact age. Furthermore, Collins recognized a geographical discontinuity between the Arctic plate armor and the Northwest Coast slat armor, as well as a fundamental difference in the construction of the two. The present study does not refute these conclusions or substantially alter Collins' New World plate armor distribution.

The only survey of armor occurrences for the eastern North America area was that presented by Flannery in 1939 in her Analysis of Coastal Algonquian Culture.[5] She gave a

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[4]Collins, Archeology of St. Lawrence Island . . . , 1937, pp. 325-330.

[5]Flannery, . . . Coastal Algonquian Culture, 1939, pp. 75-76.

simple listing of published sources for armor among the Northeastern Algonquian and Iroquoian groups and stated that rod armor may have existed in that area due to Iroquoian influence.

Plate armor was the only armor considered in this study which has been dealth with previously in length for the Old World. Two studies in particular presented detailed consideration of the problem. The first of these appeared in Laufer's Prolegomena on the History of Defensive Armor which was Part I of his Chinese Clay Figures.[6] He thoroughly discussed the historical and distributional aspects of plate armor for the whole Asiatic area, basing his work primarily on extensive collections of Chinese clay statuettes and liberal use of original Chinese texts.[7] Laufer found untenable Hough's thesis that Japan was the stimulating source for the North American plate armor tradition. This he based upon an early Chinese account of a tribute of bone armor being presented to China in A.D. 262 by the Su-shen, a group living on the mainland to the northeast of Korea. The group was well recorded by both Chinese and Japanese chroniclers. Observing that such armor seemed to appear first in Japan no earlier than the close of the Eighth Century and that it

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[6]Laufer, Chinese Clay Figures, 1914, pp. 73-315.

[7]Ibid., pp. 258-291.

simple listing of [illegible]
Northeastern Algonquian and [illegible]
cod error may have existed [illegible]
influence.

Plate error was [illegible]
which has been dealt with [illegible]
World. Two studies in [illegible]
elaboration of the problem [illegible]
Laufer's Prolegomena on [illegible]
was Part I of his Chinese [illegible]
caused the historical [illegible]
error for the whole Asiatic [illegible]
on extensive collections [illegible]
liberal use of original [illegible]
terrible Haupt's thesis [illegible]
for the North American [illegible]
upon an early Chinese account [illegible]
being presented to China [illegible]
living on the mainland [illegible]
was well recorded by both [illegible]
observing that such [illegible]
no earlier than the close [illegible]

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[6] Laufer, Chinese Clay [illegible]

[7] Ibid., pp. 250-251.

did not probably yet occur in China at the time of the tribute, he concluded that bone plate armor in Northeast Asia was as old as, or older than, plate armor in China, Korea, or Japan. Citing the occurrence of plate armor in Western Asia in the first millenium B.C., Laufer suggested there was no need to resort to China or Japan for plate armor origins.

The second report on Old World plate armor referred to was Thordeman's paper, The Asiatic Splint Armour in Europe, published in 1933.[8] The splint armor with which he was concerned was plate armor as defined in the present paper. Thordeman's purpose was to trace the center of distribution of the phenomenon in relation to Europe, particularly Sweden where it appeared in late archaeological sites. In doing so he presented a generalized distribution extending from Europe and western Asia eastward to the Pacific Ocean. It was found that plate armor represented such a stability of method of manufacture that a series of plates from one end of its distribution to the other showed a remarkable uniformity in shape and the placement of the perforations. So stereotyped in style were the plates that identification of isolated units as armor plate was made quite accurately.

Regarding the affiliations of plate armor, Thordeman called attention to scale armor, constructed of overlapping

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[8] Thordeman, The Asiatic Splint Armour in Europe, 1933.

leather or metal scales or plates which were attached directly to a backing of some sort, such as a leather coat. This scale armor Laufer had indicated to be of older use in China and Japan than plate armor. The scales were usually triangular or rectangular with one rounded end. A number of occurrences of such armor were pointed out by Thordeman in which the scales were perforated much the same as for plate armor but were stapled through the perforations to the backing material. There were even examples where the scales were used as plates, and were laced together without benefit of a backing material. These forms he thought to be transitional to plate armor. Influenced by the fact that plate armor seemed oldest in western Asia, Thordeman's data led him to conclude that it was the nomadic people of central Asia that served as the distributing focus of plate armor to Europe, China, and Siberia.

Sources, Procedure, and Treatment of Findings.

By far the majority of citations for armor occurrences in North America are restricted to very short statements pertinent to a particular group, and are usually not more than a sentence or two long. Modern ethnographies and early travel and historical literature constitute the majority of sources used for this paper. Modern ethnographic sources offered the bulk of the material for western North America

leather or metal [illegible]
to a backing of [illegible]
scale armor begins [illegible]
and Japan then [illegible]
lar or mechanical [illegible]
rosses of [illegible]
the scales were [illegible]
but were [illegible]
material. [illegible]
used as plates, [illegible]
a backing material. [illegible]
al to plate armor. [illegible]
seemed oldest in [illegible]
conclude that [illegible]
that served as [illegible]
Europe, China, and [illegible]

Sources, Production, [illegible]

By far [illegible]
in North America [illegible]
portrait [illegible]
than a [illegible]
travel and life [illegible]
sources used [illegible]
offered [illegible]

and even substantiated the few citations from early travel literature which were found. For distributions east of the Rocky Mountains, early travel sources were almost wholly relied upon.

Whenever possible the original, or primary, sources were used. In a few instances secondary sources were used to fill out the distributions where material was lacking, or to substantiate a questionable citation for the same group. In any case, armor ascriptions suspected of being weak are clearly indicated.

The distributions as herein presented have a decided weakness in that they represent a wide geographical coverage with no stable temporal coverage. The periods of time represented by the different citations ranged from the Sixteenth Century to the late Nineteenth Century, a span of more than three hundred years. However, the weakness is not quite so serious as it at first appears. For western North America the few early historical records of armor were almost always substantiated by ethnographic work with late informants, and for most groups in that area this latter type of information was all that was available. Since the informants' information almost always referred to a period in their early life or the life of their fathers, the western distributions represent generally the first three quarters of the Nineteenth Century. The eastern North America material, however, almost

wholly represents the Sixteenth and Seventeenth Centuries. Thus it is apparent that the greatest chronological discrepancies in the distributions are on a longitudinal basis between eastern and western North America. It will be seen later that there was a typological split in the armor traditions along this same geographical axis.

A further time leveling factor within the two areas was the rapid disappearance of aboriginal armor upon European contact, due to the introduction of firearms and iron arrow points. It does not seem likely that the native North American armor distributions shifted their perimeters once European contact was established. It is reasonable to assume that its disappearance even preceded contact when the gun frontier advanced ahead of the actual European front. Because of this it is certain that in some areas, particularly eastern North America, the distributions offered here are attenuated presentations of the true precontact-pregun situation.

The precedure for outlining the armor limits was one of a very general and spotty coverage of the whole of North America with a first result of many gaps and poor continuity. These gaps were then attacked more intensively to see what continuity could be provided, if any at all. Finally, it remained to test the outer limits of the distributions to see if they were valid. This was done by making use of the

many negative statements for armor that had accumulated through the collection of data. If these negative statements of occurrence were not refuted by positive statements, and, if they fell outside the theretofore armor limits, a further check was made of the intervening groups.

II. PLATE ARMOR IN NORTH AMERICA[1]

Probably the most striking characteristic of the plate armor distribution in the New World was that nowhere did it appear to contact the distribution of any other type of New World armor. It was limited entirely to the immediate environs of Bering Straits, and there was no indication that it was used in modern times on the American side by any people other than the Western Eskimo. Since this New World plate armor distribution showed absolute continuity with plate armor in Siberia, it took on the appearance of representing the most eastern periphery of a distribution which had its center in the Old World.

No information relative to armor of any type was found for interior Alaska or the Bering Sea coast south of Norton Sound. The nearest armor occurrence to the south of plate armor was the rod armor of the Aleut and the rod and slat armor of the Cook Inlet Tanaina. Quimby stated that the Aleut had plate armor as well as rod and slat armor;[2] however, as the work in which the statement appeared was of a summary nature with no sources given, and since a substantial quantity

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[1]See the plate armor distribution in Table I, p. 14, and Figure 1, p. 15. See Figure 2a, p. 16, for illustration.

[2]Quimby, Aleutian Islanders . . ., 1944, p. 16.

TABLE I

KEY TO FIGURE 1:
DISTRIBUTION OF PLATE, ROD, AND SLAT ARMOR IN NORTH AMERICA[a]

Plate Armor

1. St. Lawrence Island
2. Diomede Island (Little?)
3. Cape Prince of Wales
4. Kotzuebue Sound

Rod Armor

1. Aleut
2. Koniag (?)
3. Tanaina: Upper Inlet, Tyonek and Kenai areas
4. Tlingit
5. Tlingit: Chilkat
6. Tlingit: Sitka
7. Tlingit: Taku
8. Haida: Kaigani (?)
9. Haida: Massett
10. Tsimshian proper
11. Kwakiutl: Haihais
12. Bella Coola
13. Nootka
14. Tahltan
15. Slave: Lower Liard R.
16. Sekani
17. Western Dene
18. Carrier; Babine
19. Chilcotin
20. Shuswap
21. Lillooet
22. Thompson
23. Okanagan
24. Sanpoil
25. Kalispel
26. Coeur d'Alene
27. Flathead
28. Kutenai
29. Western Washington; Northwestern Oregon (?)
30. Western Oregon; Northern California (?)
31. Chinook
32. Tolowa
33. Takelma
34. Karok
35. Yurok
36. Wiyot
37. Hupa
38. Chilula
39. Modoc
40. Shasta
41. Achomawi
42. Atsugewi
43. Maidu
44. Wintu
45. Wintun
46. Patwin: Hill
47. Pomo
48. Algonquin
49. Huron
50. Iroquois
51. Delaware (?)
52. Roanoke
53. Lower Savannah R. (?)
54. Mosquito (?)

Slat Armor

1. Tanaina: Middle Inlet
2. Tanaina: Upper Inlet
3. Prince William Sound
4. Tlingit
5. Tlingit: Sitka
6. Tlingit: Nass (?)
7. Shuswap
8. Lillooet
9. Thompson
10. Okanagan
11. Sanpoil
12. Klamath
13. Kato (?)
14. Pomo

---

[a]Numerals correspond with those in Figure 1; source materials on which these distributions are based are identified by the same numerals in Appendix A for plate armor, Appendix B for rod armor, Appendix C for slat armor; question marks (?) indicate questionable ascriptions--see appendices to clarify.

DISTRIBUTION OF [illegible]

White Armor

1. St. Lawrence
2. Nenana Ital[illegible]
3. Cape Prince [illegible]
4. Kotzebue Sound

Red Armor

1. Aleut
2. Koniag (?)
3. Tanaina:
   Tyonek
4. Tlingit
5. Tlingit: Chilkat
6. Tlingit: Sitka
7. Tlingit: Cra[illegible]
8. Haida: Kaigani
9. Haida: Skidegate
10. Tsimshian proper
11. Kwakiutl: Bella Bella
12. Nootka
13. Tsimshian
14. Haida: Masset
15. Haida: Cumshewa
16. Salish
17. Western Dene
18. Carrier; Tahltan
19. Chilcotin
20. Shuswap
21. Lillooet
22. Thompson
23. Okanagan
24. Sanpoil
25. Kalispel
26. Coeur d'Alene
27. Flathead
28. Kutenai
29. Western Washington
    Northwestern Oregon
30. Western Oregon
    Northern Cal[illegible]

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*Numerals correspond to [illegible] portraits on which they [illegible] by the same numerals [illegible] B for red armor. [illegible] indicate questionable [illegible]

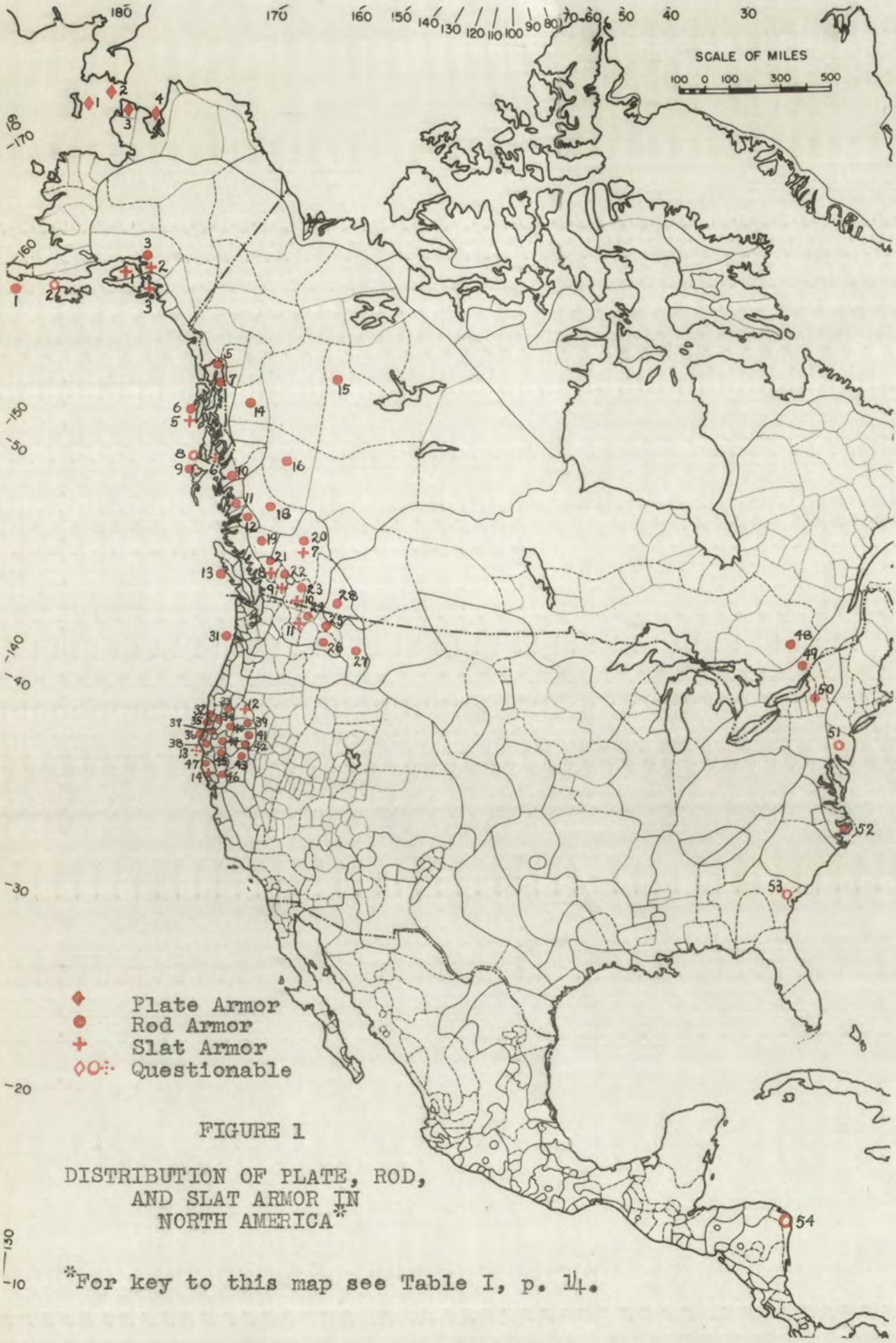
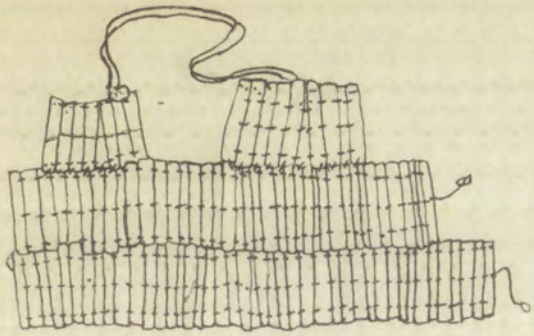


FIGURE 1

DISTRIBUTION OF PLATE, ROD, AND SLAT ARMOR IN NORTH AMERICA*

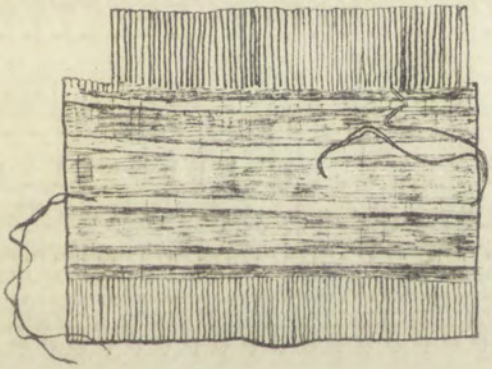
*For key to this map see Table I, p. 14.

EXAMPLES OF PLATE, ROD, AND SLAT ARMORS

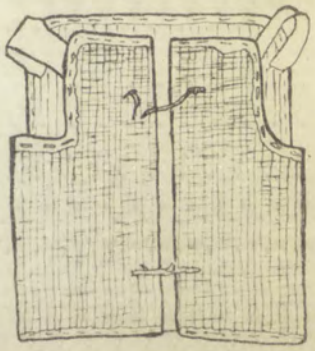


a. Eskimo plate armor, Cape Prince of Wales. From Hough, 1895, Pl. 3.

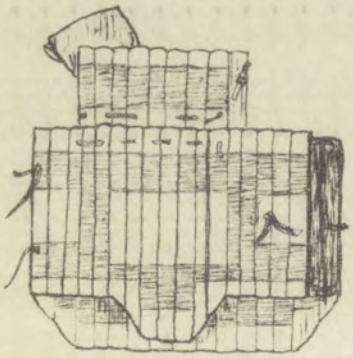
b. Aleut rod armor, Kagamil Island. From Dall, 1878, Pl. 6.



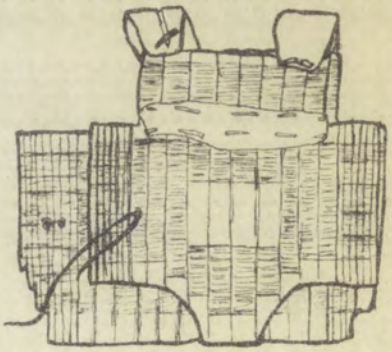
c. Taku (Tlingit) rod armor. From Hough, 1895, Pl. 13.



d. Shasta rod armor. From Hough, 1895, Pl. 14.



e. Tlingit slat armor. From Hough, 1895, Pl. 6, fig. 1.



f. Tlingit slat and rod armor. From Hough, 1895, Pl. 7.

FIGURE 2

of other citations for the Aleut did not mention plate or slat armor, the citation in question was regarded as in error. No further material was found that could confirm use of plate armor in the South Alaska area. At Cook Inlet and Prince William Sound Laguna found no armor of any type at any horizon in her archaeological excavations.[3] This is worth noting since plate armor was the only New World armor type which was extensively represented by archaeological finds, due in part to the imperishable character of the bone and ivory used for plates.

There were two illustrations of Alaskan plate armor which pictured complete or nearly complete museum specimens and which gave a general picture of the character of the armor. One was a specimen collected by N. C. Nelson on Diomede Island[4] and the other collected by H. R. Thornton at Cape Prince of Wales.[5] They consisted of plates which showed three series of laterally placed perforations, one series at either end and one in the center. The plates were imbricated and laced parallel to each other into long bands, three to five of these bands being attached one above the other. Each specimen had a single full arm gap at one end

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[3]Laguna, The Archaeology of Cook Inlet . . ., 1934.

[4]Hough, Primitive American Armor, 1895, Pl. 3.

[5]Ibid., Pl. 2, fig. 1.

of other attacks for the Japanese [illegible]
slit armor, the situation is quite [illegible]
error. Nevertheless, adequate [illegible]
of plate armor in the South Pacific [illegible]
Guinea William Dunn reports [illegible]
any horizon in her archaeological [illegible]
worth noting since [illegible]
type which was extensively [illegible]
Finds, due in part to the [illegible]
and ivory used for [illegible]

There were two [illegible]
which pictured [illegible]
and which gave a [illegible]
armor. One was a [illegible]
Dionede Island and the other [illegible]
at Cape Prince of Wales. [illegible]
showed three series [illegible]
series at either end [illegible]
lumbrated and [illegible]
three to five of these [illegible]
other. Each [illegible]

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[3]Lagoma, [illegible]

[4]Hough, [illegible]

[5]Ibid., p. [illegible]

of the upper band of plates, and the gap for the other arm would be created, upon closure of the jacket down one side, by the offset in the plates at the other end of the upper band. Only the specimen from Cape Prince of Wales showed the method of suspension, a single strap which would have passed diagonally over the shoulder from back of one shoulder to in front of the other.

The specimens illustrated were upper body, waist or hip length garments, and there is no way of knowing if there ever occurred in Alaska the full body length tunics made of many bands of plates which were illustrated for the Asiatic Chukchee[6] and Koryak.[7] Nor has there been recorded for Alaska the occurrence of the Asiatic conical plate helmet which has been illustrated for the Chukchee[8] and Koryak,[9] although Collins thought he had found a single plate from such a helmet at his excavations on St. Lawrence Island.[10]

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[6]Bogoras, The Chukchee, 1904-9, fig. 84a.

[7]Ibid., fig. 84b. Jochelson, The Koryak, 1905-8, fig. 98.

[8]Bogoras, op. cit., fig. 84a, fig. 89c.

[9]Ibid., fig. 84b; fig. 89a,b. Jochelson, loc. cit.

[10]Collins, Archeology of St. Lawrence Island . . ., 1937, p. 225.

Arm braces of plates were pictured for the Koryak[11] and braces and greaves of the same construction for the Chukchee,[12] but neither of these were cited for Alaska.

However, the construction of the Alaskan forms of plate armor varied in no essential from the Siberian forms immediately to the west of them. The perforations of the New World plates found in archaeological sites seemed normally to be six in number, placed laterally two at each end and two at the center, as indicated by the finds of Collins,[13] Geist and Rainey,[14] and Giddings.[15] Thordeman's illustration of various Old World plates indicated that those forms were a bit more variable as to the number and placement of perforations than the Alaskan examples, but, as with the latter, normally showed a grouping into three clusters.[16] According to the same Alaskan sources given above, the perforations of the Alaskan plates were sometimes round and

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[11]Jochelson, loc. cit.

[12]Bogoras, op. cit., fig. 91.

[13]Collins, loc. cit.

[14]Geist and Rainey, Archaeological Excavations at Kukulik . . ., 1936, p. 111.

[15]Giddings, The Arctic Woodland Culture . . ., 1952, Pl. 40, fig. 1-7.

[16]Thordeman, The Asiatic Splint Armour in Europe, 1933, fig. 11.

sometimes square with no indication that their shape had any regional or temporal implications. Indeed, Geist and Rainey found both perforation types represented in each of several horizons at St. Lawrence Island.[17]

The citations were not sufficiently numerous to allow conclusions as to the preferred material for the construction of plates. Most sources named bone or ivory, although almost surely some of the sources did not concern themselves with trying to distinguish critically one material from the other. Antler, it was noted, was the material used at Kotzuebue Sound,[18] and iron plates were known to have been used in Alaska,[19] apparently being traded into the area. Thus it appears that although plate armor seemed to offer little variation on form within its New World limits, it did prove to have been susceptable to adaptation to local materials.

There was some evidence to the effect that the appearance of plate armor in Alaska was relatively recent. Already mentioned was its peripheral situation with regards to an apparently old and much wider occurrence in Asia. That Alaskan plate armor showed even less variability as to form

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[17]Geist and Rainey, op. cit., pp. 142, 193.

[18]Giddings, op. cit., p. 91.

[19]Hough, op. cit., pp. 632-33; Pl. 2, fig. 2.

than did plate armor in Asia seems also to emphasize its youthfulness. However, the best indication of a recent appearance was presented by archaeological stratigraphy.

Stratigraphic information relative to armor plates has been presented by several fieldworkers. Geist and Rainey at St. Lawrence Island found armor plates in three houses and associated caches, representing three chronologically successive occupations, the latest being modern and the other two being what the authors called "Recent Prehistoric".[20] Although plates were considerably more common in the second most recent house than in the most recent itself,[21] they were much more rare in the oldest house than in either of the two more recent ones.[22] One plate was found "associated definitely" with a Birnirk type harpoon head in a test cut,[23] and, although the authors listed two other cultural horizons, Thule and Punuk, between the "Recent Prehistoric" and Birnirk,[24] the find did not upset a frequency center in the "Recent Prehistoric." Furthermore, a single association with one harpoon head, the age of which was indicated by

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[20]Geist and Rainey, op. cit., pp. 111, 159, 193.

[21]Ibid., p. 142.

[22]Ibid., p. 159.

[23]Ibid., p. 229

[24]Ibid., p. 225.

typology only, is not free from the suspicion of eccentric coincidence.

Another site on St. Lawrence Island, investigated by Collins, produced armor plates in an artifact assemblage predominantly Punuk in nature. However, there was sufficient other artifactual material in the assemblage to indicate contemporaneity with a horizon at another village thought to be probably early Eighteenth Century in date.[25]

On the mainland at Kotzuebue Sound, Giddings found armor plates in the Intermediate Kotzuebue site but none in the sites away from the coast up the Kobuk River.[26] This armor-bearing horizon was dated by dendrochronology at A.D. 1550.[27] The immediately proceding local cultural horizon, Old Kotzuebue, which was dated by the same method at A.D. 1400, produced no armor plates.[28]

It appears then that plate armor did not make its appearance in Alaska until the proto-historic period, possibly not before the Sixteenth Century.

In summary, it has been seen that there existed an unbridged distributional gap between Alaskan plate armor and

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[25]Collins, op. cit., pp. 188-89.

[26]Giddings, op. cit., pp. 91-2.

[27]Ibid., p. 9.

[28]Ibid.

all other armors of the New World. Alaskan plate armor did not vary essentially in material and construction from Asiatic plate armors. It existed directly contiguous and peripheral to Asiatic plate armors. And lastly, Alaskan plate armor appeared to be chronologically recent in the New World relative to its occurrence in Asia. This evidence, taken with the evidence for other slat armor affinities to be presented in the next section of this paper, renders it probable that Alaskan plate armor and other New World armors represented separate areas of usage not directly related.

III. THE ARMOR ASSOCIATION OF WESTERN NORTH AMERICA

The aboriginal use of armor in western North America was very extensive. Here was located not only the largest continuous block of armor usage on the continent but also the greatest variety in armor types. Essentially two armor groups, or families, may be distinguished for this area simply on the basis of radical contrast in construction techniques; these groups were hide armor and western rod armor, the latter also incorporating slat armor as will be seen later.

Each of these armor groups possessed its individual and continuous distribution, with that of hide armor defining in itself the total range of armor in the West--from southern Alaska into Mexico, and from the Pacific into the Great Plains. The distribution of rod armor in the West was restricted to the more western portion of the hide armor area and was virtually entirely contained within it. However, it is not proposed here that two such contrasting types of armor as these possessed a common historical denominator. What does seem important is the direct association and alternative, or almost alternative, usage of the two types within the more restricted regional limits of western rod armor. It is this fact, coupled with the belief that western rod armor was independent from all other American armors--to be

substantiated later--that qualifies uniting these two armor types in a generalized western armor tradition.

Rod and Slat Armor in Western North America.[1]

Rod armor in North America appears to have occurred in two separate areas between which there existed a gap, unbridged by any similar armor. The first of these was in western North America from central California to Cook Inlet, Alaska and the Aleutian Islands, with an eastern limit coincident with the eastern edge of the Plateau. The second area extended from shortly north of the eastern Great Lakes and St. Lawrence River southward to the Atlantic coast of the Southeast and could not be extended west of that axis. No strongly defined native armor tradition connecting the two areas could be demonstrated, and no citation for rod armor itself could be found to fill the intervening gap. The western distribution will be considered first, with particular emphasis placed upon defining a generalized western rod armor type and upon comparing slat armors with the rod armor type.

There was a very great similarity between the armors of the West and the slat armors of the same area, as will

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[1]See the rod and slat armor distributions in Table I, p. 14, and Figure 1, p. 15. For representative examples of rod and slat armor see Figure 2, p. 16.

be shown in the forthcoming analysis. It will be seen that the only stable variation between the two was whether or not the long elements used in the armor were round or flat in cross-section. Because of this similarity, it was not always clear in the literature which type of armor was being referred to. Some of the authorities utilized undoubtedly used one or the other term to refer to the general category of rod-slat armor while meaning specifically only one of the types. But such incidences would be few in number and could not appreciably alter the general rod and slat armor distributions as presented here.

One confusion was noted regarding the proper identification of rod and slat armor. Hrdlička described Aleut armor as being composed of "narrow wooden slats" and referred to an illustration in Dall's 1878 report as an example of "one such armor."[2] An examination of the photographic illustration in Dall which Hrdlička referred to (see Figure 2b, p. 16) revealed that the vest of armor in question was not composed of slats but was instead made up of cylindrical rods, and, furthermore, it was described as such by Dall himself.[3] It may have been just this or a similar error

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[2]Hrdlička, The Aleutian and Commander Islands . . ., 1945, p. 433.

[3]Dall, Remains of Later Prehistoric Man . . ., 1878, Pl. 6; p. 18.

that led Quimby to state that the Aleut possessed slat armor as well as rod armor, a fact not borne out by any of the other sources for the Aleut.[4]

Of the boundaries of western rod armor, probably the most sharply defined was that of its southern extension in California. A thorough perusal of the literature failed to push it south of the latitude of San Francisco Bay. Indeed, for some groups in the vicinity and south of that line actual negative statements of occurrence were obtained for rod armor, or armor in general, which were not refuted by other sources. The groups in this negative category were the Wappo,[5] Nisenan or Southern Maidu,[6] Lake Miwok,[7] and the Costano, Salinan, Chumash, Serrano, and Gabrielino.[8]

The Basin flank of this distribution was hardly less well defined. No source on this area which was checked produced a citation for rod armor, and again a number of negative statements denying rod armor or armor in general were obtained to substantiate this absence. Those groups

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[4]Quimby, Aleutian Islanders . . ., 1944, p. 16.

[5]Loeb, The Western Kuksu Cult, 1932, p. 106.

[6]Voegelin, Northeast California, 1942, p. 73.

[7]Gifford and Kroeber, Pomo, 1937, p. 142.

[8]Harrington, Central California Coast, 1942, p. 15.

represented by negative statements were the Mono,[9] Owens Valley Paiute,[10] various groups of Northern Paiute,[11] and Paviotso.[12] For this last group, the Paviotso, Curtis simply said they had no armor, speaking generally, but Lowie indicated the Pyramid Lake Paviotso did at least have a form of hide tunic armor.[13]

The eastern and southern limits of rod armor in the Plateau seemed fairly well defined. Wissler stated that among the Blackfoot "Wooden armor seems to have been unknown",[14] and a negative statement was obtained for the twined rod jacket among the Kutenai by Ray.[15] Spinden said that "Slat armor was apparently unknown" among the Nez Perce, presumably meaning the general category of rod and slat armor.[16] The Umatilla and Klikitat did not use the twined

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[9]Curtis, The North American Indian, 1907-26, Vol. 15, p. 58.

[10]Steward, Ethnology of the Owens Valley Paiute, 1933, p. 259.

[11]Stewart, Northern Paiute, 1941, p. 386.

[12]Curtis, E. S., op. cit., Vol. 15, p. 71.

[13]Lowie, Notes on Shoshonean Ethnography, 1924, p. 245.

[14]Wissler, Material Culture of the Blackfoot Indians, 1910, p. 163.

[15]Ray, Plateau, 1942, p. 153.

[16]Spinden, The Nez Perce Indians, 1907-15, p. 228.

rod jacket according to Ray's informants.[17]

The exact nature of the rod armor boundary in Oregon and Washington was rather obscure. Although there seems little doubt that the California distribution connected with the Northwest Coast and Plateau, very few citations could be located to fill the gap. However, this fact was not complicated by any significant citations for negative occurrence in the intervening area. Hide armor was noted by several sources to have been used by Oregon Coast groups, and Curtis said of the Tolowa and Tututni that "The material culture in general strongly resembles that of the Klamath river, but various modifications tending toward that of the north coast type appear. Thus, rod-armor gives place to the long elk-hide shirt exclusively."[18] Klimek partially refuted this by attributing twined rod armor to the Tolowa, although he appeared to have gotten his information from someone else whom he did not cite.[19] Lacking further data, the present information seems to indicate that the rod armor distribution swung inland from the Oregon Coast, leaving that domain exclusively to hide armor. The meager and inadequate sources

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[17]Ray, loc. cit.

[18]Curtis, E.S., op. cit., Vol. 13, p. 97.

[19]Klimek, The Structure of California Indian Culture, 1935, Table 5.

for that area, however, suggest the hiatus is of literary origin.

The Mackenzie-Yukon perimeter of western rod armor was vague. The lack of published material on the area thwarts any thorough and intensive coverage. The fact that the few existing sources indicated rod armor to be present among the western Mackenzie groups, while the subject was not mentioned for groups further to the east, indicated a probable boundary coincident with those western groups.

It should be pointed out that the use of negative statements of occurrence, as used in the previous paragraphs to emphasize armor distribution boundaries, are of doubtful value in themselves alone. Most of the material on western armors was derived from field work with native informants in the present century. The instability of the use of native armor in a European contact situation is evident, and the inability of a modern day informant to remember the time when such armor was used is to be expected. However, if negative statements were used in areas where other sources have failed to indicate the occurrence of a specific trait, such negative statements lend extra substantiation to the absence.

The category of North American slat armor included all armors constructed by connecting long elements, flat in cross-section, which occurred outside the area of the Alaskan plate armor. Two peculiarities of the slat armor distribution

were particularly noteworthy. One of these was that it coincided with that of western rod armor. Thus we find it listed from the Tanaina[20] in the north to the Pomo[21] in the south and well distributed in the area between the two polar extremes. Slat armor citations, however, represented substantially fewer groups throughout this total range than did those of rod armor.

The second peculiarity noted in the slat armor distribution was that virtually all the groups to whom this type of armor was attributed also had rod armor attributed to them by the same or other sources.

The coincidence of the two total ranges, the lack of direct continuity of slat armors, and the coincidence of the two types within the same native groups suggested, even without further knowledge of construction details, that some type of direct relationship existed between rod and slat armor.

A consideration of the design and construction techniques of these armors in western North America indicated very strongly that a single recurring complex of traits was involved for both varieties. The use of rods or slats, of course, was the characteristic trait in the complex. It was

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[20]Osgood, Tanaina Culture, 1933, p. 704.

[21]Loeb, op. cit., p. 13.

invariable by virtue of having been singled out as being sufficiently distinctive to serve as a type basis. The associated traits in the complex were the connecting of the rods or slats in close parallel fashion by twining or weaving them together with some sort of cordage; the restriction of the armor to short, upper body lengths; the customary use of only single horizontal bands of rods; the use of a single connected piece of armor wrapped entirely around the body jacket-like; and sleeveless construction.

For most of the western groups rod construction was indicated in the sources by such words as rods, sticks, switches, or round applied to the basic wood material in the armor.

Bearing on the problem of slat armor, a very interesting combination of both slats and rods was reported separately and illustrated for the Tlingit by Niblack and Hough.[22] Although these armors were essentially composed of slats, rods have been added at the sides to give greater flexibility and were treated the same as the slats as far as twining was concerned (see Figure 2f, p. 16.) Here then was as direct an association between rod and slat constructions as can be expected.

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[22]Niblack, The Coast Indians . . ., 1890, Pl. 14, fig. 49, citing Lisianski. Hough, Primitive American Armor, 1895, n., p. 636, Pl. 7-8.

Some sort of wood was almost the invariable material from which the rods were made and was so indicated in a majority of sources by such terms as wood, wooden, sticks, or by direct naming of some type of wood as willow or service berry. Only one material other than wood was found to have been used for rods in the West. For the Flathead Ray cited "twisted strips of elk rawhide" used as rods.[23] Since the use of this material was not mentioned elsewhere in the literature it appeared to be a unique local variation. Those groups for whom the material of rod construction was not specified very probably used some woody material.

It is significant that the information on slat armor in western North America showed wood to have been the only material used for slats. With due regard for the regionalisms in the availability of materials, this fact further allied slat armor conceptually to its close associate, wooden rod armor, and contrasted it to the bone, ivory, and antler plate armor.

The term twining is used rather loosely in this study, due principally to the lack of exactness in the original descriptions. All that is meant here is the use of continuous strands of cordage in any weaving technique to join rods or slats vertically in parallel order. Apparently the

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[23]Ray, loc. cit.

usual method was an over-and-under technique, treating the rods as the woof and the cordage as the warp.

The geographical stability of twining or weaving the rods in rod armor together in parallel fashion was remarkable. For the vast majority of groups throughout the range of western rod armor, the choice of words in the descriptions gave an indication of the method of attaching the rods together. The twining technique was taken to be indicated by such words as twined, interlaced, enlaced, woven, or wickered. Only one group, the Aleut, was found to have definitely used a method of attachment other than twining, with no use of the twining technique indicated whatever. Dall's photograph of an excellent specimen of Aleut armor clearly indicated that the connecting cordage was passed through perforations in the ends of the rods (see Figure 2b, p. 16.)[24] This accorded with the Aleut position in the North Pacific area where joining wood materials together by sewing was common; however, it is significant also that the Northwest Coast, where twining was the rule, fell into this area too.

For several groups there was some indication, based on the ambiguous wording of statements, that other techniques as well as twining were used. For the Thompson, in addition

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[24]Dall, loc. cit.

to twining,[25] we found Teit using the terminology "laced together."[26] For the Coeur d'Alene, as well as twining,[27] Teit said "woven or fastened together."[28] Despite these possible variances, it is apparent that twining enjoyed a remarkable stability throughout the distribution of rod armor in the West.

A large proportion of the slat armor sources did not specifically indicate if they were twined. Those that did indicate twining were relatively well separated at opposite ends of the distribution. Thus we found twined slats recorded for the Tlingit,[29] Haida,[30] and Klamath.[31] Twining was probably used in most of the areas where this type of armor occurred, especially in view of the fact that it existed side by side with twined rod armor. It seems particularly noteworthy that twining for slat armor was very well

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[25] Ray, loc. cit.

[26] Teit, The Thompson Indians . . ., 1900, p. 265.

[27] Ray, loc. cit.

[28] Teit, The Salishan Tribes . . ., 1930, p. 117.

[29] Niblack, op. cit., p. 269; Pl. 14, fig. 49. Hough, loc. cit.

[30] La Perouse, Voyage . . ., 1807, p. 327-28.

[31] Curtis, E.S., op. cit., Vol. 13, p. 171. Spier, Klamath Ethnography, 1930, p. 196.

verified for the northern Northwest Coast, that part of the slat armor distribution nearest the untwined Alaskan plate armor, thus sharply contrasting those two armors on this point of construction.

Only one slat armor group, the Thompson, was found to have definitely connected slats by perforating and lacing.[32] This was not particularly strange, for shields made of slats or planks joined together were used by a number of people in the coastal and interior northwest. Shields of this type occurred among the Aleut,[33] Kaska,[34] Yellowknife and Chipewayan,[35] Shuswap,[36] and Okanagan and Sanpoil.[37] Of these, the Aleut and Kaska were definitely indicated to have sewn or laced the slats together by means of perforations. It is presumed that most of the other groups named did also, although the Shuswap[38] and Okanagan[39] used twining. Many

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[32]Teit, The Thompson . . ., 1900, p. 265, fig. 253.

[33]Hrdlička, op. cit., p. 135; Pl. 35.

[34]Honigmann, The Kaska Indians, 1954, p. 94.

[35]Hearne, A Journey . . ., 1911, p. 175-76.

[36]Teit, The Shuswap . . ., 1909, p. 538.

[37]Teit, The Salishan Tribes . . ., 1930, p. 257. Cline, et. al., The Sinkaietk . . ., 1938, p. 55.

[38]Teit, The Shuswap . . ., 1909, p. 538.

[39]Cline, et. al., loc. cit.

shields have been recorded for the interior northwest which were described simply as being wooden, and they were quite probably references to the slat or plank shield.

Slats were recorded as used to supplement hide armor, by being attached to the breast portion of hide cuirasses, among the Nass Tlingit[40] and the Kato.[41]

As an adjunct to rod twining there was no imbricating of the long elements in western rod and slat armor. The use of rods in themselves, whether twined or not, would tend to preclude imbrication, and twining is a technique that does not yield itself to overlapping construction with either rods or slats. All slat armor which was described in sufficient detail indicated there was no imbrication of the elements as there was with Alaskan plate armor.

Despite the stability of twining in rod armor construction, the data suggested no similar stability in the material used for twining. Although no specific material was named for most groups, those that were represented were well scattered over the total western rod armor range. Cordage materials named were babiche or some sort of hide, sinew, goat wool, bark, hemp, iris, wool, human hair, nettles, and sisal. It is reasonable to assume that many of the earlier,

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[40]Niblack, op. cit., p. 269.

[41]Curtis, E.S., op. cit., Vol. 14, p. 8.

non-ethnographic field observers were not especially concerned with critically distinguishing the actual cordage material used, introducing some amount of error into the little data on the subject. Undoubtedly, there was considerable latitude of usage within the individual native groups themselves.

Babiche or hide was indicated more often than other cordage materials, but even then such references represented only five groups. No geographical continuity for this material was observed as it was cited for widely separated peoples, the Tanaina,[42] Carrier,[43] Chilcotin,[44] Chilula,[45] and Atsugewi.[46] Whether any of the other specific cordages mentioned had their own regional distributions was not ascertainable due to the lack of pertinent statements.

A geographical cleavage on a more generalized level was noticeable between the use of vegetable or animal materials for cordage. Vegetable fiber was indicated slightly more often than animal materials throughout the rod armor distribution except for those peoples in the Mackenzie-Yukon

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[42]Osgood, The Ethnography of the Tanaina, 1937, p. 111.

[43]Morice, Notes Archaeological . . ., 1894, p. 117.

[44]Farrand, The Chilcotin, 1899, p. 647.

[45]Driver, Northwest California, 1939, p. 391.

[46]Garth, Atsugewi Ethnography, 1953, p. 154.

Culture group, the Tlingit, and the Aleut. For the latter babiche or hide was recorded for the Tanaina, Carrier, and Chilcotin as cited above, goat wool cord for the Tahltan,[47] and also sinew for the Tahltan[48] as well as for the Aleut[49] and Tlingit.[50] Too many gaps occurred in the knowledge of the cordages used to allow specific definition of this cleavage between the areas referred to and the rest of the Northwest Coast and Plateau. But this seemed to conform to the general string-using areas: sinews or babiche in the north, vegetal fibers in the south and Plateau.

In the case of slat armor the information on cordages used did not conflict with that for rod armor and even tended to follow the cleavage noted above. For the known twined varieties of slat armor we found sinew specified by Hough for the Sitka Tlingit,[51] and Cook recorded it as used for slat armor by the natives he saw at Prince William Sound

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[47]Emmons, The Tahltan Indians, 1911, p. 116.

[48]Ibid.

[49]Dall, op. cit., p. 18. Hrdlička, op. cit., pp. 132, 135.

[50]Hough, op. cit., n., p. 639.

[51]Hough, op. cit., n., p. 636.

in 1778.[52] The Tanaina used babiche;[53] the Thompson utilized buckskin or bark strings for their perforated and laced form of slat armor;[54] and nettle-cord was mentioned by both Curtis and Spier for Klamath slat armor.[55]

As much a part of the rod armor tradition as twining was the customary use of only a single horizontal band of rods, which restricted this type of armor to a short jacket of no greater than hip length. This seemed to be a significant characteristic of the western rod armor complex by virtue of contrast with a few known examples of armor composed of multiple bands of rods or plates fastened one above the other. We found that the use of two connected vertical tiers of rods occurred among the Hupa as at least one of their forms,[56] and also among the Aleut.[57] The plate armor of Alaska and Siberia characteristically utilized multiple bands of plates, sometimes in full body length forms. Furthermore, an additional contrast was

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[52]Cook, A Voyage to the Pacific Ocean, 1785, Vol. 2, p. 372.

[53]Osgood, Tanaina Culture, 1933, p. 704.

[54]Teit, The Thompson Indians . . ., 1900, p. 265.

[55]Curtis, E.S., op. cit., Vol. 13, p. 171. Spier, loc. cit.

[56]Curtis, E. S., loc, cit.

[57]Dall, op. cit., Pl. 6.

provided to these short length rod armors by the coexistence with them, throughout almost all their western range, of hide armors in full body length forms.

Few sources indicated verbally that rod armor was composed of only one tier of rods, but the descriptions seemed almost always to imply this. More conclusively, all the illustrations of rod armor which were located, excepting the one for the Aleut,[58] represented single-tier short forms. Furthermore, these illustrations, though few in number, covered all the major areas of the rod armor distribution in the West, including the Tlingit,[59] Thompson,[60] Karok,[61] Hupa,[62] Klamath,[63] Shasta,[64] and Pomo[65] (see the Shasta example in Figure 2d, p. 16.)

Relative to the slat armors, the only specific information we had on this point of single or multiple tiers

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[58] Ibid.

[59] Niblack, op. cit., Pl. 13, fig. 43. Hough, op. cit., Pl. 15, fig. 1.

[60] Teit, op. cit., fig. 254.

[61] Kroeber, Handbook . . ., 1925, Pl. 18.

[62] Hough, op. cit., Pl. 18, fig.1.

[63] Ibid., Pl. 15, fig. 2.

[64] Ibid., Pl. 14.

[65] Barrett, Material Aspects of Pomo Culture, 1952, Pl. 26.

come from the Tlingit and the Thompson. The latter were clearly indicated to have used a single-tiered form,[66] but for the Tlingit the only examples described in sufficient detail or illustrated indicated double-tiered, twined slat jackets[67] (see Figure 2e, p. 16.) These Tlingit examples were constructed of separate front and back pieces, connected at the sides by thongs. The lower band was composed of long slats and covered the torso up to the armpits like the basic band of rods in rod armor. To the upper edge of both the front and back piece was attached a band of shorter slats to protect the upper chest and throat and the back of the shoulders and neck. This upper band was abbreviated in length to provide cuts or notches for the accommodation of the arms. Although these double-tiered slat armors possessed a superficial similarity to the plate armor style of the Bering Straits Eskimo, one need not go so far afield. The closest double-tiered armor was that of the Aleut, which, significantly, was of rod construction and not of plate, and structurally resembled the Tlingit slat armor much more closely than did Eskimo plate armor.

Rod armor of short, upper body lengths was indicated

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[66] Teit, op. cit., fig. 253.

[67] Niblack, op. cit., Pl. 14, fig. 49, citing Lisianski. Hough, op. cit., Pl. 6-8.

for the vast majority of groups in illustrations or by the use of such terms as jacket, vest, and waistcoat, or by statements that the armor reached only to the waist, belt, hips, or thighs. Length for a small minority of groups was indicated only ambiguously by the words cuirass or corselet, traditional terms for upper body armor. This information, taken in view of the inherent physical limitations to single-tier rod and slat construction, assured us that the upper body forms were characteristic of western rod and slat armor. The only groups for whom information on length of the armor was lacking presented only gaps in knowledge within the wider area and probably followed the tradition of rod and slat armor current among the peoples around them.

Virtually all western North American rod and slat armors were essentially wrap-around forms which passed entirely around the upper body in a jacket-like manner. Illustrations of these armors showed this to be clearly so, and a few statements said or implied it. Most sources failed to elaborate in such detail, but the frequent use of the word jacket in referring to rod and slat armor seemed to indicate that full upper body coverage by a single connected piece of armor was meant.

There was one type of deviation from this rod jacket pattern that was noticed, and this for the northern California-Oregon area. Referring to the tribes of this area,

Schoolcraft presented a description of armor "which covers them in front" and was "composed of thin parallel battens of very tough wood, woven together by a small cord."[68] An illustration of the armor was presented with this statement, and it indicated clearly that it was nothing more than a rectangular apron of twined rods, which would only have covered the front of the upper body. String loops were attached to each of the upper corners for the arms and tie strings for the waist at the lower corners. Schoolcraft obtained this armor information from G. F. Emmons who made a journey from the Columbia River to California in 1841, passing through the country of several native groups. However, the armor was identified with no specific group; in view of the following citation it may well have been a California group.

It seems reasonable to assume that this is the same type of rod armor which was listed for the northern Yana by Gifford and Klimek as "Armor a frontpiece of rods and elkskin."[69] Since rod jacket armor was included on the same trait list for the southern Yana and hide armor for the same northern Yana, there could be no doubt that a separate

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[68]Schoolcraft, Archives . . ., 1860, Vol. 3, p. 216.

[69]Gifford and Klimek, Yana, 1936, p. 82.

frontpiece was meant by the statement.

There was even some basis for recognizing this breastpiece or apron rod armor as a member of a standard style or cut of armor, of either rods or hide, localized in northern California and adjacent southern Oregon. According to Voegelin, hide armor, said to have been made like an apron and lacking any backpiece, was ascribed to the Klamath by an eastern Achomawi informant.[70] An "Elkhide breast plate" was ascribed to the Tillamook by Barnett in addition to the long hide tunic armor included on the same trait list.[71] These rod and hide breast armors may have borne some relationship to the frequently cited curtain shields of this same area which will be discussed in the next chapter.

The illustrations of rod and slat armor previously cited for Aleut, Tlingit, Thompson, Karok, Hupa, Klamath, Shasta, and Pomo clearly indicated that both of these armors were sleeveless in nature. Actual statements to this effect for rod armor were made for the Chilcotin[72] and Takelma.[73] The only record of sleeved rod armor which was encountered

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[70]Voegelin, Northeast California, 1942, p. 73; p. 192.

[71]Barnett, Oregon Coast, 1937, p. 170.

[72]Farrand, loc. cit.

[73]Sapir, Notes on the Takelma Indians . . ., 1907, p. 273.

was that presented by Turney-High for the Kutenai; the sleeves were of "flat pieces of rod mail" which covered only the upper arms and were lashed to the armor proper, apparently after it was put on.[74] On the basis of the few illustrations and most descriptive statements, however, it is felt these armors may be safely said to have been characteristically sleeveless throughout their western ranges.

It would be interesting to see a distributional breakdown of a number of rod armor features which were poorly documented in the literature. They are pertinent for discussion, however, as they did point the direction to some broad generalizations.

One of these was the presence or absence of cuts in the upper edge of the armor for the accommodation of the arms and the placement of these cuts. Only one example of western rod armor with no accommodation whatever for the arms was noted. This was the Sitka Tlingit example illustrated by Niblack.[75] It was simply a straight, untailored band of rods, and, lacking arm spaces, could have been worn no higher on the body than the level of the armpits. A very

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[74]Turney-High, . . . Kutenai, 1941, p. 87.

[75]Niblack, op. cit., Pl. 13.

similar example for the Taku Tlingit was illustrated by Hough,[76] but it possessed a single cut at one corner (see Figure 2c, p. 16.) If it were an accommodation for an arm and the armor were drawn up so that the notch fitted under one arm, the other arm would have been immobilized inside the armor. The two examples, because of their great similarity and coming from the same area, should be considered essentially as only variations of the same type. Whether it was used by other tribes in this area or elsewhere could not be determined because of lack of descriptive material.

The standard accommodation for the arms in western rod armor can safely be said to have consisted of two arm cuts or notches, allowing the armor to come up high to protect the upper chest and throat and the back of the shoulders and neck. Double arm cuts were definitely indicated or implied for the Aleut,[77] Chilcotin,[78] Thompson,[79]

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[76] Hough, op. cit., Pl. 13.

[77] Dall, op. cit., Pl. 6.

[78] Farrand, op. cit., p. 647.

[79] Teit, op. cit., fig. 254.

Okanagan,[80] Coeur d'Alene,[81] Kutenai,[82] Klamath,[83] Shasta,[84] Karok,[85] Hupa,[86] Chilula,[87] and Pomo.[88] This was a geographically diversified sample and almost surely indicated the mode for rod armor in all its western range. The information on slat armor indicated agreement with the rod armor style. The Tlingit[89] and Thompson[90] examples illustrated, showed the double cuts or notches for the accommodation of both arms.

A further elaboration of rod armor seldom described was the tailoring of the upper or lower edges, giving more specific protection to the back of the neck or to the groin. This sort of tailoring represented a departure from the

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[80] Cline, et. al., loc. cit.

[81] Teit, The Salishan Tribes . . ., 1930, p. 117.

[82] Turney-High, loc. cit.

[83] Hough, op. cit., Pl. 15, fig. 2. Spier, loc. cit.

[84] Hough, op. cit., Pl. 14.

[85] Kroeber, loc. cit.

[86] Hough, op. cit., Pl. 15, fig. 1.

[87] Driver, loc. cit.

[88] Barrett, loc. cit.

[89] Niblack, op. cit., Pl. 14, fig. 49. Hough, op. cit., Pls. 6-8.

[90] Teit, The Thompson Indians . . ., 1900, fig. 253.

concept of a rod jacket as being a simple rectangular band or mat of rods, with or without arm spaces, wrapped around the body. The high back-collar, created by the use of longer rods in the middle of the band, was indicated for the Aleut,[91] Klamath,[92] Shasta,[93] Hupa,[94] and Maidu[95] (see Figure 2b and d, p. 16.) Such a high collar certainly could not safely be said to be representative of western rod armors; a number of exceptions were known. These known exceptions were from the Sitka Tlingit[96] and the Thompson,[97] which seemed to suggest that the straight upper edge was more prevalent in the north and the high back-collar in California. Again, this could not be a final conclusion since information was lacking for the vast majority of the rod armor groups. However, the few examples of slat armor which were illustrated, representing only the Tlingit and Thompson cited previously, led to this conclusion, for they all possessed untailored upper edges.

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[91] Dall, op. cit., Pl. 6.

[92] Hough, op. cit., Pl. 15, fig. 2.

[93] Ibid., Pl. 14.

[94] Ibid., Pl. 15, fig. 1.

[95] Kroeber, op. cit., p. 400.

[96] Niblack, op. cit., Pl. 13, Hough, op. cit., Pl. 13.

[97] Teit, op. cit., fig. 254.

Even less conclusive was the information on the tailoring of the lower edge for the protection of the groin and free movement of the legs. Information of this sort was found for only a few groups, primarily those for which we have illustrations, and such tailoring was indicated for only three, the Aleut[98] (see Figure 2b, p. 16), Hupa,[99] and Chilula.[100] In the Hupa example the curvature of the lower edge may have been due to slippage of the rods and not to true tailoring; the illustration did not make this clear. The technique was extended to slat armor also. Two of the slat armor examples illustrated and attributed to the Sitka Tlingit by Hough were toed-in at the bottom front edge[101] (see Figure 2e and f, p. 16.)

Another insufficiently documented feature of rod and slat armor construction was the position of closure of the two edges when the band was wrapped about the body. The armor was indicated as fastened up the back for Aleut,[102]

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[98]Dall, loc. cit.

[99]Hough, op. cit., Pl. 15, fig. 1.

[100]Driver, op. cit., p. 391.

[101]Hough, op. cit., Pl. 6, 7, 8.

[102]Dall, op. cit., p. 18, Pl. 6.

Chilula,[103] and Atsugewi.[104] The Aleut situation, however, presented a problem. Although Dall stated that his fine specimen from a Kagamil mummy was "fastened behind," his illustration of the same armor specimen indicated it had a high collar between the arm notches, which would have made it difficult indeed to wear if it were closed down the back[105] (see Figure 2b, p. 16.) Spier stated that Klamath slat armor opened "in the front."[106] The photographic illustration published by Kroeber of a Karok man in rod armor showed the two ends of the jacket overlapping and apparently tied at the front.[107] The illustrations in Hough of armors ascribed to the Shasta, Hupa, and Klamath,[108] were of types which have the raised upper edges in the middle of the band, which would have hindered the wearer except when closed down the front (see Figure 2d, p. 16.) This seemed a reasonable conclusion also for the Maidu high-collared armor cited by Kroeber.[109] The symmetrical

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[103]Driver, loc. cit.

[104]Garth, Atsugewi Ethnography, 1953, p. 154.

[105]Dall, loc. cit.

[106]Spier, loc. cit.

[107]Kroeber, op. cit., Pl. 18.

[108]Hough, op. cit., Pl. 14-15.

[109]Kroeber, op. cit., p. 400.

nature of some armors would permit closure either down the back or the front, and without the source indicating how closure was made it cannot be known. Teit's illustration of Thompson armor[110] presented this problem. The same applied to the Sitka Tlingit band armor illustrated by Niblack,[111] which, by virtue of lacking arm cuts and having to be worn under the arms, could have been closed at the side just as well as the front or the back. For this example, however, side closure seemed most likely for the very similar example from the Taku Tlingit, illustrated by Hough,[112] which had a single corner notch in an otherwise straight band, seemingly for the purpose of accommodating one free arm (see Figure 2c, p. 16.) The short hide armor from this northern Northwest Coast area also fastened down the right side. The only other instances of closure at the side definitely indicated were for the Kutenai[113] and the Klamath.[114]

It is obvious that little regional specialization on closure can be read into such limited knowledge of occurrence.

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[110]Teit, loc. cit.

[111]Niblack, loc. cit.

[112]Hough, op. cit., Pl. 13.

[113]Turney-High, loc. cit.

[114]Voegelin, op. cit., p. 192.

The information on the northern California area at least suggested a wide latitude of variability on this point as all three possibilities, back, front, and side closure, were found to occur. Since single piece armors with double arm cuts, each placed about equal distance from the ends, and with the edge between the arm cuts raised to form a protective collar, seemed to be the form most widely distributed in northern California and Oregon, it is felt that closure down the front, as a logical corollary, was equally as prevalent in that area. The two piece jackets and straight bands of the northern Northwest Coast suggested that side closure had some stability in the armor tradition of that area. The illustrations available for Tlingit slat armor confirmed such a conclusion, for they all indicated closure at the right side[115] (see Figure 2e and f, p. 16.) The illustrated Thompson slat armor could have been closed at the front or the back although the author did not clarify this point.[116] These weak implications are all that can be ventured on the problem of regionalism on this point.

There appeared some differentiation in western North America in the application of cordage for twining or

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[115]Niblack, op. cit., Pl. 14, fig. 49. Hough, op. cit., Pl. 6-8.

[116]Teit, op. cit., fig. 253.

connecting the rods. In the most common method the successive cords formed wide bands of twining which sometimes took in the whole length of the rods from the top to the bottom of the jacket (see Figure 2c and d, p. 16.) This method was indicated for the Tlingit,[117] Klamath,[118] Shasta,[119] Hupa,[120] Pomo,[121] and possibly the Karok.[122] In another the individual cords were spaced. Groups employing this method were the Aleut, who did not twine,[123] Thompson,[124] and Kutenai.[125] It was possibly implied by the statements for the Tanaina[126] and the Carrier.[127] The wide band application of cord twining was the most widely distributed and

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[117]Niblack, op. cit., Pl. 13. Hough, loc. cit. Hough, op. cit., Pl. 13.

[118]Hough, op. cit., Pl. 15, fig. 2.

[119]Ibid., Pl. 14.

[120]Ibid., Pl. 15, fig. 1.

[121]Barrett, loc. cit.

[122]Kroeber, op. cit., Pl. 18.

[123]Dall, op. cit., Pl. 6.

[124]Teit, op. cit., fig. 254.

[125]Turney-High, op. cit., p. 86.

[126]Osgood, The Ethnography of the Tanaina, 1937 , p. 111.

[127]Morice, Notes Archaeological . . ., 1894, p. 117.

was probably the mode for the rod armor for most of western North America. The slat armors also apparently followed this pattern generally; the illustrated Tlingit forms showed the wide band type of twining.[128]

The rod armor of the West has been indicated to be of simple construction. Essentially it was a band of rods which could be completely opened up flat like a mat and wrapped around the torso when used. In keeping with this simple construction, there was generally no specific tailoring or attachment of additional pieces to protect the tops of the shoulders. The only means to hold the armor upon the body was the use of simple straps or thongs of leather or cordage which closed the arm spaces and simply suspended the armor from the shoulders. Such usage was noted for the Aleut,[129] Thompson,[130] Okanagan,[131] Kutenai,[132]

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[128]Niblack, op. cit., Pl. 14, fig. 49. Hough, op. cit.,

[129]Dall, loc. cit.

[130]Teit, op. cit., p. 265.

[131]Cline, et. al., loc. cit.

[132]Turney-High, op. cit., p. 87.

Klamath,[133] Shasta,[134] Hupa,[135] and Atsugewi.[136] The only examples known which did not have any device to keep the armor from slipping were the two straight untailored bands illustrated for the Tlingit by Niblack and by Hough.[137] It is presumed that most of the other citations refer to armor which used shoulder straps for suspension.

The same techniques of suspension as used on rod armor were used also on slat armor. A Thompson slat vest used thong suspension from the shoulders,[138] and Spier cited the same technique for the Klamath.[139] Two shoulder straps were used on two of the illustrated Tlingit examples.[140] One Tlingit example, however, was held in place by a broad band of elk skin which passed over the right shoulder and fastened on the left side by a loop and thong.[141] This

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[133]Hough, op. cit., n., p. 640; Pl. 15, fig. 2.

[134]Ibid., n., p. 640; Pl. 14.

[135]Ibid., n., p. 640; Pl. 15, fig. 1.

[136]Garth, op. cit., n., p. 154.

[137]Niblack, op. cit., Pl. 13, 15. Hough, op. cit., Pl. 13.

[138]Teit, op. cit., p. 265; fig. 253.

[139]Spier, loc. cit.

[140]Niblack, op. cit., Pl. 14, fig. 49. Hough, op. cit., n., p. 636; Pl. 7-8.

[141]Hough, op. cit., n., p. 636; Pl. 6.

same technique, it is worth noting, was used on a vest of Eskimo plate armor from Cape Prince of Wales.[142]

Although upper body jackets were undoubtedly the principal armor form produced by the twined rod and slat method in the West, there was some slight indication that armor for other parts of the body was also occasionally produced by this technique, at least among the Tlingit, Haida, and Kutenai.

Hough illustrated a Tlingit greave in the U. S. National Museum which was composed of twined rods and slats in combination.[143] It was the only lower leg armor to be cited for western North America. For the Kutenai, however, Turney-High recorded twined rod "Leggings or greaves" for the upper legs.[144] In A.D. 1779 the Spaniard Maurelle visited the natives of Bucarrelli Bay, Alaska, presumably Kaigani Haida. He described their cuirasses as twined from "narrow slips of wood" and said that as well as these cuirasses "From the girdle to the feet, they wear a kind of apron, of the same manufacture as their cuirasses."[145] This

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[142] Ibid., n., p. 632; Pl. 2, fig. 1.

[143] Ibid., p. 637; Pl. 269.

[144] Turney-High, loc. cit.

[145] La Perouse, A Voyage Round the World . . ., 1807, Vol. 1, pp. 327-28, an extract from the account of Maurelle.

is the only known mention for western America of such lower body "aprons" of twined rod or slat construction.[146]

In summary, western rod armor can be characterized as follows. It was most commonly constructed of wooden rods connected by cordage in a twining process. Typically, only a single tier of rods, worn vertically on the body, was used. The armor was restricted to short, upper body lengths which were wrapped around the entire torso and which were sleeveless. Other characteristics, not as well demonstrated but suggesting stability, were the addition of cuts or spaces in the upper edge of the armor for the accommodation of the arms, suspension of the armor from the shoulders by simple straps or thongs, and the pressing together of the twining cordage into broad bands or masses of twining.

Slat armor construction, it has been seen, followed this general characterization of rod armor, or its variations did not fall outside the range of variations in rod armor. There was a coincidence of the total ranges of rod and slat armor, with the slat armor distribution lacking direct continuity within the total range. The two types commonly existed side by side in the same group and were incorporated, in a few known examples, into the same piece

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[146] See Table II, p. 59, for a list of occurrences of specific armor for the arms, legs, and lower body.

TABLE II

OCCURRENCE OF ARMOR FOR THE ARMS AND LEGS AND KILT ARMOR IN NORTH AMERICA[a]

Armor for the Arms	
1. Lillooet	Skin robe wrapped around left arm.
2. Kutenai	Twined rod braces for upper arms.
3. Iroquois (?)	Of "small pliable rings" (Charlevoix)
4. Huron and Iroquois (?)	Braces of twined rods.
5. Tarascan	Braces of wood.
Armor for the Legs	
1. Tlingit	Greave of twined slats and rods.
2. Kutenai	Twined rod greaves for upper legs.
3. Iroquois (?)	Of "small pliable rings" (Charlevoix)
4. Huron	Of twined rods. Champlain also illustrates possible Huron greaves.
5. Penobscot	Greaves of birch bark.
6. Nahua	Possible quilted cotton leg armor.
7. Tarascan	Greaves of wood.
Apron or Kilt Armor	
1. Haida: (Kaigani?)	A rod or slat apron below waist.
2. Nootka	Blanket about the loins. (?)
3. Huron (?)	Champlain illustrates rod (?) kilt.
4. Penobscot	Skirt or kilt of birch bark.
Full Body Armor Cited	
1. Huron	"...covers a man from his head to his feet..." (Lalemant). Rod armor "... on their back and legs and other parts of their body..." (Sagard).

[a]Sub-titles and numerals correspond to those in Appendix D where they identify the sources for these citations.

of armor. On the basis of this evidence and the distributional arguments against the continuity of Old World plate armor with New World armors, it is concluded that slat armor belonged to the same material tradition as rod armor and was only a regional variation of the rod armor theme.

Hide Armor in North America.

The creating of armor from hide was the most frequently cited armor construction for western North America. An examination of the data made it clear that these hide armors might be grouped into several classes based upon style and manner of use and upon contiguous occurrence. These classes were tunic or jacket armor, wide belt armor, and curtain shields.

Hide Tunic and Jacket Armor.[147] Hide tunic and jacket armor possessed so extensive and continuous a distribution that it may safely be called the typical hide armor style for the West. It occurred from the coast of southern Alaska southward into Mexico and from the Pacific eastward well into the Great Plains. The only major portions of western North America that could not be demonstrated to have used this type of armor were the larger part of the Great Basin and southern California.

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[147] See the hide tunic and jacket armor distribution in Table III, pp. 61-62, and Figure 3, p. 63. See Figure 4, p. 64, for illustrations.

TABLE III

KEY TO FIGURE 3:
DISTRIBUTION OF TUNIC AND JACKET HIDE ARMOR IN NORTH AMERICA[a]

1. St. Lawrence Is. (?) (L)
2. Tanaina: Tyonek area (L?)
3. Tanaina: Middle Inlet and Kenai area (L?)
4. Tanaina: Lower Inlet and Kachemak Bay area (L?)
5. Tlingit (S,-)
6. Tlingit: Chilkat (S,-)
7. Tlingit: Lituya Bay
8. Tlingit: Sanyakwan (L)
9. Tlingit: Nass
10. Tlingit: Taku (S,-)
11. Haida: Bucarelli Bay (Kaigani ?) (L?)
12. Haida: North Island
    Haida: Massett (S)
    Haida: Skedans (L) (S)
13. Tsimshian proper
    Tsimshian: Hartly Bay (S)
14. Tsimshian: Gitksan (S)
15. Kwakiutl (S?,-)
16. Kwadiutl: Haisla (S)
17. Kwakiutl: Haihais (S)
18. Kwakiutl: Bella Bella (?,-)
19. Kwakiutl: Kosquimo and Kwexa (S)
20. Bella Coola (S)
21. Salish: Klahuse (L,-)
22. Salish: Squamish (L,-) (S)
23. Salish: Cowichan proper (S)
24. Nootka (L) (S)
25. Puget Sound
26. Twana; Chemakum; and Klallam
27. Quinault
28. Kutchin
29. Hare
30. Kaska, Upper Liard River (L,-)
31. Tahltan
32. Sekani
33. Western Dene (L,-)
34. Carrier (S)
    Babine
35. Chilcotin (-)
36. Lillooet (L,-)
37. Shuswap (L?,-)
38. Thompson (L,+) (S)
39. Okanagan (S) (L)
40. Sanpoil (L) (S)
41. Kalispel (S)
42. Flathead
43. Coeur d'Alene (L,-)
44. Nez Perce (L,+,-)
45. Yakima (?)
46. Klikitat (S)
47. Western Washington; Northwestern Oregon (L)
48. Chinook: Kathlamet (?)
49. Chinook: Lower (L,-)(S)
50. Alsea (L)
51. Siuslaw (L,-)
52. Tututni (L,-)
    Galice Creek (L,-)
    Sixes River (L,-)

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[a]Numerals correspond to those in Figure 3; source materials on which this distribution is based are identified by the same numerals in Appendix E. (L) indicates long, tunic-like armor; (S) indicates short, jacket-like armor; (-) indicates armor is sleeveless; (+) indicates armor has sleeves; no symbol indicates preceding characteristics are undeterminable on basis of sources used. Question mark (?) indicates questionable ascription--see Appendix E to clarify. This list represents only tunic and jacket types of hide armor; wide belt armor is considered in Table V and Figure 5, and the curtain shield in Table VI and Figure 6.

TABLE III (continued)

53. Tolowa (L,-)
Chetco (L,-)
54. Takelma (-)
55. Karok
56. Yurok (L)
57. Wiyot (L)
58. Hupa (L,-)
Chilula
Mattole
Nongatl
Sinkyone (L)
Lassik (L)
Wailaki
Kato (L)
59. Chimariko (L)
60. Wintu
61. Wintun (L,-)
62. Patwin
63. Yuki (L)
64. Pomo
65. Klamath (-)
66. Modoc
67. Shasta (L)
68. Achomawi (L)
69. Atsugewi (L)
70. Yana (-)
71. Maidu (L)
72. Paviotso: Pyramid Lake, Fallon, Lovelock (L)
73. Snake or Shoshoni (L,-)
74. Northern Plains
75. Blackfoot (-)
76. Plains Cree
77. Yankton (+)
78. Cheyenne
79. Pawnee
80. "Padouca"
81. Wichita (?)
82. Hasinai
83. Southwest
84. Apache
85. Apache, Eastern or Lipan
86. Apache, Mescalero
87. Apache: Gila (?)
88. Apache, San Carlos
89. Apache, Janos
90. Navajo (L,+) (S,+)
91. Havasupai (L)
92. Walapai
93. Pueblos
94. Hopi (?)
95. Zuni
96. Keres
97. Tewa
98. Tiwa (?)
99. Seri (+)
100. Eastern Cree; Northern Salteaux (?)
101. Iroquois, Mohawk (?)
102. Nahua
103. Mixtec

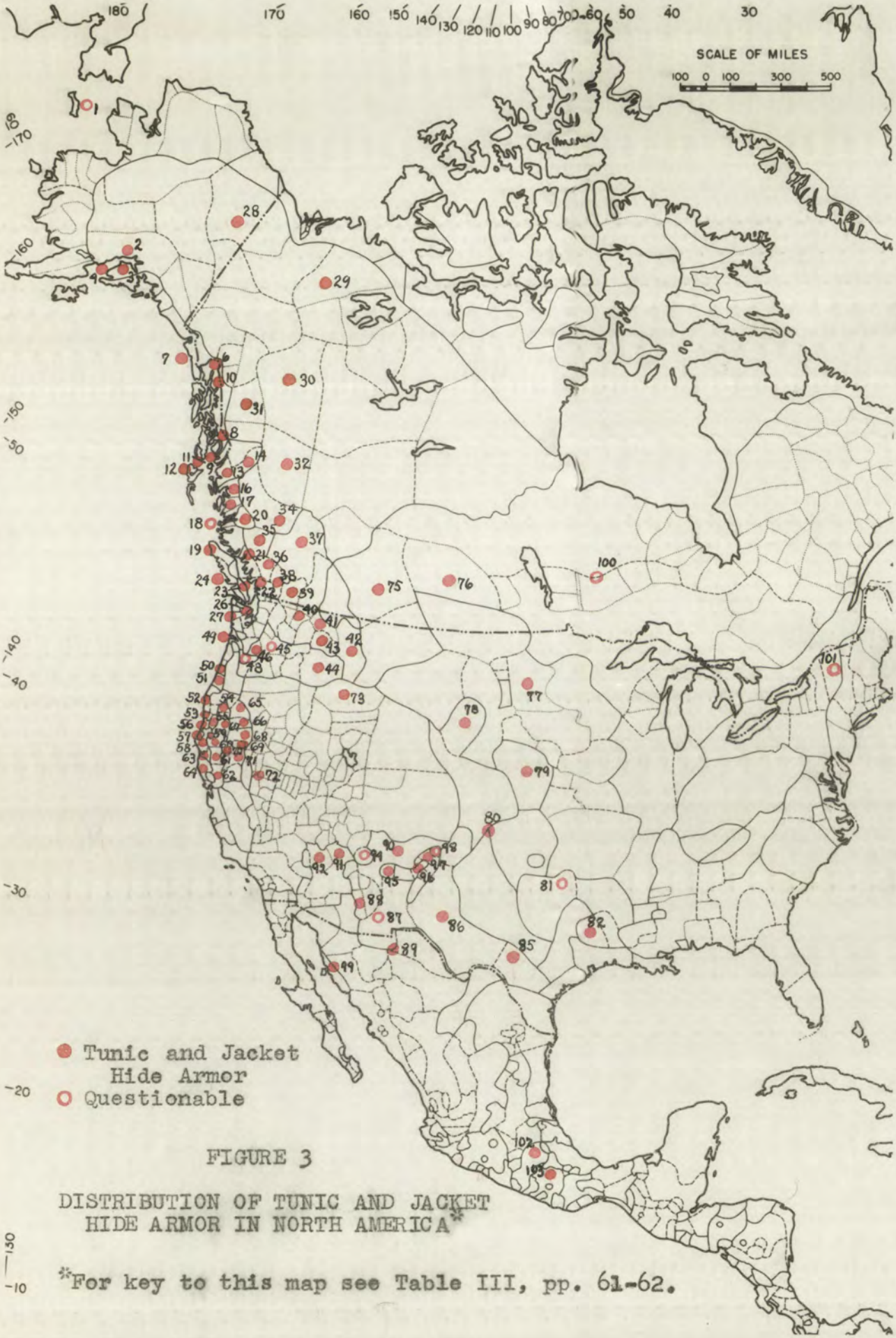


FIGURE 3

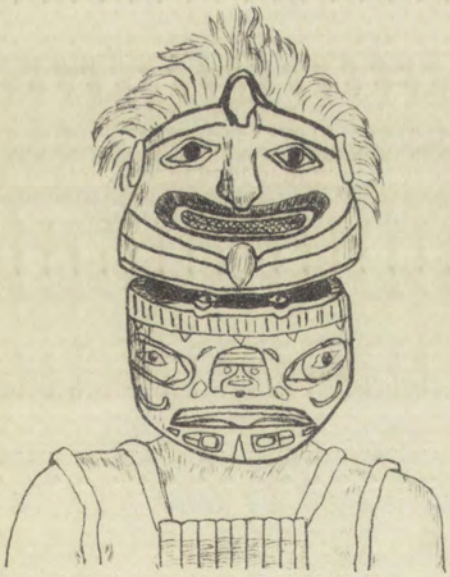
DISTRIBUTION OF TUNIC AND JACKET HIDE ARMOR IN NORTH AMERICA*

*For key to this map see Table III, pp. 61-62.

EXAMPLES OF HIDE ARMORS, HELMET AND VISOR,
AND EASTERN ROD ARMOR

a. Tlingit hide armor, short type. From Hough, 1895, Pl. 17.

b. Hupa hide armor, long type. From Hough, 1895, Pl. 20.



c. Tlingit helmet and visor. From Hough, 1895, Pl. 9, (original in Lisianski, Voyage, p. 150, Pl. 1.)

d. Huron (?) rod armor. From Champlain, 1929, Pl. 6, fig. E.

FIGURE 4

Hide armor of both long, or tunic style and short, or jacket style have been classed together in this study. A glance at Table III will help to illuminate the distributional relationship that pertained between these two varieties. Although the length of the armor was not indicated for all groups included in this distribution, it was apparent, at least, that the long tunic form was more nearly the standard for North America. This tunic style was recorded for virtually thetotal range of hide armor; the short jacket form, however, was found to have been commonly used in only the Northwest Coast and Plateau, where it was directly associated with, or occurred adjacent to the long tunic type of armor. The frequency with which the jacket form was cited in the northwest and the fact that it seemed to have had its own continuous distribution in that area did not permit a conclusion that it was simply an occasional variation of the more widely distributed tunic type. That the two styles were only of varietal difference, however, seemed evident, for their construction features were, excepting length, remarkably similar.

Several construction features were mentioned with sufficient frequency in the literature that they may be included in a general characterization of hide tunic and jacket armor. For one thing, it was apparent that this style of armor generally followed a basically untailored

pattern. It was formed by simply folding a roughly rectangular piece of hide around oneside of the body; the juncture of the two ends down the other side of the body was left open, or pinned only by a few tie strings or toggles. This wrap-around type of construction was definitely noted for the Tlingit,[148] Nootka,[149] Chinook,[150] Hupa,[151] Sinkyone,[152] and Klamath.[153] The hide armor which Drucker ascribed to the Oregon coast, including the Tolowa, Chetco, Galice Creek, Tututni, Sixes River, and Siuslaw, was inferred to have been of this wrap-around style since it was stated to have been of one-piece construction.[154]

Most of the armors cited in the previous statement were folded around the left side, leaving the right side open. Accommodation for the left arm was by means of a slit or gap in the upper end of the folded edge and

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[148] Hough, op. cit., Pls. 16-19; Niblack, op. cit., pp. 268-70.

[149] Drucker, . . . Nootkan Tribes, 1951, p. 335.

[150] Ross, Adventures . . ., 1904, p. 104.

[151] Hough, op. cit., Pl. 20. Mason, The Ray Collection . . ., 1889, p. 230; fig. 105.

[152] Nomland, Sinkyone . . ., 1935, p. 158.

[153] Spier, Klamath . . ., 1930, p. 196. Voegelin, loc. cit.

[154] Drucker, The Tolowa . . ., 1937, p. 170.

suspension was usually by joining the upper front and back edges over the right shoulder. All of them were sleeveless.

This characterization of hide tunics and jackets was not contradicted by the armor descriptions for any group in the general areas represented by the type citations above. It seems quite valid then to accept it as the usual type in the Northwest Coast, Plateau, and California. The extent of its incidence to the eastward was not certain, however. There was a little evidence suggesting that hide tunics in the Plains and Southwest may have possessed a construction which contrasted to that farther to the West.

Sleeves, of no more than elbow length, were cited for the hide armor of the Thompson,[155] Nez Perce,[156] Yankton,[157] Navajo,[158] and Seri.[159] Although sleeveless armor was recorded for the Blackfoot,[160] none of the other reports of hide armor in the Plains and Southwest gave information on this point.

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[155]Teit, op. cit., p. 265.

[156]Curtis, E.S., op. cit., Vol. 8, p. 45.

[157]Pond, Journal . . ., 1908, p. 354.

[158]Hill, Navaho Warfare, 1936, p. 9.

[159]Kroeber, The Seri, 1931, p. 16.

[160]Secoy, Changing Military Patterns . . ., [1953], p. 49, citing Cocking.

The use of vertical slits in the lower edge of the long tunics, one in front and one in back, was cited for the Navajo; the purpose of the slits was to accommodate the unwieldy length of the garment to riding horseback.[161] Secoy said that this was a feature of Apache and Plains armor in the early historic period;[162] none of the sources consulted in the present study, however, substantiated such a conclusion, and the Navajo, as cited above, provided the only occurrence of the slit tunic encountered.

Other suggestions that the more eastern and southern of the hide armors possessed a special character were embodied in the following features. Closure of the armor down the front instead of down the side was attributed to the Nez Perce[163] and Navajo.[164] The armor of the Havasupai, according to Spier, was fastened close around the neck,[165] and Hill noted the same feature for the Navajo.[166] Walapai hide armor was described as composed of "a front and a back

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[161]Hill, loc. cit.

[162]Secoy, op. cit., pp. 17-18.

[163]Curtis, E.S., loc. cit.

[164]Hill, loc. cit.

[165]Spier, Havasupai Ethnography, 1928, pp. 249-50.

[166]Hill, loc. cit.

piece tied together under the arms, leaving a head hole";[167] Spier's description of Havasupai armor and Hill's account of Navajo armor cited above, although not specific, suggested a similar tailored shirt construction. Hide armor similar to this construction was also recorded for both the northern and southern bands of the Okanagan.[168] Plains armor probably agreed in style with the tailored armor of these groups peripheral to the Plains, especially since the people there were well versed in tailored shirt manufacture. Generally throughout the Plains and Southwest buckskin or leather, specifically indicated to be soft tanned, was cited more commonly than the rawhide so frequently named in the Far West.

The foregoing information on Plains and Southwestern hide armor was sufficient to suggest that the armor in those areas may have had a character of its own, at least in the historic period. Secoy felt that the construction of native armor in the Southwest and the Plains was altered upon Spanish contact, that afterwards it possessed two arm holes and was no longer open along the right side, and that this new type of armor became "an integral part of the Post-horse--Pre-gun military technique complex and spread with it widely

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[167]Kniffen, et. al., Walapai . . ., 1935, pp. 93-4.

[168]Cline, et. al., loc. cit.

throughout the Plains."[169] However, there seemed to be no evidence which substantiated the single-fold--open-side armor in these areas, either before or after Spanish contact. Generally speaking, however, differences between the more western hide tunic and jacket armors and those of the Plains and Southwest can be explained partly by the fact that the western armor area straddled the boundary between a province that had tailored skin clothing and one that did not.

Some students have suggested that much or all of the native armor in the Southwest and the Plains was of post-Spanish age and a result of Spanish influences.[170] It is true that the Spanish brought hide armor, apparently of their design, to the Southwest;[171] however, it seems clear also that a native hide armor tradition existed in the Southwest and Plains prior to Spanish influence.

As early as A.D. 1540 Melchior Diaz, while in the province of Sinaloa, Mexico, received an account from local natives of the country some 150 leagues north of Culiacan.

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[169] Secoy, loc. cit.

[170] Worcester, The Spread of Spanish Horses . . ., 1944, p. 232.

[171] Curtis, F. S., Spanish Arms and Armor . . ., 1927, pp. 108, 111, 120. Hackett, Historical Documents . . ., 1923-37, p. 71.

They said of the people there "that when they go to make war, they carry shields and wear leather jackets, which are made of cows' hide, colored".[172] The descriptive context in which this statement occurred for the most part described Pueblo culture though for our purposes any confusion with non-Pueblo peoples would not destroy our case. This "colored" hide armor may be the first identification we have of the painted armor later cited by other sources for the Apache peoples of the Southwest and Southern Plains.[173]

A technological evidence that Plains and Southwest hide armors were indigenous was presented by the known occurrence in these areas of the application of an adhesive with sand and gravel to fortify the hides.[174] The area under discussion was represented by the Cheyenne,[175] "Padouca,"[176] Navajo,[177] and Havasupai.[178] Probably it was more widely

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[172]Winship, The Coronado Expedition . . ., 1896, p. 548.

[173]Dunn, Apache Relations in Texas, 1911, p. 222. Gifford, Apache-Pueblo, 1940, pp. 32, 123.

[174]See the occurrence of this technique in Table IV, p. 72.

[175]Curtis, E.S., op. cit., Vol. 6, p. 157.

[176]Fletcher and La Flesche, The Omaha Tribe, 1911, p. 79.

[177]Franciscan Fathers, An Ethnologic Dictionary . . ., 1910, p. 458. Hill, loc. cit.

[178]Spier, op. cit., p. 258.

TABLE IV

DISTRIBUTION OF THE USE OF AN ADHESIVE
WITH SAND OR GRAVEL TO FORTIFY ARMOR IN NORTH AMERICA[a]

1. Tanaina (used on hide tunic armor)
2. Sekani (used on wooden shield)
3. Western Dene (used on hide tunic armor)
4. Carrier (used on hide tunic armor)
5. Chilcotin (used on hide tunic armor)
6. Shuswap (used on hide curtain shield and small hide shield)
7. Okanagan (used on hide shield)
8. Sanpoil (used on hide shield)
9. Tolowa (used on hide tunic armor)
10. Shoshoni: Lemhi R. (used on hide tunic armor)
11. Cheyenne (used on hide shirt armor)
12. "Padouca" (used on hide armor)
13. Navajo (used on hide shirt and tunic armor)[b]
14. Havasupai (?) (probably used on hide armor)
15. Walapai (?) (probably used on hide armor)

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[a]Numerals correspond to those in Appendix F where they identify the source materials on which this distribution is based. This trait was probably much more common than these citations indicate.

[b]Leather cuttings and trimmings are cited instead of sand or gravel.

spread in these areas than these groups indicate. Furthermore, the use of this technique in the area farther west, from California to Alaska, well established it as an associate of the native armor tradition. Its use with Plains and Southwestern armors suggests that those armors were from a purely native tradition.

The elbow length sleeves, previously noted to have occurred variously in the Plains and Southwest, to a lesser degree offered the same sort of evidence for an indigenous position. Its use among the Nez Perce and especially the Thompson seemed to qualify it as an indigenous element beyond the limits of Spanish influence.

It seems quite probable, however, that at least some Spanish influence was absorbed by the indigenous armor tradition. La Salle visited the Hasinai village of Naouadiche in A.D. 1687 and only three years later, in A.D. 1690, Tonty arrived in the same village and reported that the natives were using horses, certain Spanish-like equestrian appurtenances, "and body covering of several skins, one over the other, as a protection from arrows. They arm the breasts of their horses with the same materials, a proof that they are not very far from the Spanish."[179] The

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[179] Kellogg, Memoir on La Salle's Discoveries . . ., 1917, p. 320.

position of the Hasinai at the extreme limit of hide armor in the southern Plains did inject a note of reason into Tonty's conclusion that there was Spanish influence present.

The horse armor mentioned above for the Hasinai has also been recorded for the Western Apache,[180] Plains Apache,[181] the illusive "Padouca",[182] the Shoshoni,[183] and possibly the Wichita.[183] Fletcher and La Flesche related a Ponca tradition concerning a meeting between the Ponca and "Padouca" at a time when the Ponca still had no horses but the "Padouca" did. It was said that both the Padouca horses and warriors were protected by armor "made of thick rawhide cut in round pieces and made to overlap like the scales of a fish. Over the surface was sand held on by glue."[185] This certainly

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[180]Thomas, Forgotten Frontiers, p. 216, citing Diary of Captain Martinez, 1780.

[181]Dunn, op. cit., p. 206, citing Aguayo; p. 222, citing Flores. Sjoberg, Lipan Apache Culture . . ., 1953, p. 90, citing Dennis and documentory sources.

[182]Margry, . . . Mémoires et Documents . . ., 1879-88, Vol. 6, p. 312, citing La Harpe citing Du Tisne; p. 446, citing De Bourgmont. Fletcher and La Flesche, loc. cit. Hough, op. cit., p. 646, citing Du Pratz.

[183]Coues, . . . Expedition. . .of Lewis and Clark, 1893, Vol. 2, p. 561.

[184]Lewis, A., La Harpe's First Expedition. . ., 1924, p. 346, citing La Harpe; the wording is ambiguous and could mean either man or horse armor.

[185]Fletcher and La Flesche, loc. cit.

was not in the usual tradition of native armor and could well have been inspired by Spanish forms, but the sand and glue component was probably derived from a pre-existing native tradition.

It was not within the scope of this study to deal intensively with the armors of the Mexican area. However, it is clear that the boundary between the hide tunic and jacket armor of western North America, and the cotton quilted armor of Middle America was not a sharply distinguished one. A sleeved hide tunic armor was cited for the Seri[186] and hide armor of uncertain type was recorded for the Aztec[187] and Mixtec.[188] Quilted cotton armor itself was attributed to the Pueblo area by Cushing,[189] but, since he gave no sources and did not elaborate his statement, the matter will not be discussed. Little is known concerning the precise style of the Mexican quilted cotton armor as there were no accurate descriptions. Bandelier concluded, on the basis of codex illustrations, that "The entire costume, from the neck to the knee, seems to be of one piece."[190] It quite

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[186] Kroeber, The Seri, 1931, p. 16.

[187] Spier, op. cit., pp. 257-58.

[188] Joyce, Mexican Archaeology, 1920, p. 126.

[189] Cushing, Pueblo Indians . . ., 1896, p. 848.

[190] Bandelier, On The Art of War . . ., 1877, n. 59, p. 110.

probably was a tailored tunic or jacket, possibly on the style of the Mexican huipil, and thus resembled the hide armor of the Southwest and Plains. If this were so, the break between Mexico and the Southwest would have depended on the choice of materials rather than on style.

Technically, some of the hide armors to the north fell nearly into the quilted class. Hill informed us that the Navajo tunic and jacket armor was made of two or more thicknesses of hide, between which a layer of adhesive and leather cuttings was added, and afterwards the whole was quilted to help it keep its shape.[191] Mathew Cocking in A.D. 1772-73 encountered hide armor of multiple layers which was "quilted" among Blackfoot and saw among them a similar specimen that was attributed to the "Snake."[192] It is not presumed that these quilted hide armors were direct derivatives of the Mexican quilted armor area. Multiple layer hide armor was cited often for all parts of the hide tunic and jacket armor distribution and the use of a quilting technique to keep the layers from separating would have been a logical sporadic occurrence.

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[191]Hill, loc. cit.

[192]Secoy, op. cit., p. 47, citing Cocking.

Belt Armor.[193] Armor consisting of nothing more than a wide hide belt about the middle of the body was mentioned variously for areas of North America and fell into two regional clusters. One of the clusters centered in the southern Northwest Coast and adjacent Plateau and the other among the non-Pueblo groups of Arizona. There was sufficient continuity within each of the two areas, it is felt, to qualify this belt armor as a standardized type of hide armor. It does not seem likely, however, that the two general areas where it occurred were related. The shortage of armor information on the intervening southern California and Great Basin areas precludes little but speculation. At least neither of these belt armor areas was divorced from the distribution of standard tunic and jacket armors. It is conceivable that some of these belt armors, particularly in the Northwest, were but abbreviated versions of the standard jacket armors, lacking the arm gap and connection at the shoulder.

Curtain Shields.[194] One lesser category of North American hide armor deserves particular attention. This is the curtain shield, which is classed here as body armor

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[193]See the belt armor distribution in Table V, p. 78, and Figure 5, p. 79.

[194]See the curtain shield distribution in Table VI, p. 80, and Figure 6, p. 81.

TABLE V

KEY TO FIGURE 5:
DISTRIBUTION OF WIDE BELT ARMOR IN NORTH AMERICA[a]

1. Nootka[b]
2. Okanagan
3. Sanpoil
4. Coeur d'Alene
5. Kutenai
6. Klikitat (?)
7. Tillamook
8. Siuslaw
9. Galice Creek
   Sixes River
10. Chetco
11. Yuki
12. Mohave
13. Walapai
14. Maricopa[c]
15. Papago

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[a]Numerals correspond to those in Figure 5; source materials on which this distribution is based are identified by the same numerals in Appendix G. Question mark (?) indicates questionable ascription--see Appendix G to clarify. All armor in this table is of hide except as otherwise qualified in footnotes.

[b]As well as a hide belt, a wide belt of twisted cedar bark is cited.

[c]Rope wrapped around belly; also a cotton blanket wrapped around body in folds and wound with a lariat.

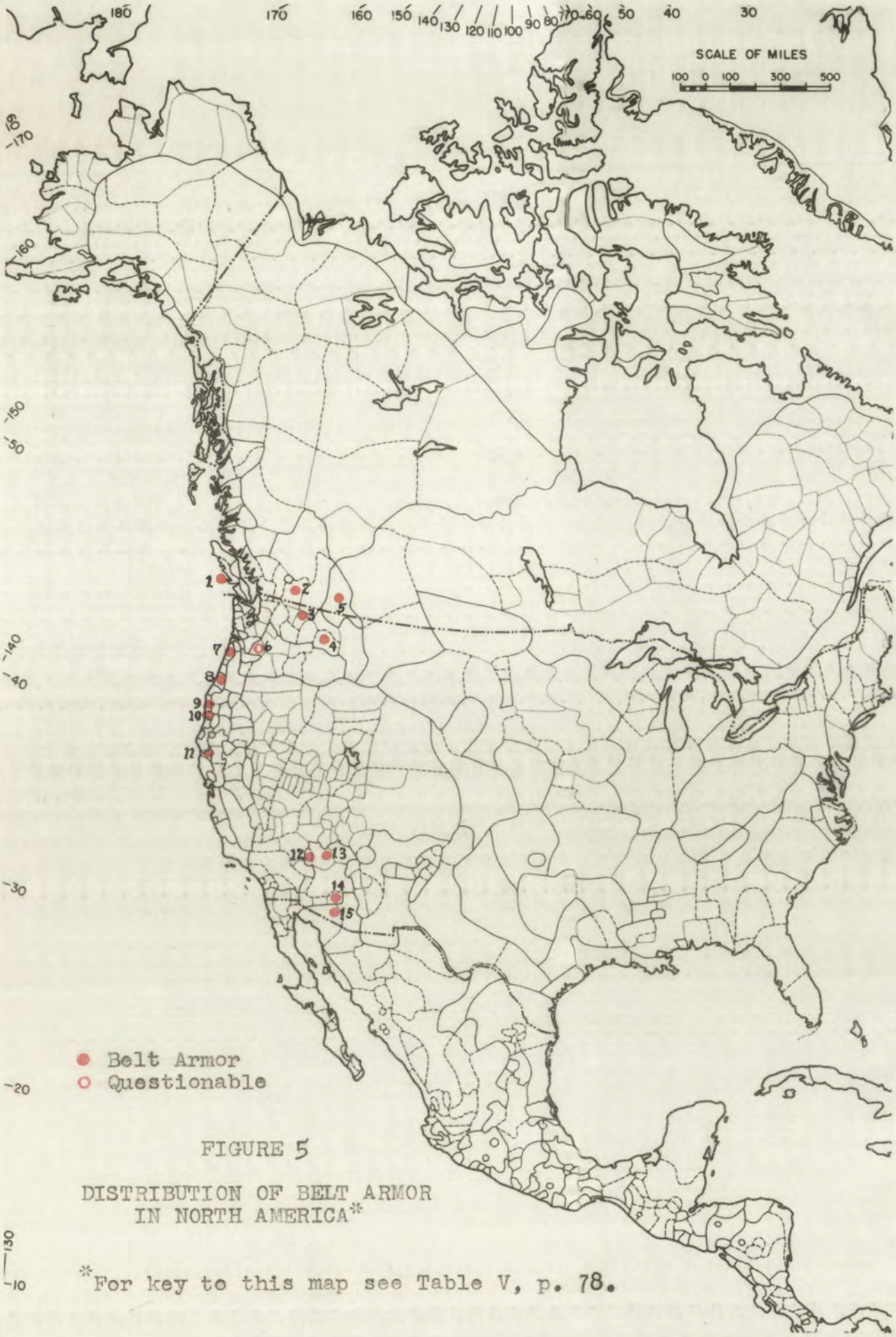

FIGURE 5

DISTRIBUTION OF BELT ARMOR
IN NORTH AMERICA*

*For key to this map see Table V, p. 78.

TABLE VI

KEY TO FIGURE 6:
DISTRIBUTION OF THE CURTAIN SHIELD IN NORTH AMERICA[a]

1. Carrier (H)
2. Shuswap (H) (R?)
3. Thompson (H)
4. Kutenai (H)
5. Coeur d'Alene (H)
6. Modoc (H)
7. Shasta (H)
8. Wintu (H)
9. Tolowa (H)
10. Karok (H)
11. Yurok (H)
12. Hupa (H)
    Chilula (H)
13. Wailaki (H)
14. Atsugewi (?) (H)
15. Havasupai (H)
16. Walapai (H)
17. Yavapai (H)
18. Navajo (?) (R)
19. Apache: Northern
    Tonto (H)
20. Seri (H) (R)
21. Chicoratos (R)
22. Central Mexico:
    "wild tribes" (R)
23. Nahua (?) (R)
24. Chiapas (R?)
25. Maya (R?)

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[a]Numerals correspond to those in Figure 6; source materials on which this distribution is based are identified by the same numerals in Appendix H. (H) indicates hide construction; (R) indicates folding rod shield. Question mark (?) indicates questionable ascription--see Appendix H to clarify.

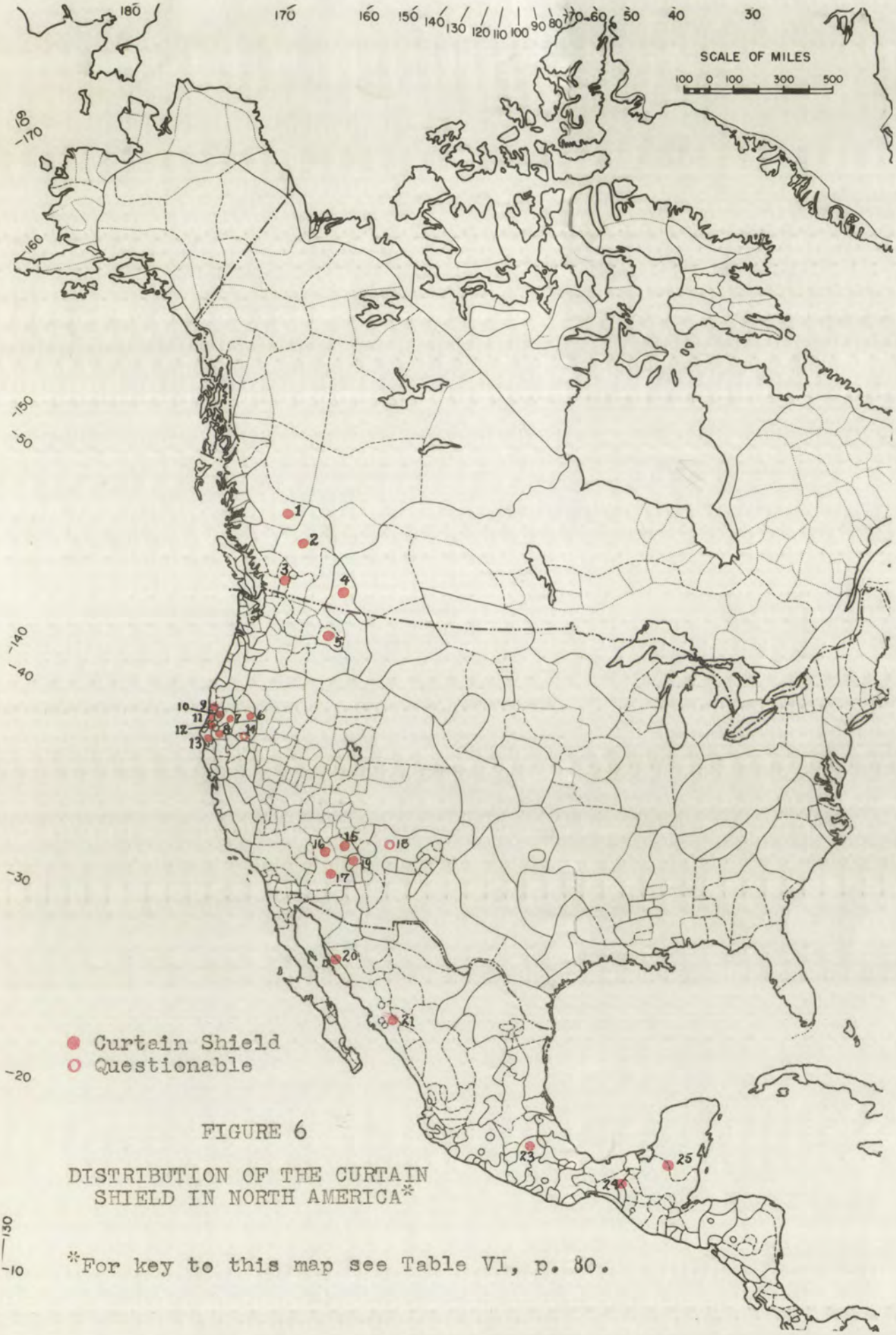

FIGURE 6

DISTRIBUTION OF THE CURTAIN SHIELD IN NORTH AMERICA*

*For key to this map see Table VI, p. 80.

because in some areas it was actually attached to the body at the neck and structurally resembled the wrap-around, open-side armor of the Far West.

Like belt armor, the curtain shield occurred in at least two widely separated areas. One included portions of the far Northwest from northern California to the southern Mackenzie area; the other included the Southwest and possibly portions of Mexico.

It was in the Northwest that the similarity between the curtain shield and the traditional hide tunic and jacket armor of that area was most apparent. For the northernmost of those tribes the curtain shield was described as a hide which was suspended upon the left shoulder and side by means of a thong around the neck of the warrior, leaving the right side uncovered. The hide was then maneuvered by the left arm and hand into whatever position the fighter desired. This type of curtain shield was cited for the Carrier,[195] Shuswap,[196] Thompson,[197] Kutenai,[198] Coeur

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[195]Teit, The Shuswap, 1909, pp. 538-39, citing Mackenzie.

[196]Ibid., p. 538.

[197]Teit, The Thompson Indians . . ., 1900, p. 266.

[198]Ray, loc. cit.

d'Alene,[199] and Shasta.[200] The parallel between this curtain shield arrangement and the wrap-around, open-side hide tunic is evident, and it seems almost certain that some sort of historical relationship between the two existed in this area.

In the southern Northwest Coast, the curtain shield has been described as suspended by being held in the teeth; this method was listed by Driver for the Tolowa, Karok, Hupa, and Chilula.[201] This technique, the Yurok technique of hanging the shield from the helmet,[202] and the proximity of the previously cited Shasta use of the thong suspension indicated that uniformity on this point was lacking in this area.

Suspension by thong or from the teeth was not recorded for the curtain shields of the Southwest and Mexico. The Southwestern forms were usually suspended from a stick or a bow held out before the body as was cited for the Yavapai,[203]

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[199] Ibid.

[200] Holt, Shasta Ethnography, 1946, p. 313.

[201] Driver, op. cit., p. 328.

[202] Ibid., p. 392.

[203] Gifford, Northeastern and Western Yavapai, 1936, p. 288.

d'Alpes,[199] and Ebnerg,[200] [illegible]
bain shield arrangement in [illegible]
sumio is evident, and [illegible]
some of historical [illegible]
this area.

In the southern [illegible]
has been described as [illegible]
this method was likely by [illegible]
Hupa, and Gritnia.[201] [illegible]
of hanging the shield [illegible]
of the previously cited [illegible]
indicated that uniform [illegible]
area.

Susperation by [illegible]
for the sumbata shield [illegible]
Southwestern forms were [illegible]
bow held out before [illegible]

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[199] Ibid.

[200] Holt, Ebnerg [illegible]

[201] Driver, op. cit., [illegible]

[202] Ibid., p. 392.

[203] Gifford, Northeastern [illegible]
p. 208.

Walapai,[204] and Havasupai.[205] No information on this point was provided for the curtain shields farther to the south in Mexico.

There was a break in the southern curtain shield area based on material used for construction. Most of the Mexican forms seemed to have been of twined rod construction rather than of hide. These rod curtain shields will be discussed in a later section on rod shields, but it is pertinent to indicate that there appeared to be an overlapping in western Mexico of the two varieties. For the Seri the hide curtain shield was cited[206] as well as the rod variety.[207]

Helmets and Visors.[208]

Helmets were a common associate of both rod and hide armor throughout the whole length of the Northwest Coast and in immediately adjacent areas of the Mackenzie, Plateau, and California culture areas.

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[204]Kniffen, et. al., op. cit., p. 93.

[205]Spier, op. cit., p. 258.

[206]McGee, The Seri Indians, 1898, p. 264; Kroeber, op. cit., pp. 16-17.

[207]Bancroft, The Native Races . . ., 1875-76, Vol. 1, p. 579.

[208]See the helmet and visor distribution in Table VII, pp. 85-86, and Figure 7, p. 87.

TABLE VII

KEY TO FIGURE 7:
DISTRIBUTION OF HELMETS AND VISORS IN NORTH AMERICA[a]

1.	St. Lawrence Island (?)		(Hp)
2.	Tanaina: Kenai area		(Hh)[b]
3.	Tlingit: Lituya Bay	(Vw)	(H)
4.	Tlingit: Chilkat	(V)	(Hw)
5.	Tlingit: Sitka		(Hw)
6.	Tlingit: Sanyakwan	(V)	(Hw)
7.	Haida: Bucarelli Bay (Kaigani?)	(V)	(Hh?)
8.	Haida: Massett	(V)	(Hw)
9.	Haida: Skidegate		(Hw)
10.	Haida: Skedans	(V)	(Hw,h)
11.	Tsimshian proper	(V)	(Hh)
	Tsimshian: Hartley Bay	(V)	(Hh)
12.	Tsimshian: Gitksan	(V)	(Hh)
13.	Kwakiutl: Haisla		(Hh)
14.	Kwakiutl: Haihais	(V)	(Hw)
15.	Kwasiutl: Bella Bella (?)		(Hh)
16.	Kwakiutl: Kosquimo		(Hw)
17.	Salish: Klahuse		(Hh)
18.	Salish: Cowichan proper		(Hh)
19.	Tahltan		(Hw,h)
20.	Kaska: Upper Liard River	(V)	(Hh)
21.	Slave: Lower Liard River (?)		(Hh)
22.	Carrier: lower	(V)[c]	(Hh)
23.	Chilcotin		(Hh)
24.	Shuswap (?)		(H)
25.	Nez Perce (?)		(Hh)
26.	Klikitat		(Hh)
27.	Western Washington; Northwestern Oregon		(Hh)

(continued on next page)

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[a]Numerals correspond to those in Figure 7; source materials on which this distribution is based are identified by the same numerals in Appendix I. (H) indicates helmet; (V) indicates visor; (w) indicates wood; (h) indicates hide; (b) indicates basketry; (p) indicates plates. Question mark (?) indicates questionable ascription--see Appendix I to clarify.

[b]No separate helmet; hide tunic pulled over head to furnish it protection.

[c]Helmet covers face, with holes for eyes.

TABLE VII (continued)

28.	Chinook, Lower		(Hh,b)
29.	Sixes River		(Hh)
30.	Tututni		(Hh)
31.	Tolowa		(Hh)
	Chetco		(Hh)
32.	Takelma		(Hh)
33.	Yurok	(V)[d]	(Hh)
34.	Hupa (?)		(Hh)
	Chilula		(Hh)
35.	Sinkyone		(Hh)
36.	Kato		(Hh)[e]
37.	Klamath (?)		(Hh)
38.	Modoc		(Hh)
39.	Shasta		(Hh)
40.	Achomawi		(Hh)
41.	Atsugewi		(Hh)
42.	Yana		(Hh)
43.	Wintu		(Hh)
44.	Paviotso, Pyramid L., Fallon and Lovelock		(Hh)[e]
45.	Cheyenne (?)		(Hh)
46.	Huron (?)		stick or rod helmet (?)
47.	Iroquois, Mohawk		skin and bark helmet
48.	Delaware		"sticks and wood" helmet
49.	Lower Savannah R.		(Hh)
50.	Seri (?)		(Hh)
51.	Cahita (?)		(H)
52.	Nahua (?)		(Hw)

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[d]Hide curtain sometimes hung from helmet to chest, with holes for eyes.

[e]No separate helmet; hide tunic pulled over head to furnish it protection.

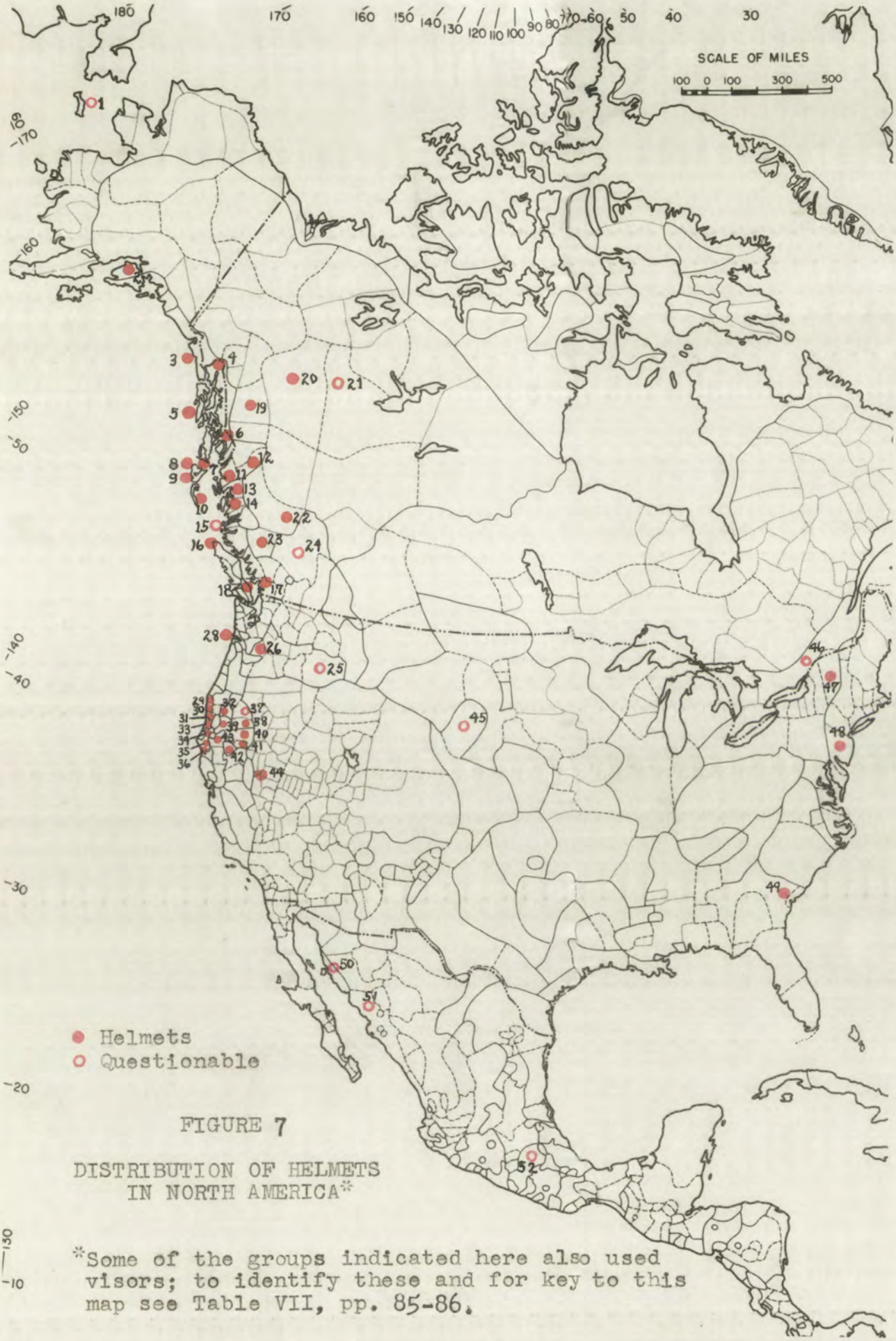

FIGURE 7

DISTRIBUTION OF HELMETS
IN NORTH AMERICA*

*Some of the groups indicated here also used visors; to identify these and for key to this map see Table VII, pp. 85-86.

The frequency of helmets in this northwestern area, in contrast to their relative absence in the rest of the western armor association, suggested that they may have been intimately associated with Northwest Coast culture. Armor descriptions for this area did not always clearly distinguish helmets from masks because of over-stress on the artistic qualities. Certainly the symbolic association that these helmets had for some groups overshadowed their utilitarian aspects. Boas said on this subject: "I am not quite certain if the decoration of armour and weapons is totemistic or symbolic. Remarkably many helmets represent the sea-lion, many daggers the bear, eagle, wolf, and raven, while I have not seen onethat represents the killer whale, although it is one of the ornaments that are most frequently shown on totemistic designs."[209] Probably such associations were restricted primarily to the area of wooden helmets which extended only as far south as the southern Kwakiutl.[210]

In this distribution of helmets the numerous references to the war caps of the Pueblo and non-Pueblo Southwest were not included. There was little evidence that they were worn for practical rather than supernatural efficacy.

Visors, or war collars as they were sometimes called,

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[209]Boas, Summary . . ., 1899, p. 680.

[210]Drucker, Northwest Coast, 1950, pp. 187, 259.

were a phenomenon of the northern Northwest Coast as were wooden helmets, although there was no evidence they were usually or necessarily associated. The material from which these visors were constructed was usually wood; this material was cited for the Tlingit,[211] and the single illustration of one of these visors which was located,[212] a Tlingit specimen, seemed also to be of wood. Visors were commonly stated to have been held in the teeth, presumably for support.

Local Armors of Minimum Occurrence.[213]

Armors that did not fit into the usual patterns of rod and hide construction occurred sporadically in western North America. Only one of these local armors showed any semblance of a type; this was the armor which Curtis described for the Kwakiutl as a sleeveless jacket "made by sewing tightly together ascending coils of braided, three-quarter-inch, cedar bark rope."[214] It was probably this same construction that was listed for the Nootka by Drucker as a

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[211] Emmons, . . . La Perouse and the Tlingit, 1911, p. 297.

[212] Niblack, op. cit., Pl. 14, citing Lisiansky.

[213] See the occurrence of local armors not of the standard rod or hide construction in Table VIII, p. 90.

[214] Curtis, E. S., op. cit., Vol. 10, p. 18.

TABLE VIII

LOCAL ARMORS IN NORTH AMERICA
NOT OF THE STANDARD ROD OR HIDE CONSTRUCTION[a]

1.	Kwakiutl	Jacket of ascending coils of cedar bark rope sewn together.
2.	Nootka: Muchalat	Heavy, closely twined cedar bark used for armor.
3.	Nootka: Clayoquot	"Twined cedarbark jacket (heavy)."
4.	Pomo, Central	"Armor of twined (?) soaproot fiber."
5.	Yellowknife	"Plates of native copper were buckled together and used as armour."
6.	Cree: Eastern	"Armor was made of skin drawn over wood, thick bark or hard leather which rested next to the skin of the wearer. The outside was inflated by blowing, making a kind of pneumatic cushion."
7.	Northern Saulteaux	(statement for Eastern Cree above pertains.)
8.	Penobscot	Birch bark kilt or skirt used as armor.
9.	Iroquois: Mohawk	Armor of "sea horse skinnes and barkes of trees."
10.	Yavapai	Mescal slab armor (see p. 91 for description.)
11.	Pueblos	Cuirasses of "padded cotton and yucca."

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[a]Numerals correspond to those in Appendix J where they identify the sources for these citations.

jacket of heavy, closely twined cedar bark.[215]

Barrett recorded that the Pomo sometimes made a whole suit of armor "of soaproot fiber attached to netting."[216] It is probable that the armor "of twined (?) soaproot fiber" that Gifford and Kroeber recorded for the Pomo[217] was of this type.

Gifford reported that the southeastern Yavapai created armor from mescal which had been cooked, moulded, and dried into plates. Two of these plates were suspended by shoulder thongs, one at the front and one at the back of the body. The one in the rear was longer in order to extend upward to protect the head. A rope around the middle held them tight against the body. These plates of mescal apparently were of the same type which were prepared for food.[218] This style of armor was not paralleled by any other group.

The Problem of Asiatic Affinities.

It has been shown that if there was any affinity between the armors of western North America and those of Asia,

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[215] Drucker, op. cit., p. 187. Drucker, Nootkan Tribes, 1951, p. 335.

[216] Barrett, Material Aspects of Pomo Culture . . ., 1952, p. 191.

[217] Gifford and Kroeber, Pomo, 1937, p. 142.

[218] Gifford, . . . Southeastern Yavapai, 1932, p. 225.

the Alaskan version of Asiatic plate armor was not the intermediary. An investigation of the perimeter of Northeast Asia for armors more obviously similar to the New World forms was conducted with little in the way of conclusive results.

Hide armor was represented in Siberia in the form of hoop armor. This armor was constructed of wide bands of hide formed into partially closed hoops which were then attached one above the other. The hoops were graduated in size and the finished product appeared as a conical gown, worn below the arms, and was capable of being telescoped. They were worn with a high, winged shield suspended on the back to protect the rear and sides of the head and shoulders. It is quite apparent that this type of armor was conceptually akin to the plate armors; the bands or rings of hide take the place of bands of plates; the right side was left open as with plate armor tunics in that area, and the winged back-shield was identical with the same feature. Furthermore, plate armor itself was familiar to all groups known to have used this hoop armor. Hide hoop armor of the sort described above was noted for the Chukchee[219] and Kamchadal.[220]

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[219]Hough, op. cit., p. 635; Pl. 4-5.

[220]Krasheninnikov, Histoire et Description du Kamtchatka, 1770, Vol. 1, p. 88.

It was also possibly represented for St. Lawrence Island by the find of a figurine depicting a warrior in armor which resembled the hoop type.[221] Among the Kamchadal mats, presumably woven, were specified as an alternative material for the hoops.[222]

The Kamchadal assemblage of armor was noteworthy by virtue of its proximity to the Aleutian Island chain. Not only were they familiar with plate armor[223] and the mat or hide hoop armor mentioned above but they may have sometimes combined the two. Chard cited a specimen in the Vladivostok museum, alleged to be Kamchadal armor, which consisted of wooden plates covered with leather to surround the upper body and an attached skirt of eight leather hoops. A horn plate helmet was included in the ensemble.[224] There was nothing here that resembled the Aleut rod armor.

Southward, among the Ainu, several contrasting armors appeared. On the island of Kunashir in the Kuriles "wooden

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[221]Cadzow, Objectes from St. Lawrence Island, 1925, Fig. 61, pp. 123, 124.

[222]Krasheninnikov, loc. cit. This is the mat armor which Hough attributed to the Kamchadal, citing Grieve; Grieve was the editor of an abridged English edition of Krasheninnikov.

[223]Chard, Kamchadal Culture . . ., 1953, p. 108.

[224]Ibid., p. 107.

slat armor" was reported in A.D. 1777 according to Berg.[225] Hieronymus de Angelis in A.D. 1622 described the Ainu armor of Sakhalin as composed of "'small planks fastened together.'"[226] It is quite possible that this last description pertained to plate armor, for Rinsō encountered iron plate armor in use among the "Sumerenkuru" (Gilyak) of Sakhalin on his expedition of 1807-09; they obtained it in trade from the "Korutekke" (Goldi) of Manchuria.[227] Bachelor, however, said that the Ainu of Sakhalin used for armor "coats made of cords and nets covered thickly with adhesive mud or clay well dried in the sun. Sometimes the foundation consisted of salmon skin".[228] He had also heard of "coats covered with stones tied on with string used as armour."[229] In an earlier publication Bachelor reported that the Ainu, without specifying which group, wore armor of "a very light kind, consisting entirely of leather. Some of them wore Japanese armour, which they took from the dead in warfare."[230] Of all these

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[225] Ibid., p. 108, citing Berg.

[226] Siebold, Geographical and Ethnographical Elucidations . . ., 1859, p. 99, citing Witsen.

[227] Harrison, Kita Yezo Zusetsu . . ., 1955, p. 114.

[228] Bachelor, Ainu Life and Lore, [1927?] , p. 33.

[229] Ibid.

[230] Bachelor, The Ainu of Japan, 1892, p. 287.

Ainu armors only the "slat" and "plank" citations suggested anything directly similar to New World armors. However, due to the lack of more complete descriptions and the proximity of the Ainu to the plate armor area, it is not likely that these armors resembled the slat armor of western North America. Seeming resemblances were the result of the authors' choice of descriptive terms.

In conclusion it can be stated that there were at least two broad conceptual parallels apparent between the armors of western North America and Northeast Asia. One parallel was the occurrence in both areas of armors which were wrapped around the left side of the body, with the right side open. This technique was observed in the hide tunics of western America and in both the plate armor and hide hoop armor of Siberia. The other parallel was the customary use in both areas of vertically placed long elements fastened together, which was the case for New World rod and slat armors and Old World plate armor. It does seem likely that a historical relationship existed, whose more detailed evidence has been erased by the changing configuration of culture elements in the North Pacific area.

IV. ROD ARMOR IN EASTERN NORTH AMERICA[1]

Eastern armor was much more poorly documented than that of the West, both in terms of numbers of citations and groups represented and in the completeness of the descriptions. As was indicated in the introduction, it is probable that the eastern armor distributions as presented herein are attenuated representations of the actual distributions. This was attributed to the disuse of armor consequent to the appearance of firearms. Possibly this preceded direct contact with the Europeans themselves. As early as 1721 Charlevoix, who was resident in French Canada, attributed the abandonment of native armor to its inability to protect against firearms.[2]

The only armor that can be identified as a broad and standard type for the East is twined rod armor. It can be identified positively for the Algonquin, Huron, Iroquois, and Roanoke, and only implied for a few other groups. Speaking very generally, the information available suggested a distribution roughly triangular in outline, with its apex somewhere on the Atlantic coast of the Southeast and its base running from a point just north of Lake Huron eastward

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[1]See the rod armor distribution in Table I, p. 14, and Figure 1, p. 15.

[2]Charlevoix, Journal . . ., 1923, Vol. 1, p. 320.

to the St. Lawrence Valley. Despite the shortcomings of the information obtained on eastern rod armor, it was believed that a comparison between it and the rod armor tradition of the West should be attempted in order to illuminate their affinities or lack of affinities.

Detailed descriptive material on eastern rod armor was so scarce that its character and construction was difficult to determine. Items upon which data was available included pieces for the front of the upper body, braces, greaves, and possibly helmets.

There can be no doubt that rods were used in eastern armor. The sources variously refer to them by the terms rods, sticks, and reed stems. Wood was the only material which was noted for rod construction with the one exception of "reed-stems" as well as "wood" cited for the natives of New France.[3]

Twining the rods together with some sort of cordage was apparently the usual method employed in eastern armors. It was indicated by the use of the various words and phrasings: woven, wickered, laced and plaited, stitched and interlaced, sewn and interlaced, and woven and enlaced. There was nothing to suggest that there was any technique in use

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[3]Thwaites, The Jesuit Relations . . ., 1896-1900, Vol. 13, p. 272, citing Lafitau.

other than twining, unless some of the above phrases could be so interpreted.

Few cordage materials for attaching the rods were recorded. Hide was named for the natives of French Canada,[4] cotton for the Iroquois at Lake Champlain[5] (probably a wrong identification,) and nettles for the Huron and Iroquois.[6] A point so poorly documented as this, for both East and West, hardly warranted a comparison of the two areas.

One of the principal sources on the form of eastern rod armor was an illustration published by Champlain.[7] It showed a warrior wearing a waist length breast piece hung by two straps from the shoulders; it did not appear to encompass the whole body but was nothing more than an elaborate breast plate. It seemed to be constructed of vertically placed rods or laths which were laced or twined together with cordage. A kilt or skirt of apparently the same construction reached from the waist to the knees and passed

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[4] Ibid.

[5] Champlain, The Voyages to the Great River St. Lawrence . . ., 1925, pp. 99-100. Flannery, An Analysis of Coastal Algonquian Culture, 1939, p. 76. Lescarbot, The History of New France, 1907-14, Vol. 3, p. 13.

[6] Flannery, op. cit., pp. 75-6, citing Boucher.

[7] Champlain, Voyages and Discoveries . . ., 1929, Pl. 6, fig. E.

entirely around the body. Greaves and braces were indicated, and appeared to be of the same construction as the breast piece. The back of the upper body was protected by a large shield fixed to the shoulders. This shield reached from the back of the head to the waist and had two lateral flaps which may have been hinged to the center and main portion of the shield. It appeared to be fashioned from vertical slats or planks. Champlain's text related to the "Attigouautan tribe," a Huron group occupying the peninsula between Georgian Bay and Lake Huron.[8] Three other figures which appeared in the same plate with the armored warrior were identified in the text as Huron, although no textual reference was made to the armor figure itself.

There was no reason to doubt the authenticity of Champlain's illustration since other authors confirmed rod construction and twining. Furthermore, the style of armor depicted by Champlain was also corroborated by other sources.

Eastern armors were most commonly described in the early historical sources as corselets, as Vimont did for the Algonquin,[9] or cuirasses, as Sagard recorded for the Huron,[10]

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[8] Ibid., pp. 121-22.

[9] Vimont, Relation . . ., 1898, Vol. 24, p. 205.

[10] Sagard, The Long Journey . . ., 1939, p. 154.

and Lafitau for the Huron and Iroquois.[11] Both corselet and cuirass in Sixteenth and Seventeenth Century usage referred to upper body armor composed of a combination of a breastplate and separate back piece. Sometimes these terms were actually qualified by the authors to indicate the breastplate only. The Oviedo account of the De Soto expedition in the year 1540 reported "breastplates like corselets" at Talimeco on the lower Savannah River,[12] thus identifying corselets with breastplates. Charlevoix's reference to the armor of the natives of French Canada as "a sort of cuirass, or breast plate" implied the same sort of identification.[13] Sagard received a description of the "armor and cuirass" of the Huron which was worn "on their back and legs and other parts of the body"[14] which suggests that the back was protected by a different device than that which shielded the front of the body. The back armor mentioned by him may have been similar to the large shield illustrated by Champlain.

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[11] Thwaites, op. cit., Vol. 13, p. 272, citing Lafitau. Flannery, op. cit., p. 76, citing Potherie. Charlevoix, loc. cit.

[12] Oviedo of Valdes, A Narrative of De Soto's Expedition . . ., 1904, p. 101.

[13] Charlevoix, loc. cit.

[14] Sagard, loc. cit.

The only statement which indicated that a full jacket might have been used in the East was from Lescarbot. In The History of New France he stated of the Iroquois defeated by Champlain at Lake Champlain that "neither their coats of woven cotton nor the shields of their captains had protected them from so sudden a death."[15] This appeared to be Lescarbot's own paraphrase of the situation from other accounts and suggested a lack of concern for precise adherence to original descriptions. The other sources for the battle consulted did not use the word coat or suggest its use as valid, nordid they describe the armor as being made only of woven cotton.

Other than lexical suggestions were found which indicated that the documentary sources for eastern rod armor were probably referring, among other parts, to separate breast pieces. The wearing of breast plates for ornament was common in eastern North America down to the close of the aboriginal era. Somesources indicated that this breast plate tradition also included the concept of wartime protection. In the Sloan Collection of the British Museum, which was brought to England before 1753, there was a New England item cataloged "An Indian breast plate which they wear when they go to war or at any great feast--made of shells out of the

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[15] Lescarbot, loc. cit.

up-country fresh water lakes."[16] In 1584 Amadas and Barlowe visited the natives of Roanoke Island and in their account, as presented by Raleigh, said: "they use wooden breast plates for their defense."[17] Speaking of the same group Amadas and Barlowe related how oneof them had perforated and hung about his neck a tin plate, given to him by the Englishmen, "making signes that it would defende him against his enemies arrowes."[18] In this context it should be remembered that the Roanoke were one of the groups which were credited with rod armor.[19] A Mahican informant in 1804 said of former Mahican that "in battle they used shields made of green hide, or breast plate."[20] For the Timucua Indians, Le Moyne noted circular metal plates which they "'were accustomed to wear to protect the back and breast in war.'" However Swanton questioned whether such a use was intentional or accidental.[21]

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[16]Bushnell, The Sloane Collection . . ., 1906, p. 674.

[17]Raleigh, The First Voyage . . ., 1927, p. 130.

[18]Ibid., p. 125.

[19]Hariot, A Brief and True Report . . ., 1903, opposite Signature E2.

[20]Anonymous, Extract from an Indian History, 1804, p. 102.

[21]Swanton, The Indians of the Southeastern United States, 1946, p. 589.

Besides breast plates, some of the other features of the armor illustrated by Champlain were noted elsewhere in the literature for the Northeast (see Table VII), which suggested an over-all validity for the illustration. Full body armor was recorded for the Huron by Lalemant, who stated it "covers a man from his head to his feet."[22] Sagard, also speaking of the Huron and referring specifically to their rod armor, said that it was worn "on their back and legs and other parts of the body."[23] Cartier heard that the Agojuda, apparently an Algonquin group, used rod armor and were "armed to the teeth,"[24] although this may be only a figure of speech. Braces, armor for the thighs and arms, were noted for the Iroquois and Huron by Lafitau, who identified them as being constructed from the same materials as their twined rod cuirasses.[25] Charlevoix, speaking of the Indians of Canada and of the Iroquois more specifically, said in 1721 that "They had even formerly a kind of mail

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[22]Lalemant, Relation of 1642, 1898, Vol. 23, p. 155.

[23]Sagard, loc. cit.

[24]Cartier, A Shorte and Brief Narration . . ., 1928, p. 171. Flannery, op. cit., p. 76, using another, though possibly less authoritative, Cartier source renders this as "armed even to the fingers ends."

[25]Thwaites, loc. cit.

for the arms and thighs."[26] Braces made of birch bark, as well as a skirt or kilt of the same material, were reported used ceremonially by the historic Penobscot, who said such a costume was used anciently for armor.[27]

Helmets of various materials were recorded for the Iroquois,[28] the Delaware,[29] and the lower Savannah River.[30] The Delaware helmet was described by Lindström as being constructed of "hard wooden pins and strong wood" or "sticks and wood."[31] If this was rod construction, it contrasts the East with the West, for no citation for a rod helmet was found for any group in the western rod armor area. There appeared to be a helmet of rod construction on the Huron warrior in Champlain's illustration.

In summary, it appears that the eastern armor tradition did not customarily make use of the true jacket form. Armor for the torso was composed of a separate front or breast piece, and additional pieces for the other parts of the body

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[26]Charlevoix, loc. cit.

[27]Speck, Penobscot Man . . ., 1940, p. 147.

[28]Wood, New Englands Prospect, 1898, p. 61.

[29]Lindström, Geographia Americanae, 1925, p. 197, p. 206.

[30]Oviedo y Valdes, loc. cit.

[31]Lindström, op. cit., pp. 197, 206.

were sometimes added to complement this. Western armors, it was noted, also sometimes incorporated additional pieces such as greaves and helmets to complement the jacket armor, but the latter piece in itself was traditionally a body-encircling jacket-type of garment. Such a distinction between eastern and western armors warranted classifying them as two different types, even if not in two separate traditions. But other information seemed to validate a separate tradition stand.

The geographical gap between the two distributions was a vast one. The easternmost of the western groups noted to have used rod armor was the Flathead; the westernmost of the eastern groups known to have possessed it was the Huron or Algonquin. Between these areas absolutely no reference was found which could be construed to refer to rod armor. Such a great geographical hiatus does not suggest a common origin for the use of such armor between East and West. Such a conclusion, however, must properly be tempered by the knowledge that eastern rod armor appeared to have disappeared almost in the initial contact period, coincident with the spread of warfare with firearms. Firearms preceded the actual European frontier and may have caused the abandonment of rod armor before European observers reached the scene in numbers. Yet, the few early explorers who did venture west of the eastern Great Lakes during the Seventeenth

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it was noted, [illegible]

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but the latter plans [illegible]

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But other information [illegible]

stand.

The geographical [illegible]

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the eastern groups [illegible]

or Algonquin. [illegible]

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turn west of the [illegible]

Century should have observed rod armor if it were there.

One very important distinction can be made between the two rod armor areas. In the West slat armor was associated with rod armor as a closely related, secondary variation. It was especially significant that this variation pertained to the whole of the western range and not to one region alone. Nowhere in eastern North America was it possible to demonstrate the use of any armor which could be called slat armor, either as a variation of eastern rod armor, or as a separate entity in itself. If the two rod armor areas were historically related, this lack of a slat variation would be difficult to explain. In view of this it can be inferred that eastern rod armor was too significantly different in concept, materially or historically or both, from the western forms to allow such a variation.

Unfortunately, the information was not precise enough to ascertain if the easternmost of the western rod armors and the westernmost of the eastern forms were materially peripheral to their own areas. The two opposing peripheries apparently did not grade toward each other. Skinner, in his fieldwork of 1908-09, reported that among the eastern Cree and northern Salteaux armor was formerly composed of wood, bark, or hard leather covered by inflated hide.[32]

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[32]Skinner, Notes on the Eastern Cree and Northern Saulteaux, 1912, p. 78.

This seemed to be an aberrant type and indeed questionable, but the bark component suggested a relationship with the Northeast where bark armors were reported for the Mohawk,[33] and Penobscot.[34] Presumably the wood or hard leather of the Cree-Salteaux armor was used in forms analogous to the physical properties of bark. Even this use of hide resembled the shields "'of osier or of bark, covered with one or more skins stretched across'" which were noted for the Iroquois by Lafitau.[35]

Not only can no rod armor be ascribed to the people between the eastern and western rod armor areas, but it has been demonstrated that the only armor found there, hide armor, appeared to be peripheral to the greater hide armor distribution of the West, or to be of Spanish derivation. The absence of hide armor in the East reinforced the contention that the generalized armor traditions of the two areas, including their respective rod armors, were separate generic entities.

In the foregoing discussion several reasons were presented to show that eastern rod armor warranted a position as a separate historical tradition from that of the rod

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[33]Wood, New Englands Prospect . . ., 1898, p. 61.

[34]Speck, loc. cit.

[35]Thwaites, op. cit., Vol. 13, p. 272.

armor of the West. This conclusion was implicit in a group of facts taken in total. In summary, these facts were as follows. Eastern forms of rod armor showed no evidence of following the western style of a body-encircling, jacket type of garment, and instead, evidenced a strong possibility of having centered on a separate front piece, complemented by additional pieces for other parts of the body. No intervening rod or slat armors could be found to fill the vast geographical gap existing between the eastern and western rod armor distributions. Eastern rod armor showed no known slat variation, while this latter form was coexistant with rod armor in the West. There was no evidence on the facing peripheries of the two distributions to indicate a grading in type from one area to the other. And, finally, in the intervening gap the hide armor which occurred there indicated a strong relationship to the greater hide armor distribution to the west.

V. ROD SHIELDS IN NORTH AMERICA[1]

To illuminate the problem of two apparently separate armor traditions, each based on the concept of rod twining, it would be valuable to know the geographical distribution of the technique of rod twining itself, whether used for implements of war or not. As an effort in this direction the present study has attempted to outline the distribution of rod twining used in the manufacture of shields, feeling that they, more than any other manufacture, would bear a material as well as a conceptual relationship to armor.

Several sources indicated the use of twined rod shields in the East, both in the area of rod body armor and outside of it. Lafitau spoke of shields of "osier" for the Iroquois.[2] John Smith referred to the use of twined rod shields by the "Massawomek" (Susquehanna?), saying that their "Targets . . . were made of little small sticks woven betwixt strings of their hemp and silke grasse, as in our Cloth."[3] These citations associated rod shields directly with the Northeast rod armor distribution. According to the Garcilaso

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[1]See the rod shield distribution in Table IX, p. 110, and Figure 8, p. 111.

[2]Thwaites, The Jesuit Relations . . ., 1896-1900, Vol. 13, p. 272.

[3]Smith, The General Historie . . ., 1907, Vol. 1, p. 129.

TABLE IX

KEY TO FIGURE 8:
DISTRIBUTION OF ROD SHIELDS IN NORTH AMERICA[a]

1. Iroquois
2. "Massawomek" (Susquehanna?)
3. Lower Savannah River
4. Lower Mississippi River
5. Western Dene
6. Carrier
7. Shuswap[b]
8. Okanagan: southern
9. Achomawi
10. Navajo (?)[c]
11. Seri[d]
12. Chicoratos[d]
13. Jalisco
14. Central Mexico: "wild tribes"[d]
15. Nahua[e]
16. Chiapas (?)[d]
17. Maya[f]
18. Nicaragua

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[a]Numerals correspond to those in Figure 8; source materials on which this distribution is based are identified by the same numerals in Appendix K. Question mark (?) indicates questionable ascription--see Appendix K to clarify.

[b]As well as a small rod shield, a large one, possibly a curtain shield, is also cited.

[c]The shield cited possibly is a curtain shield.

[d]The shield cited is a curtain shield.

[e]As well as a small rod shield, a curtain shield of rods also cited.

[f]As well as a small rod shield, a curtain shield, probably of rods, is also cited.

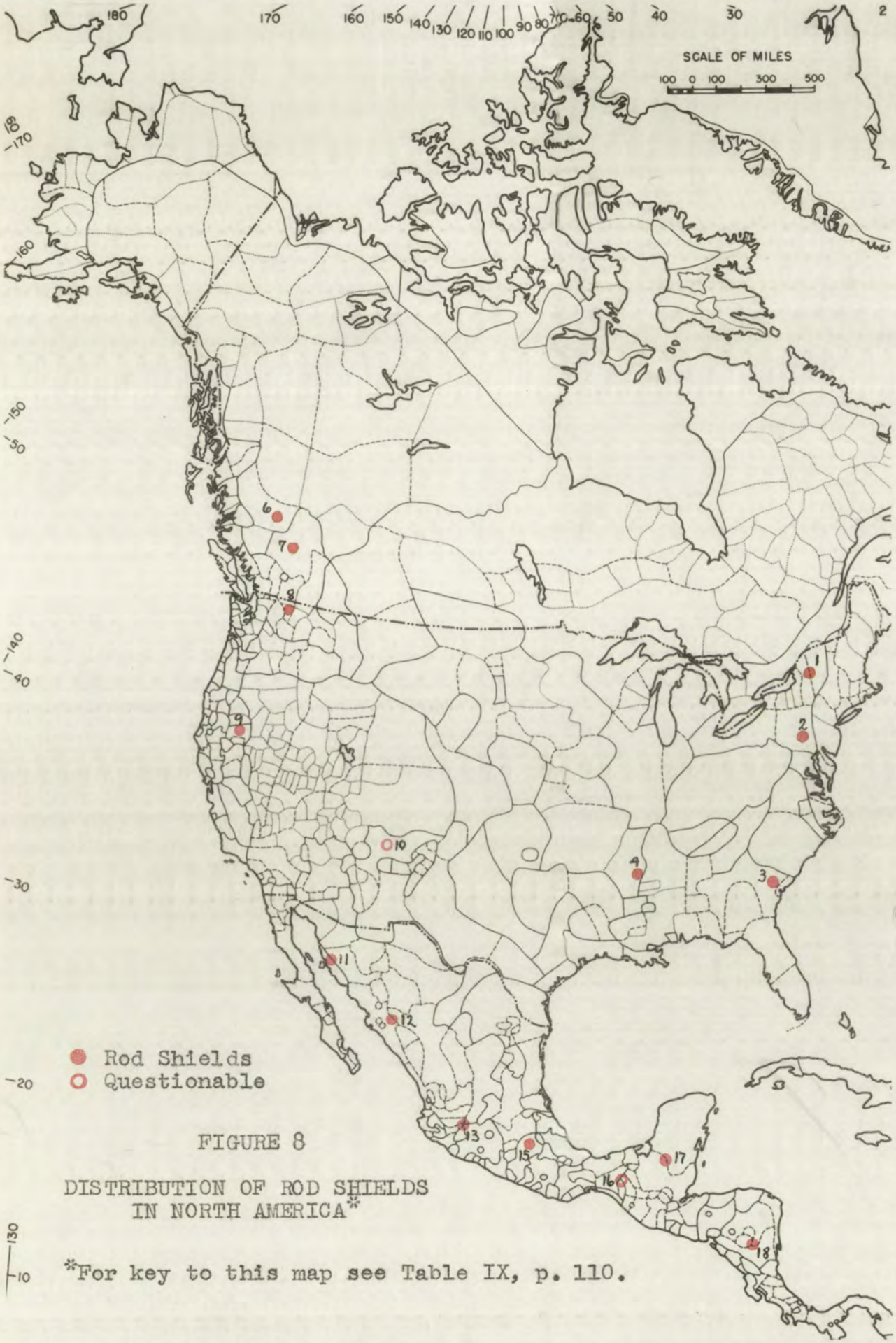

FIGURE 8

DISTRIBUTION OF ROD SHIELDS
IN NORTH AMERICA*

*For key to this map see Table IX, p. 110.

de la Vega account of the De Soto expedition, members of that party found "great numbers of oblong shields, all of which were of cane, woven," in one of the buildings surrounding the temple at Talomeco on the lower Savannah River.[4] Although this account is generally considered the least authoritative of the longer relations, the context in which the statement above appeared strengthens it. Garcilaso's informant was specific in describing the contents of the eight salas or houses surrounding the temple. The cane shields were located in the eighth sala; in the seventh were found "round shields made of wood and of cowhide that had been brought from distant lands."[5] The author of the narrative did not appear to be confusing cane shields seen elsewhere with another kind of shield seen at Talomeco. In the same sentence noting the cane shields, the author went on to say that they were "woven with such precision and strength that few crossbows were found among the Spaniards capable of passing an arrow completely through them. Such an experiment was tried in places outside of Cofachiqui."[6] This last statement would seem to imply that they encountered

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[4]Garcilaso de la Vega, The Florida of the Inca, . . ., 1951, p. 323.

[5]Ibid.

[6]Ibid.

a wider occurrence of these cane shields in the Southeast, unless the author was referring to shields carried away by the Spaniards from Talemeco or to those seen much farther along the journey at the crossing of the Mississippi River. At the latter place, the Oviedo account of the expedition, based on the Ranjel diary and usually considered to be the most authoritative source on the expedition, mentioned contact with people who "had shields made of canes joined, so strong and so closely inter-woven with such thread that a cross-bow could hardly pierce them."[7]

Although no further references to rod shields in the Southeast were located, the probability of their wider usage in that area was strengthened by several references giving a marginal status to their most likely competitor, hide shields. The Garcilaso version of De Soto stated that the round hide shields found at Talemeco on the lower Savannah "had been brought from distant lands."[8] Le Page du Pratz, speaking of the round hide shields of the natives of French Louisiana, added that they were almost confined to the natives of the north and were not seen among those of

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[7]Oviedo y Valdes, A Narrative . . ., 1904, pp. 137-38.

[8]Garcilaso de la Vega, loc. cit.

the south.[9] Several sources placed the use of hide shields among marginal Southeastern peoples. The Elvas version of De Soto mentioned finding them at Pacaha, apparently in northeastern Arkansas,[10] and Swanton cited them from several sources for the Hasinai[11] and "Oustack" or Westo (Yuchi?).[12] The only hide shield references found for the interior of the Southeast was for the Choctaw.[13]

The three references to rod shields for the Southeast were for the "Massawomek", the lower Savannah River, and the lower Mississippi River. It seemed likely, however, that rod shields were used more widely in the Southeast. No other area in the East outside the immediate rod armor area was indicated to have had this type of shield, except the Southeast. Since these shields have a greater areal range than the rod armor itself, it appears reasonable to consider as possible the development of eastern twined rod armor from

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[9]Le Page du Pratz, Histoire . . ., 1758, Vol. 2, p. 420. "Il n'y a guère, que ceux du Nord qui se servent du bouclier; on n'en voit point à ceux du Midi."

[10]Elvas, True Relation . . ., 1904, p. 122.

[11]Swanton, Source Material . . ., 1942, p. 147, citing Margrey, and Morfi.

[12]Swanton, The Indians of the Southeastern United States, 1946, p. 588, citing Alvard.

[13]Ibid., aiting Byington.

the more widely distributed manufacture of twined or woven rod or cane shields. Certainly the two were related.

In addition to having occurred in eastern North America, twined rod shields were known to have been used in Central and Southern Mexico and Middle America (see Table IX and Figure 8.) These Mexican and Middle American rod shields were of two types: one circular and stiff, the other long, curtain-like, and flexible. Their areas overlapped, and one variety, the rod curtain type, apparently extended up the west coast at least as far as the Seri.[14] A check of the northeast Mexican and Texas coast area revealed nothing in the way of twined rod armaments, and the earliest reference for shields in that coastal area was from Núñez Cabeza de Vaca who noted bison hide "targets" for a people westward along the coast from Galveston Island.[15] In view of the occasional parallels between Middle America and the Southeast, the possibility of relationship between twined rod shields in these two areas is worthy of strong, though cautious, consideration.

In the area of the western armor association rod shields were mentioned sporadically, but there was no evidence that

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[14]Bancroft, The Native Races . . ., 1875, Vol. 1, p. 579.

[15]Núñez Cabeza de Vaca, The Journey . . ., 1905, p. 94.

the more widely [illegible]
rod or cone shaped. [illegible]
. . . . . In analytic [illegible]
twinned rod shaped [illegible]
and Southern having [illegible]
Figure 3.) Major Western [illegible]
were of two types: [illegible]
crustal-like, and [illegible]
one variety, the [illegible]
the west coast at [illegible]
northward [illegible]
the way of [illegible]
for airfield [illegible]
Vaca who [illegible]
along the [illegible]
occasional [illegible]
the possibility [illegible]
in these two [illegible]
consideration.

In the area [illegible]
were manifested [illegible]

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[14] Barnard, [illegible]
p. 579.

[15] Mitchell [illegible]

they represented a single, widely distributed type. The southern Okanagan, according to Cline, used "square slat shields . . . made of sticks 'braided' closely together in a checker (?) weave."[16] The Carrier were noted to have used a rod shield by Morice. His informants referred to a type of shield once used by the descriptive name "amelanchiar which is held by the hand," amelanchiar being the wood which provided the rods for their rod body armor.[17]

Fraser reported a rod shield for the Shuswap and said that it was "'large enough to cover the whole body, composed of splinters of wood like the ribs of stays, and neatly enclosed with twine made of hemp.'"[18] Since the shield covered the whole body, it was probably akin to the hide curtain shields of the West (see Table VI, Figure 6) which were recorded for several Plateau peoples, namely the Carrier,[19] Thompson,[20] Kutenai,[21] and Coeur d'Alene,[22] as well as for

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[16]Cline, et al., The Sinkaietk . . ., 1938, p. 55.

[17]Morice, The Canadian Dénés, 1906, p. 217.

[18]Teit, The Shuswap, 1909, p. 538.

[19]Ibid., pp. 538-39.

[20]Teit, The Thompson Indians . . ., 1900, p. 266.

[21]Ray, Plateau, 1942, p. 153.

[22]Ibid.

the Shuswap themselves.[23]

Another group in the West, besides the Carrier and Shuswap, noted to have used a rod shield was the Western Achomawi of California. Among them it was described as circular, with a string in the center by which to hold it.[24] The same author received negative statements for the "circular rod shield" from informants in several other groups in the vicinity, including the Eastern Achomawi, Modoc, Wintun, Maidu, and Nisenan. It would seem that this rod shield was unique with the Western Achomawi, or the record was due to a misunderstanding.

The only other group in the West for whom an ascription for rod shields was located was the Navajo. Hough said that they "made a shield of cedar rods twined together with cord" and cited a specimen in the U. S. National Museum.[25] It is suggested that this ascription was probably an error, possibly resulting from cataloging on the basis of misinformation. Hill in his Navaho Warfare made no mention of such a shield for this group.[26]

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[23]Teit, The Shuswap, 1909, p. 538.

[24]Voegelin, Northeast California, 1942, p. 73.

[25]Hough, Primitive American Armor, 1895, p. 628.

[26]Hill, Navaho Warfare, 1936.

All western tribes having rod shields also had rod armor. None were found outside the rod armor area; therefore, there were no indications that this type of shield had affinities outside the range of western rod armor. The basketry shields from the Anasazi ruins of the Southwest,[27] if they were shields, were of coiled basketry and were not produced by a twining technique.

In conclusion, in the West the few descriptions of rod shields gave no evidence that they represented a standardized, widely distributed phenomenon. In the East there was even less information on the construction of these shields, but source material suggested there was a relationship between the northeastern rod armor area and a larger area of twined rod shields which extended into the Southeast.

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[27]Morris and Burgh, Anasazi Basketry . . ., 1941, pp. 51-2.

VI. SUMMARY AND CONCLUSION

It has been the proposition of this study that there existed in North America essentially three separate areas of armor usage, none of which were historically or geographically related in any direct or primary manner. These three areas and their associated armors have been defined and regionalized in the foregoing pages. They are summarized with their corroborative evidence as follows.

The first of these was that of Alaskan plate armor. Its entity separate from other New World armors was based on the following facts. There was an unbridged gap between Alaskan plate armor and the rest of New World armors. The Alaskan plate armor distribution was geographically contiguous with, and peripheral to that of Asiatic plate armor. Alaskan plates were essentially of the same construction as those of Asiatic plate armor. Plate armor was chronologically recent in Alaska relative to the vast extent of New World armors. And lastly, slat armor, the New World type most often proposed as affinal to plate armor, can be demonstrated to have shown a much closer affinity to New World rod armor. This argument does not purport that Alaskan plate armor was not related secondarily to other armors in western North America through a generalized East Asiatic armor tradition as an intermediary. Such an intermediate tradition

probably did exist, which was evidenced by the usage in both East Asia and North America of wrap-around, open-side armor and armor of vertical long element construction. The proximity of the two armor using areas enhanced the probability of a relationship.

The second of the New World armor-using areas was that of the armor association of western North America, incorporating two contrasting types of armor--armor of hide construction on the one hand and armor of rod or slat construction on the other. The composition and exclusiveness of this association were based upon the following facts.

Hide tunic and jacket armor existed in a continuous wide distribution in western North America, was similar to no other American armor outside that area, and was in contact with neither of the other two armor-using areas as defined in this study. Variations in hide armor were present in the area of occurrence.

The distribution of rod armor in the West was coincident with the more westerly portion of the hide armor area; rod and slat armors existed almost always in direct association with or contiguous to hide armor. Western rod armor represented a recurring complex of construction techniques not found in Alaskan plate armor.

Slat armor was directly related to western rod armor and bore only a varietal difference from it. The evidence

probably did exist, which was evidenced by the usage in both East Asia and North America of wrap-around, open-side armor and armor of vertical long element construction. The proximity of the two armor using areas enhanced the probability of a relationship.

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Slat armor was directly related to western rod armor and bore only a varietal difference from it. The evidence

is that slat armor distribution was coincidental with the total range of western rod armor, but appeared sporadically within it. Slat armor existed side by side with rod armor in the same regional groups, and in a few cases slats and rods were both incorporated in the same piece of armor. Slat armor had the general characteristics of western rod armor. Finally, the distributional arguments against direct New World affinities for plate armor, given above, tended also to discount the only other possible affinity within reason for slat armor.

The third of the New World armor-using areas was eastern North America, where there occurred a rod armor different in character from that of western North America. The evidences for this position were these. Eastern rod armor did not appear to follow the western tradition of body encircling armor, but instead showed strong probabilities of having been formed of unit pieces, centering upon a separate breast piece or plate. No rod armor could be found in the intervening region to fill the gap between eastern and western rod armors. The only armor in the intervening area was hide armor, which was clearly peripheral to the hide armors of the West. The hide armor distribution of the West did not connect with that of eastern rod armor. No slat variation appeared in the eastern armor area, though it was relatively common in the West. The facing edges of the two

distributions showed no grading of type. The obviously related technique of using rods for shield construction existed coincidental with eastern rod armors, extended into the Southeast, and occurred again in Mexico and Middle America. A possible basis was thus provided for the development of rod armor in the East separate from that of the West.

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APPENDIX A

SOURCE MATERIAL ON NORTH AMERICAN PLATE ARMOR

Tribe or Location — Authorities and Notes

1. St. Lawrence Island

Collins, Archeology of St. Lawrence Island..., 1937, pp. 188-89, 224-25, 326. Perforated bone plates found in archaeological activities.

Geist and Rainey, ...Excavations at Kukulik..., 1936, pp. 111, 142, 159, 193, 229. Perforated bone plates found in archaeological activities.

Hough, Primitive American Armor, 1895, p. 633. "plates of iron and copper were found on St. Lawrence Island." (No source given)

Nelson, ...Eskimo About Bering Strait, 1899, p. 330. "Plates of ivory for armor of this kind were seen." (Fieldwork of 1877-1881.)

2. Diomede Island (Little?)

Bolles, A Preliminary Catalog..., 1889, p. 342. One armor specimen (apparently a single plate) listed in U. S. National Museum catalog for Diomede Island.

Hough, Primitive American Armor, 1895, n., p. 633; Pl. 3. Specimen in U. S. National Museum, Cat. No. 64290. "Made of five imbricating rows of plates of walrus ivory of unequal size in the different rows, pierced with from 6 to 13 holes, lashed with sealskin thongs. The vertical edges of the plates are chamfered...Two pointed plates cut from a tusk are lashed to one side, forming a clasp...Width extended, 49 inches; height, 24 inches." Offset in rows of plates forms an arm notch in one upper corner; there is no obvious accommodation for the other arm. Closure would be at back just behind one arm. Bottom edge is straight. (Collected by E. W. Nelson, fieldwork of 1877-1881.)

3. Cape Prince of Wales

Hough, Primitive American Armor, 1895, n., p. 632; Pl. 2, fig. 1. Specimen in U. S. National Museum, Cat.

3. Cape Prince of Wales (continued)

No. 153491. "Made of three rows of walrus ivory plates, averaging 1 inch in width and 6 inches in length. Each plate contains 6 holes, through which pass rawhide thongs, thus lashing the plates together. These plates are slightly imbricated... The lower row contains 43 plates, and the middle 38. The upper row consists of two sections; one containing 10 plates, protecting the breast, the other 8 plates, protecting the upper part of the back. A rawhide strip passes over the shoulders and supports the armor...Length when spread out, 44 inches." Has one full arm notch, one formed by offset after closure. Closure would be down one side, probably left. Strings with toggles are attached to both ends of the band. The single shoulder strap would pass diagonally from the back of one shoulder to the front of the other. The bottom and top of the band are straight except for the arm notches. (Collected by H. R. Thornton, residence of 1890-1893.)

Hough, Primitive American Armor, 1895, n., pp. 632-33; Pl. 2, fig. 2. Specimen in U. S. National Museum, Cat. No. 153492. "Fragment consisting of 9 iron plates...bound with three lashings of rawhide. The specimen was dug up in a bog near where the ivory armor on this plate was found [see citation immediately preceding this] . Length of each plate, 4-3/8 inches; width, 1-1/2 inches." Each plate bears six holes, placed in three pairs. Plates are imbricated. (Collected by H. R. Thornton, residence of 1890-93.)

Jenness, Archaeological Investigations in Bering Strait, 1928, p. 74. "Body armour in all the ruins." (Archaeological activities at Wales, Alaska.)

Rasmussen, Adjustment of the Eskimos..., p. 2893. A general statement that plate armor formerly occurred along the coast between Norton Sound and the Arctic Ocean.

4. Kotzuebue Sound

Giddings, ...Arctic Woodland Culture..., 1952, pp. 91-2. Perforated antler plates were found in archaeological site. (Dendrochronology date of A.D. 1550 determined for armor-bearing horizon.)

Tribe or Location

3. Cape Prince of Wales (continued)

No. 15391. "Made of [illegible] plates, averaging 1 inch [illegible] length. Each plate [illegible] pass rawhide thongs, [illegible] gether. These plates [illegible] The lower row contains [illegible] The upper row contains [illegible] ing 10 plates, protected [illegible] plates, protecting the [illegible] rawhide strip passes over [illegible] the armor...length [illegible] Has one full arm guard, [illegible] closure. Closure works [illegible] left. Strings with tags [illegible] of the band. The attachment [illegible] diagonally from the back [illegible] of the other. The bottom [illegible] straight except for [illegible] E. H. Thornton, resident [illegible]

Hough, Primitive American [illegible] Pl. 2, Fig. 2. Specimen [illegible] Cat. No. 15392. "[illegible] plates...bound with [illegible] specimen was dug up [illegible] armor on this plate was [illegible] ately preceding title] [illegible] inches; width, 1-1/2 [illegible] holes, placed in [illegible] (Collected by E. H. [illegible]

Jenness, Archaeological [illegible] 1928, p. [illegible] "Body armor [illegible] ological activities at [illegible]

Hansmann, Adjustment of [illegible] general statement that [illegible] along the coast between [illegible] Ocean.

4. Kotzebue Sound

Giddings, ...Arctic Woodlands [illegible] 2. Fortified multi-[illegible] gical site. (Period [illegible] determined for armor-[illegible]

APPENDIX B

SOURCE MATERIAL ON NORTH AMERICAN ROD ARMOR

Tribe or Location — Authorities and Notes

1. Aleut

Dall, ...Remains of Later Pre-historic Man..., 1878, p. 18; Pl. 6. Specimen in U. S. National Museum, Cat. No. 17249. "Wooden body armor...composed of small round rods..., united by sinew cords, and with nicely carved wooden pieces about the arm holes.... It was fastened behind with two loops of sinew, into which wooden buttons were inserted. The small rods of which it is composed were about three-fourths of an inch in diameter, and painted red." (From a mummy found in a cave on Kagamil Island.)

Hough, Primitive American Armor, 1895, p. 638. "D'Orbigny says: 'Les armes dèfensives consistaient en une cotte de joncs tressés qui leur couvrait tout le corps.'" (Quoting D'Orbigny, Voyages, p. 579.)

Hrdlička, The Aleutian and Commander Islands..., 1945, p. 132. "'The Fox Islands Aleut made armor out of cylindrical sticks tied to each other with sinews, and worn under the outer garment.'" (Source given as Veniaminov, 1840, II, pp. 106-107.)

Ibid., p. 135. "'Their armor,'...'was made of cylindrically wrought sticks, about five cetvierte' long [1-1/4 arsin, or 35"] [brackets in original], bound together by sinew. They wore them under the outer garment, tied about the body, leaving free only the hands and feet'..." (Source given as Veniaminov, 1840, II.)

Ibid., p. 137. "...we found remnants of the wooden-rod armor in the same cave on Kagamil from which came the mummy and remains of armor described by Dall and Hough. In this case the rods were not painted."

2. Koniag

Dall, Alaskan Mummies, 1875, p. 439. "The Kaniagmut Eskimo..." dressed their mummies "sometimes with wooden armor, and carved masks." "We found many relics of this practice in the Unga Caves."

Tribe or Location Authorities and Notes

3. Tanaina, Upper Inlet, Tyonek and Kenai areas

Osgood, ...Ethnography of the Tanaina, 1937, p. 111. "a type of armor...by lashing birch rods in a vertical position by means of intertwining babiche at the top and bottom." (Fieldwork of 1931-34.)

4. Tlingit

Niblack, The Coast Indians..., 1890, Pl. 14, fig. 49. An illustration of armor of basically slat construction, but combined with a few rods. See this citation in Appendix C.

5. Tlingit, Chilkat

Drucker, ...Northwest Coast, 1950, p. 187. "Twined rod jacket" (Fieldwork, 1937.)

6. Tlingit, Sitka

Hough, Primitive American Armor, 1895, n., p. 636; Pl. 7, Pl. 8. Specimen in U. S. National Museum, Cat. No. 74437. An illustration of armor of basically slat construction, but combined with a few rods. See this citation in Appendix C.

Niblack, The Coast Indians..., 1890, p. 269; Pl. 13; Pl. 15. An illustration of armor which is a straight band of vertical rods twined with thread; no notches for the accommodation of the arms; no device to prevent band from slipping; top and bottom edges straight; tie strings at the middle of each end placed in such a manner as to suggest ends must have overlapped; closure could have been at any place on body; woven together with dark and white twine in alternate bands; composed of 74 rods about 2 feet long. (Collections and fieldwork, 1885-87.)

7. Tlingit, Taku

Hough, Primitive American Armor, 1895, n., p. 639; Pl. 13. Specimen in U. S. National Museum, Cat. No. 168158. A straight band of vertical rods twined with cordage; a notch in one upper corner to accommodate one arm; no device to prevent band from

Tribe or Location Authorities and Notes

7. Tlingit, Taku (continued)

slipping; top and bottom edges straight; tie strings at each end; closure possible down either side; rods held by alternate bands of weaving of woolen and sinew cord; four equidistant vertical bands of red paint; composed of 72 rods, the ends of which are hollowed out to form cup cavities.

8. Haida, Bucarelli Bay (Kaigani?)

La Pérouse, A Voyage Round the World..., 1807, Vol. 1, pp. 327-28. "In war these Indians wear cuirasses and shoulder pieces, made not unlike the whale-bone stays of European ladies. Very narrow slips of wood form the warp of these, and threads the woof, so that the whole is very flexible, and gives the arms sufficient liberty for handling their weapons.... From the girdle to the feet, they wear a kind of apron, of the same manufacture as their cuirasses: and lastly they have a fine skin hanging from the shoulder almost to the knee." (This is a direct quotation from an extract which La Perouse presents from the account of a voyage made in 1779 by the Spaniard Francisco Antonio Maurelle; the Indians referred to were encountered at "Bucarelli Bay" in that year; this description seems to convey the idea of rod armor, not slat armor.)

9. Haida, Massett

Drucker, ...Northwest Coast, 1950, p. 187. "Twined rod jacket" (Fieldwork, 1937.)

10. Tsimshian proper

Drucker, ...Northwest Coast, 1950, p. 187. "Twined rod jacket" (Fieldwork, 1937.)

11. Kwakiutl, Haihais

Drucker, ...Northwest Coast, 1950, p. 187. "Twined rod jacket" (Fieldwork, 1937.)

Tribe or Location Authorities and Notes

12. Bella Coola

Drucker, ...Northwest Coast, 1950, p. 187. "Twined rod jacket" (Fieldwork, 1937.)

13. Nootka

Curtis, E. S., ...North American Indian, 1907-30, Vol. 11, p. 70. "rod armor about their chests" (From an informant's description of a wolf fraternity initiation.)

Drucker, ...Nootkan Tribes, 1951, p. 335. "Informants disagreed as to whether armor was ever made of woven materials...a Hesquiat informant described a sort of rod armor, twined of hardwood twigs." (Fieldwork, 1935-36.)

14. Tahltan

Emmons, The Tahltan Indians, 1911, p. 116. "an armor of wooden rods bound together with a twining of twisted sinew and goat wool cord"

15. Slave: Lower Liard River

Wentzel, Letters..., 1889, p. 92. "From their neck down to their thighs, they wear" as part of their war dress "a mat made of willow switches; it covers the whole front and guards against arrows, as it is closematted for that purpose." (Refers to the period 1807-25.)

16. Sekani

Spier, Havasupai Ethnography, 1928, p. 258. Listed Sekani in his distribution of "slat and rod armor;" did not distinguish between the two types of armor.

17. Western Déné

Morice, The Western Dénés--Their Manners and Customs, 1889, p. 140. "they also wore a kind of armour or cuirass consisting of dried sticks of the same kind of wood [Amelanchier alnifolia], arranged in parallel order and kept together with babiche lines

Tribe or Location Authorities and Notes

17. Western Dene (continued)

interlaced in several places." (Identifies Western Denes as Chilcotin, Carrier, and Nahanes, p. 113.)

18. Carrier

Morice, Notes...on the Western Denes, 1894, p. 117. "wooden cuirass...composed...of dried rods...disposed in parallel order and held together by means of cariboo skin lines interlaced through the middle and near both edges...I have never seen any..."

18. Babine

Spier, Havasupai Ethnography, 1928, p. 258. Listed Babine in his distribution of "slat and rod armor;" did not distinguish between the two types of armor.

19. Chilcotin

Farrand, The Chilcotin, p. 647. "a sort of wooden armor was worn over the chest and back as far down as the waist. This protection, in shape like a sleeveless shirt, was made of tough sticks about an inch in diameter, fastened together with leather thongs." (Fieldwork, 1897.)

Morice, ...History...British Columbia, 1904, p. 17. "armor, consisting of a device made of dried rods of hardened amelanchier wood" (From an informant's tale pertaining to about the year 1745.)

Ray, Plateau, 1942, p. 153. "Rod jacket, twined." (Fieldwork, 1936-37.)

Teit, The Shuswap, 1909, p. 785. "Cuirasses of wood" (Fieldwork mostly in 1900.)

20. Shuswap

Ray, Plateau, 1942, p. 153. "Rod jacket, twined." (Fieldwork, 1936-37.)

Tribe or Location Authorities and Notes

20. Shuswap (continued)

Teit, The Shuswap, 1909, p. 338. "Cuirasses...of rods were common, and made of rosewood." (Fieldwork, 1887-1904.)

21. Lillooet

Ray, Plateau, 1942, p. 153. "Rod jacket, twined." (Fieldwork, 1936-37)

Teit, The Lillooet..., 1906, p. 234. "Armor consisted of vests made of boards or rods...of vine-maple wood."

22. Thompson

Ray, Plateau, 1942, p. 153. "Rod jacket, twined." (For Lower Thompson; fieldwork, 1936-37.)

Teit, The Thompson Indians..., 1900, p. 265; fig. 254. "A vest of armor was made of narrow strips of wood... or of rods...and went entirely around the body. The strips of wood were placed vertically, and laced together with bark strings. This vest...was held over the shoulders by means of thongs." The illustrated example is a straight band with two, deep, rectangular, three-sided gaps in the upper edge for the arms; no shoulder thongs for suspending the vest from the shoulders were evidenced; five cords pass horizontally across therods and appear to betwined, but may be passing through perforations; construction precludes any closure except down the front or the back.

23. Okanagan

Cline, et al., The Sinkaietk..., 1938, p. 55. "Both the southern and northern groups [of Southern Okanagan] had rod armor. This was made of blue wood sticks after the pattern of the moose hide armor [see Appendix E under Okanagan]. The sticks ran vertically and were probably twined together at short intervals with Indian hemp cords. The rods on the sides, naturally, reached only to the armpits. This armor was not so long as to prevent thewearer sitting down. The shoulder ties were fastened to the twining elements; the side straps to the rods. Both the

Tribe or Location | Authorities and Notes

23. Okanagan (continued)

skin and the rod armor were put on over the head, indicating that the shoulder straps were permanently fastened." (Fieldwork, 1930.)

Teit, The Salishan Tribes..., 1930, p. 256. "Cuirasses of rods of wood...were in use among the Okanagan and Sanpoil..." (Fieldwork, 1904-09.)

24. Sanpoil

(See Teit under Okanagan above.)

25. Kalispel

Ray, Plateau, 1942, p. 153. "Rod jacket, twined." (Fieldwork, 1936-37.)

26. Coeur d'Alene

Ray, Plateau, 1942, p. 153. "Rod jacket, twined." (Fieldwork, 1936-37.)

Teit, The Salishan Tribes..., 1930, p. 117. "A short vest of wooden rods woven or fastened together with thongs or with Indian-hemp twine...reached from the shoulders to the hips, and had spaces for the arms. ...The outside was generally covered with dressed skin, which was ornamented with feathers and painted designs...." (Fieldwork, 1904.)

27. Flathead

Ray, Plateau, 1942, p. 153. "Rod jacket, twined." "Rods of twisted strips of elk rawhide." (Fieldwork, 1936-37.)

Teit, The Salishan Tribes..., 1930, p. 359. "Cuirasses of slats and rods of wood were probably not used." (Fieldwork, 1904-09.)

Turney-High, ...Kutenai, 1941, pp. 86-87. "It [Lower Kutenai armor] was of the rod type, and was made from the dog banes or ocean spray. Sticks of about a half centimeter's diameter were cut and seasoned.

Tribe or Location Authorities and Notes

27. Flathead (continued)

The length...depended on the height of the wearer. The proper number of sticks was laid parallel in a row and tightly bound at their upper and lower ends with dog bane bark. They were then given many rows of such bark binding between the upper and lower ends. The more of these, the tighter the cuirass. The rows of binding should be at least three inches apart, while a two inch spacing was thought much better, If they were far apart, an arrow point could easily pierce the wearer between the rods of his cuirass. In this way a square of bound...rods was first made to form that element of the cuirass which would protect the chest. The square was modified by cutting a semi-circle from the middle of the top rods to accommodate the neck, while similar cuts were made at the top corners so that the mail would fit under the arms and come to the midpoint of the sides. A backpiece was made to correspond to the breast element. When worn, the two were lashed together at the sides. Strings of raw hide alone connected the chest and back elements of the mail at the shoulders. The tops of the shoulders were without protection, but the front, sides, and back were completely covered.

"Sleeves were similarly made to cover the upper arms. The lower arms were unprotected. The sleeves were flat pieces of rod mail lashed together under the arms and equipped with strings to make fast to the lashings of the cuirass.

"The length of the Cuirass was as great as possible, but short enough to allow the warrior to bend his legs comfortably." (Upper Kutenai did not use rod armor.)

29. Western Washington; Northwestern Oregon

Gibbs, Tribes of Western Washington..., 1877, p. 192. "they have another kind of armor, which they occasionally wear in place of the leathern shirt. It is a species of corset formed of thin slips of hardwood, ingeniously laced together; but it does not cover so much of the body. Neither is any longer used in this Territory." (The tribes referred to in thetitle of this paper are those of Western Washington and Northwestern Oregon; those groups mentioned

Tribe or Location Authorities and Notes

29. Western Washington; Northwestern Oregon (continued)

up to this citation are the "Tsinuk," "Klikatat," "Tai-tin-apam," "Willopah" or "Kwalhioqua," "Kowlitz," "Tsihalis," "Makah," "Klallam," "Tsemakum," and "Niskwalli.")

30. Western Oregon; Northern California

Schoolcraft, Archives..., 1860, Vol. 3, p. 216. "Some of these northern tribes wear for their dress, a jacket of mail...which covers them in front.... It is composed of thin parallel battens of very tough wood, woven together by a small cord; with arm-holes, and strings at the bottom corners, to fasten it around the waist." An illustration is printed with this statement. It depicts a strictly rectangular piece of armor which is only slightly higher than it is wide; although it is not clear, the rods are apparently placed vertically; at each of the upper two corners is attached an arm loop of cordage or leather, and at each of the lower two corners is attached a string for tying about the waist; the armor would cover only the front of the body like a large breast plate. This example of rod armor is unlike any other illustrated or fully described in the literature. (From a description by G. F. Emmons, based on information gained by him on a trip in 1841 through western Oregon and northern California; he passed through the country of the "Chinooks, Klatsops, Chickeeles, Kilamukes, Callapuyas, Umpquas, Rogues, or Rascally, Klamets, Shaste, Kinkla, Sacramento, and Tula or Tulara.")

31. Chinook

Franchére, Narrative of a Voyage..., 1904, p. 331. "They have another kind of corslet, made like the corsets of our ladies, of splinters of hard wood interlaced with nettle twine. The warrior who wears this cuirass does not use the tunic of elk-skin..." (Observations, 1811-14.)

Ray, Lower Chinook..., 1938, p. 60. "a light armor of wooden rods, twined with nettle cord, was sometimes worn. The rods were short so that the covering amounted to scarcely more than a narrow jacket but

Tribe or Location Authorities and Notes

31. Chinook (continued)

its wearer was left quite free for action." (Fieldwork, 1931-36.)

Ray, Plateau, 1942, p. 153. "Rod jacket, twined." (Lower Chinook, fieldwork, 1936-37.)

Ross, ...First Settlers on the Oregon..., 1904, p. 104. "a kind of vest, made of small round sticks of the size and shape of arrows, twelve inches long: they are laid side to side, and then sewed together, and fixed on the body like a waistcoat." (Observations, 1810-13.)

32. Tolowa

Drucker, ...Tolowa..., 1937, p. 238. "Some vague mention of rod armor." (Fieldwork, 1933-34.)

Klimek, ...California Indian Culture, 1935, Table 5. "Rod-jacket armor twined." (Apparently from secondary sources.)

33. Takelma

Sapir, ...Takelma Indians..., 1907, p. 273. "armor... was composed of sticks of wood covered with two undressed hides of elk or buck sewn together and decorated, after the removal of the hair, with painted designs. The armor was without sleeves and reached only from the neck and below the arms down to the hips." (Fieldwork, 1906.)

34. Karok

Driver, Northwest California, 1939, p. 328. "Rod jacket, twined." (Fieldwork, 1935.)

Kroeber, ...Indians of California, 1925, Pl. 18. An illustration of a Karok man in rod armor. The armor covers the upper body and apparently encircles it; the height reached by the rods in the front suggests that there must be gaps in the upper edge to accommodate the arms; closure is by overlapping the ends of the band down the front; the upper and lower edges

Tribe or Location Authorities and Notes

34. Karok (continued)

of the band appear to be straight, except for the probable arm gaps.

35. Yurok

Driver, Northwest California, 1939, p. 328. "Rod jacket, twined." (Fieldwork, 1935.)

36. Wiyot

Klimek, ...California Indian Culture, 1935, Table 5. "Rod-jacket armor twined." (Apparently from secondary sources.)

37. Hupa

Curtis, E. S., ...North American Indian, 1907-30, Vol. 13, p. 7. "The commoner type of armor was a corselet of small wooden rods arranged in two vertical tiers and held tightly together by iris-cord twining; it extended up around the neck and down below the waist." (Fieldwork, 1916-17.)

Driver, Northwest California, 1939, p. 328. "Rod jacket, twined." (Fieldwork, 1935.)

Hough, Primitive American Armor, 1895, n., p. 640; Pl. 15, fig. 1. Specimen in U. S. National Museum, Cat. No. 126909. "Made of 118 peeled rods, woven together with native twine, bound with buckskin on upper and lower edges and armholes, shoulder straps of leather; 6 horizontal stripes of red cord cross the front of the coat....Width, 41 inches; height, 21 inches." Has two rectangular notches in the upper edge for the arms; edge between the arm cuts is raised to provide protection for the back of the shoulders and neck; lower edge is straight; straps close the arm cuts for suspension from the shoulders; closure would be by overlapping the ends down the front; tie strings placed for overlap; single tier of rods; edges and arm notches trimmed with leather. (Collected by Lt. Ray in 1885.)

Mason, The Ray Collection..., 1889, p. 230; fig. 106. This refers to the same specimen recorded above under

Tribe or Location | Authorities and Notes

37. Hupa (continued)

Hough. "made of wattles and twine, woven and bound with buckskin....This is worn in battle to protect the body; it is tied across the breast from left to right. The red lines denote the number of enemies slain or captives taken, also the rank of the wearer."

38. Chilula

Driver, Northwest California, 1939, p. 328. "Rod jacket, twined." p. 391, "protruded slightly above shoulders with openings for arms and down between legs like baseball catcher's body pad; rods twined with buckskin-thong weft. Jacket 1-piece, laced up back." (Fieldwork, 1935.)

39. Modoc

Voegelin, Northeast California, 1942, p. 73. "Rod jacket." (Fieldwork, 1936.)

40. Shasta

Curtis, E. S., ...North American Indian, 1907-30, Vol. 13, p. 108. "corselet of...a double thickness of service-berry rods held together by cord twining." (Fieldwork, 1916-17.)

Dixon, The Shasta, 1907, p. 438. "stick armor...made of round rods of some hardwood...fastened together by twined cords..." (Fieldwork, 1900-04.)

Holt, Shasta Ethnography, 1946, p. 313. "stick... armor...used." (Fieldwork, 1937.)

Hough, Primitive American Armor, 1895, n., p. 640; Pl. 14. Specimen in U. S. National Museum, Cat. No. 2928. "Made of 74 strips of wood formed by splitting branches, woven with native cord of wild hemp. The checkered portion in black is woven with cord made from human hair. Short rods are worked in below the armpits. All the rods are split at either end, the finishing cords drawn into the split to secure the weaving. In addition the armor is bound on the upper and lower edges with skin sewed with sinew. The

Tribe or Location Authorities and Notes

40. Shasta (continued)

shoulder straps are of otter (?) fur. The surface of the armor shows 4 horizontal bands of red paint. Width, 38 inches; height, 30 inches." Two arm notches; upper edge between arm notches slightly raised; bottom edge straight; shoulder straps close arm gaps; single tier of rods; closure down the front.

Kroeber, ...Indians of California, 1925, p. 298. "rod armor similar to that of the Hupa and Yurok."

Voegelin, Northeast California, 1942, p. 73. "Rod jacket." (For both Eastern and Western Shasta; Fieldwork, 1936.)

41. Achomawi

Curtis, ...North American Indian, 1907-30, Vol. 13, p. 142. "armor...a vest of perpendicular service-berry rods held together by hemp twining..." (Fieldwork, 1916-17.)

Kroeber, ...Indians of California, 1935, p. 310. "waistcoat armor of slender sticks wrapped together."

Voegelin, Northeast California, 1942, p. 73. "Rod jacket." (For both Eastern and Western Achomawi; fieldwork, 1936.)

42. Atsugewi

Garth, Atsugewi Ethnography, 1953, p. 154. "rod armor" of "service withes twined together with buckskin string...high enough to come to the neck under the chin and extended two or three inches below the belt." n., p. 154, "went all the way around the body, was tied in back and was held up by two buckskin shoulder straps." (Fieldwork, 1938-39.)

Voegelin, Northeast California, 1942, p. 73. "Rod jacket." (Fieldwork, 1936.)

43. Maidu

Curtis, ...North American Indian, 1907-30, Vol. 14, p. 110. "the hill tribes" used "a vest of round,

Tribe or Location | Authorities and Notes

43. Maidu (continued)

hardwood rods with cord twining." (Fieldwork, 1915-24.)

Klimek, ...California Indian Culture, 1935, Table 5. "Rod-jacket armor." (Listed for Northern Maidu; apparently from secondary sources.)

Kroeber, ...Indians of California, 1925, p. 400. "The elk-hide coat was perhaps more characteristic of the valley; the waistcoat of rods, of the mountains. The wood for the latter was mountain mahogany. It is said to have had a high collar, behind which the warrior could shield his head. The rod armor is probably to be viewed as one of the many influences which the Achomawi have exerted on the northeastern Maidu."

Voegelin, Northeast California, 1942, p. 73. "Rod jacket." (Listed for the Mountain Maidu; fieldwork 1936.)

44. Wintu

Voegelin, Northeast California, 1942, p. 73. "Rod jacket." (Fieldwork, 1936.)

45. Wintun

Curtis, ...North American Indian, 1907-30, Vol. 14, p. 80. "The Waileka and Nomsus [Wintun] used rod corselets as well as elk-hide tunics...." p. 190, "In the north both rod armor and the elk-hide tunic were worn by the [Wintun] warriors." (Fieldwork, 1915-24.)

46. Hill Patwin

Gifford and Kroeber, Pomo, 1937, p. 142. "Rod jacket armor, twined." (Authors indicated informant was uncertain or did not understand; fieldwork, no date given.)

Klimek, ...California Indian Culture, 1935, Table 5. "Rod jacket armor twined." (Apparently from secondary sources.)

Tribe or Location | Authorities and Notes

46. Hill Patwin (continued)

Kroeber, The Patwin..., 1932, p. 299. "a waistcoat of rods twined with cord and filled with pitch. This last reached from hips to armpits, perhaps partly over the face." (Fieldwork, 1923-24.)

47. Pomo

Barrett, Material Aspects..., 1952, p. 190-91. "a type of double-rod armor...it completely covered the trunk, front and back...it was made of peeled rods....The rods were about the diameter of a lead pencil, very straight, and quite limber. The armor consisted of two layers of these rods, the outer layers running vertically; the inner layer, horizontally. According to some informants there was between these a layer of feathers. These layers of rods were held by very tightly woven cordage, and the top and bottom edges of the armor were bound with fringed buckskin." (Fieldwork, 1894-1952; one informant's information pertained to first quarter of Nineteenth Century.)

Ibid., Pl. 26. Two individuals, figured separately, wearing similar rod jackets; have straight upper and lower edges, although high back collar, if present, would not be evident since these are front views; there appear to be double notches for the arms; closure is not clear, but it is not down the front; upper and lower edges are trimmed with hide; length, from the chin to the hips; twining is apparently closed, non-spaced type.

Essene, Round Valley, 1942, p. 17. Elkhide armor "with rod bracing." (Northern Pomo; fieldwork, 1938.)

Gifford and Kroeber, Pomo, 1937, p. 142. "Rod jacket armor, twined." (For both Northern and Southern Pomo; fieldwork, no date given.)

48. Algonquin

Cartier, ...Second Voyage, 1924, p. 171. "d'amont ledict fleuve, et qu'il y avoyt des agojuda, qui est à dire mauvaise...gens, qui estoient armés jusques sus les doidz, nous monstrant la façon de leurs

Tribe or Location Authorities and Notes

48. Algonquin (continued)

armiures, qui sont de cordes et...boys, lasseez et tissuez ensemble...." Translation: "up that river [Ottawa] [brackets in original], where live Agojuda, which means bad people, who were armed to the teeth, showing us the style of their armor, which is made with cords and wood, laced and plaited together." (See footnote 24, p. 103 for a different rendering of this source.)

This armor description was presented to Cartier in A.D. 1535 by the people of Hochelaga, an Iroquoian [Huron or Iroquois] town on the site of present-day Montreal. The river referred to in the passage above seems almost certainly to have been the Ottawa, for the inhabitants of Hochelaga, speaking of the same river, said of it that further up the St. Lawrence "along the mountains to the north, there is a large river, which comes from the west like the said river [St. Lawrence] [brackets in original]" (p. 169-70.) People resident up the Ottawa at this time are almost surely to have been Algonquin. Some other versions of Cartier's second voyage call these people Agouionda.

Vimont, Relation of...1642 and 1643, 1898, Vol. 24, p. 204. "plusieurs auoient des corceletts, piqués, & entrelassez de petits battons." Translation, p. 205, "many had corselets, stiched, and interlaced with small sticks." (Spoken of a war party of "upper Algonquins" formed in this year, 1642-43, at the Fort of Richelieu for action against the Iroquois.)

49. Huron

Boucher, Canada in the Seventeenth Century, 1883, p. 55. "The men work also at making canoes, armour and nets." (Original manuscript dated 1663; statement refers to both Huron and Iroquois proper.)

Champlain, Voyages and Discoveries..., 1929, Pl. 6, fig. E, facing p. 135. This is an illustration of a warrior dressed in armor consisting of several pieces. One piece is a breast covering of rectangular outline which reaches from just below the neck to the waist; it does not appear to pass clear

Tribe or Location | Authorities and Notes

49. Huron (continued)

around the body; suspension is by two shoulder straps; construction appears to be long vertical elements, rods or slats, twined or otherwise fastened by cordage which passes horizontally. A kilt or skirt reaches from the waist to the knees and is of the same construction as the breast piece. The lower legs are encased in greaves of uncertain construction. A conical helmet or headgear is worn and appears to be of construction akin to that of the breast piece and kilt. On the back is suspended a large shield which reaches from the top of the head to the waist; it is rectangular in outline except for the upper edge which is convex; it appears to be constructed of several vertical sections or planks, the two on the lateral edges seeming to hinge to give the overall shield a concave-convex cross-section with the concave side to the back. (Champlain's explorations covered the period 1603-15.)

At the point in the text where this plate was originally inserted the author is speaking of the "Attigouautan tribe," one of the Huron clans which he describes as inhabiting the peninsula between the Georgian Bay and Lake Huron (pp. 121-22). During his discussion of these Huron he makes reference to each of the other three figures in the plate with the armor illustration, thus assuring us that they illustrate Huron culture. The armor figure is never mentioned but presumably, by context, it is Huron also.

Flannery, ...Coastal Algonquian Culture, 1939, pp. 75-6. "Huron and Iroquois, ...armor made of 'ortyes' [nettles] [brackets in original]." (Source given as Boucher, P., Histoire Veritable (1663), repr. Montreal, p. 43.)

Lalemant, Relation of...1641...1642, Vol. 23, p. 154. "vne armure sauuage, qui le couure de pied en tete." Translation, p. 155, "a set of armor, of savage fashion, which covers a man from his head to his feet." (Lalemant relates that this armor was demanded as part of an offering by a supernatural being that appeared in a vision to a Huron man in winter, 1642-43.)

Tribe or Location Authorities and Notes

49. Huron (continued)

Sagard, The Long Journey..., 1939, p. 154. "Ils portent aussi de certaines armures et cuirasses, qu'ils appellent Aquientor, sur leur dos, et contre les jambes, et autres parties du corps, pour se pouuoir defendre des coups de Flesches:...ces cuirasses sont faictes auec des baguettes blances, coupées de mesure, et serrées l'vne contre l'autre, tissues et entrelassées de cordelettes, fort durement et proprement." Translation: "They wear also a sort of armour and cuirass, which they call Aquientor, on their back and legs and other parts of the body to get protection from arrow-shots....These cuirasses are made of white rods cut to the same length and pressed against one another, sewn and interlaced with little cords, very tightly and neatly." (Sagard visited the Huron A.D. 1623-24.)

Thwaites, The Jesuit Relations..., 1896-1901, Vol. 13, p. 272. "'Their cuirasses were also a tissue of wood, or of small reed-stems, cut in proportional lengths, crowded closely together, very neatly woven and enlaced with small cords made of deerskin. They had cuisses and braces...of the same material.'" (Source of quotation given as Lafitau, Moeurs des Sauvages, t. ii, p. 197; this work by Lafitau was published in 1724 and the above statement is likely to have been derived from printed sources; statement applies to natives of New France and probably more specifically to Huron and Iroquois, those groups with which Lafitau was most familiar.)

50. Iroquois

Boucher, Canada in the Seventeenth Century, 1883, p. 55. (See this citation under Huron.)

Champlain, ...Voyages of the Sieur de Champlain..., 1922-25, Book II, pp. 99-100. "bien qu'ils fessent armez d'armes tissues de fil de cotton, & de bois a l'espreuue de leurs fleches." Translation: "they were provided with shields made of cotton thread woven together and wood, which were proof against their arrows." (This statement refers to the Iroquois engaged by Champlain in battle at Lake Champlain, A.D. 1609; it is felt that the translation is

Tribe or Location Authorities and Notes

50. Iroquois (continued)

inaccurate and that armor is meant, not "shields." For variations on this Champlain source see under this same Iroquois heading Flannery, citing Champlain; Flannery, citing Potherie; Lescarbot.)

Charlevoix, Journal..., 1923, Vol. 1, p. 320. "Most had no defensive weapon; but when they attacked any entrenchment, they covered their whole body with small light boards. Some have a sort of cuirass, or breast plate, of small pliable rings very neatly worked. They had even formerly a kind of mail for the arms and thighs made of the same materials. But as this kind of armour was found not to be proof against fire arms, they have renounced them, without putting anything in their place." (From a letter dated A.D. 1721; this statement was made on the subject of Canadian Indian warfare in general but seemingly, by context, was directed toward Iroquois more specifically; the information may have been derived from printed sources. The body covering of "light boards" very likely was the plank shield so common in the Northeast; the "rings" referred to may represent an error in translation or in the original, with the idea of rods having been intended.)

Flannery, ...Coastal Algonquian Culture, 1939, pp. 75-6. (citing Boucher; see Flannery under Huron.)

Ibid., p. 76. "Iroquois, Champlain (1609),...armor of cotton thread and wood." (Source given as Champlain, Oeuvres, ed. Laverdiere, 2nd ed., 3v., Quebec, 1870, p. 343 [no volume given].)

Lescarbot, The History of New France, 1907-14, Vol. 3, p. 307. "ni les armes tissues de fil de coton, ni les pavois de leurs Capitaines ne les avoient garentis d'vne si prompte mort." Translation, p. 13: "neither their coats of woven cotton nor the shields of their captains had protected them from so sudden a death." (Refers to Champlain's battle with the Iroquois at Lake Champlain in 1609. Although citation is from a reprint of the third edition, 1618, of Lescarbot, the first edition appeared in 1609, the same year as Champlain's battle; Champlain's own account appeared in 1613.)

Tribe or Location Authorities and Notes

50. Iroquois (continued)

Thwaites, The Jesuit Relations..., 1896-1901, Vol. 13, p. 272. (See Thwaites under Huron.)

51. Delaware (New Sweden)

Lindeström, Geographia Americae..., 1925, p. 197. "helmets made of hard wooden pins and strong wood, that no arrow can go through them." p. 206, "they use helmets which are made of sticks and wood, so strong that no quarry is able to go through it." (Based on notes made in New Sweden during a residence from 1654-56; although not clear, this suggests rod construction and possible familiarity with rod body armor.)

52. Roanoke (Virginia)

Hariot, A Briefe and True Report..., 1903, signature E, reverse. "neither haue they any thing to defend themselues but targets made of barks; and some armours made of stickes wickered together with thread." (Statement refers to the time between the founding of Roanoke Colony, 1585, and the publishing of Hariot's report, 1588.)

Raleigh, The First Voyage..., 1927, p. 130. "wooden breastplates for their defence." (Recorded for the natives of Roanoke Island by Amadas and Barlowe on their visit of 1584; may be a reference to the wooden rod armor recorded by Hariot less than four years later.)

53. Lower Savannah River (Talimeco, province of Cofitachequi)

Oviedo y Valdés, Historia General y Natural..., 1851-55, Vol. 1, p. 561. "En la mezquita ó casa de oraçion de Talimeco, avia pectos, como de corselets y capaçetes hechos de cueros de vacas crudos y pelados, y de lo mismo muy buenas rodelas." (For translation and notes see the next citation.)

Oviedo y Valdés, A Narrative of De Soto's Expedition..., 1904, p. 101. "In the mosque or house of worship, of Talimeco there were breastplates like corselets and head-pieces made of rawhide, the hair stripped

Tribe or Location Authorities and Notes

53. Lower Savannah River (Talimeco, province of Cofitachequi) (continued)

off: and also very good shields." (Bourne's translation of the above statement from Oviedo y Valdés.)

Oviedo y Valdés' version of the De Soto expedition is based on the diary of Rodrigo Ranjel, private secretary to De Soto, and is generally considered to be the most accurate authority on the expedition. The above statement refers to the visit the expedition made in 1540 to the village of "Talimeco" in the province of "Cofitachequi," located on the Lower Savannah River. By comparing the breastplates with European corselets, it does seem to imply that they were something more than just simple breastplates. The statement does not make it clear if the breastplates were of rawhide as were the headpieces. However, the Garcilaso de la Vega version gives an account of the same religious building and others surrounding it and noted that there were found cane or rod shields as well as hide shields. The hide shields were stated to have been imported from other lands. Thus, there is a possibility that the breastplates were apparently of the same construction as the locally made cane shields.

54. Mosquito (Honduras)

Bancroft, ...Native Races..., 1875-76, Vol. 1, p. 723. "Armor is made of plaited reeds covered with tigerskins, and ornamented with feathers; besides which the northern Mosquitos employ a breastplate of twisted cotton, like that of the Mexicans." (Author does not make his source clear as he gives numerous sources under a footnote for this paragraph; this reed armor may not have been similar to the rod armor of the eastern United States.)

APPENDIX C

SOURCE MATERIAL ON NORTH AMERICAN SLAT ARMOR

Tribe or Location — Authorities and Notes

1. Tanaina: Middle Cook Inlet

   Osgood, Tanaina Culture, 1933, p. 704. "armor made of slats or birch wood held flexibly in position by cords of babiche." (Fieldwork, 1931.)

2. Tanaina: Upper Cook Inlet

   Osgood, Tanaina Culture, 1933, p. 704. (Identical statement as appears above for Tanaina of Middle Cook Inlet.)

3. Prince William Sound (Eskimo)

   Cook, A Voyage to the Pacific Ocean..., 1785, Vol. 2, p. 372. "For defensive armour they have a kind of jacket, or coat of mail, made of thin laths, bound together with sinews, which makes it quite flexible ....It only covers the trunk of the body, and may not be improperly compared to a woman's stays." (Observed in 1778.)

4. Tlingit

   Niblack, The Coast Indians..., 1890, p. 269. "laths or broader flat strips of wood,...woven with twine."

   Ibid., Pl. 14, fig. 49. "Made of slats of wood fastened together by twine woven around and between them." This is an illustration of a waist length vest of armor; composed of two basic sections, one for the front of the body, one for the back; each section is made primarily of slats, but the lateral edges of each section terminate in a few rods so that when the vest is closed around the body there is a flexible series of rods down each side; the front and back sections are connected by thongs on the left side and closed by tie strings on the right side; each section consists of two tiers of slats, the upper tier short in height and abbreviated in length to protect front and rear of neck and shoulders, and to create spaces at the sides for the arms;

Tribe or Location Authorities and Notes

4. Tlingit (continued)

the bottom edge is straight; two shoulder straps connect the upper edges of the two sections and appear to be fastened by splits and toggles. (This specimen strongly resembles the one listed below for the Sitka Tlingit under Hough, Pls. 7-8; source for this illustration given as Lisiansky, Voyage, p. 150, Pl. 1.)

5. Tlingit: Sitka

Hough, Primitive American Armor, 1895, n., p. 636; Pl. 6. Specimen in U. S. National Museum, Cat. No. 9243, "Tlingit Indians, Sitka Alaska," Collected by Dr. A. H. Hoff. "Made of 32 slats of cedar and other wood woven together by fine weaving of fine sinew and other cord. A band of weaving of 3 inches width is carried along the front at the top and the weaving is continued downward in two places, meeting a band crossing the bottom and forming a geometric figure. The middle series of slats, 8 in number, extends below the other 4 inches, 3 of which are intact, while 2 on either side are united, forming a swallowtail and allowing the free bending of the thighs.

"The front and back are distinct, joined by elkskin cords at the sides. A section of short slats, 8 in number, is placed in front of the throat, and a similar row, 7 in number, protects the back of the neck. The armor is held in place by a broad band of elk skin over the right shoulder, and fastened on the left side by a loop and thong. A toggle on the left side of the collar in front was probably for suspension of the quiver. Height, 21-1/2 inches; width, 20 inches."

Ibid., n., p. 636; Pls. 7-8. Specimen in U. S. National Museum, Cat. No. 74437. "Made of slats and rods of hard wood 1-1/4 to 1-1/2 inches wide, five-sixteenths inch thick, woven together by means of fine sinew cord....The rods and slats are pared down to form channels for the reception of the cord weaving. The front and back portions are woven separately, being connected by cords of leather on the left side and on the right side by a loop and toggle....The neck

Tribe or Location Authorities and Notes

5. Tlingit: Sitka (continued)

portions are made up of short slats and sewn on by means of a strip of rawhide 1-1/4 inches wide. The shoulder supports are of very thick elk hide, the one on the right being fastened by a slash and toggle....height 19 inches." Front section has longer slats in the center thus causing the entire section to toe-in to form a triangular extention over the groin. (This example strongly resembles the specimen described above Tlingit under Niblack, Pl. 14, fig. 49, and the description of the latter will do very well for the present specimen except in regards to the toeing-in of the front piece.)

6. Tlingit: Nass

Niblack, The Coast Indians..., 1890, p. 269. In the construction of hide armor: "As a further security on the part which covers the breast they sometimes fix on the inside laths of wood." (Source given as Vancouver, Voyage, Vol. II, p. 339; these "laths" may not be slats, but rods instead.)

7. Shuswap

Teit, The Shuswap, 1909, p. 338. "Cuirasses made of slats were rare." (Fieldwork, 1887-1904.)

8. Lillooet

Teit, The Lillooet..., 1906, p. 234. "Armor consisted of vests made of boards or rods...of vine-maple wood."

9. Thompson

Teit, The Thompson Indians..., 1900, p. 265. "A coat of mail was sometimes made in the form of a cuirass. It consisted of four boards...,two for the front and two for the back, which reached from the collar-bone to the hip-bone. These boards were laced together with buckskin and the whole covered with thick elk-hide. A vest of armor was made of narrow strips of wood from half an inch to an inch in thickness...or of rods..." (For the complete description of this second-mentioned armor variation see Appendix B for Thompson under Teit.)

Tribe or Location

5. Tlingit: Sitka (continued)

portions are made up of [illegible]
means of a strip of rawhide [illegible]
shoulder supports are of [illegible]
are on the right being [illegible]
toggle....height 19 inches [illegible]
slits in the center thus [illegible]
to see-in to form a [illegible]
grain. (This example [illegible]
man described above Tlingit [illegible]
fig. 49, and the description [illegible]
very well for the present [illegible]
to the seeing-in of the [illegible]

6. Tlingit: Haida

Niblack, The Coast Indians [illegible]
construction of hide armor [illegible]
at the part which covers [illegible]
fix on the inside laths [illegible]
Vancouver, Voyages, Vol. [illegible]
may not be slats, but [illegible]

7. Shawnee

Tait, The Shawnee, 1909, [illegible]
slats were true." (Mooney [illegible]

8. Lillooet

Tait, The Lillooet [illegible]
of weeds made of bonnin [illegible]

9. Thompson

Tait, The Thompson Indians [illegible]
of wall was nothing more [illegible]
It consisted of four boards [illegible]
two for the back, which [illegible]
to the hip-bone. These [illegible]
with buckskin and the [illegible]
side. A vest of armor [illegible]
wood from half an inch [illegible]
of yoke..." (For the cound [illegible]
second-mentioned armor [illegible]
Thompson under Tait.)

Tribe or Location Authorities and Notes

9. Thompson (continued)

Ibid., fig. 253. This is an illustration representing the slat variation of the second type of armor mentioned in the preceding citation. It is a straight band of slats, each of which would be a few inches in width; there are two gaps for the arms in the upper edge, otherwise the upper and lower edges are straight; two shoulder straps close the arm gaps; tie strings on the end slats; slats are perforated at their edges and 5 cords, evenly spaced from top to bottom, pass through these holes horizontally across the slats--there is no twining; closure could have been down the back or down the front.

10. Okanagan

Teit, The Salishan Tribes..., 1930, p. 256. "Cuirasses of rods of wood and of slats of wood were in use among the Okanagan and Sanpoil." (Fieldwork, 1904-09.)

11. Sanpoil

(See Teit under Okanagan above.)

12. Klamath

Curtis, E. S., ...North American Indian, 1907-30, Vol. 13, p. 171. "For defense the Klamath warrior had a corselet of upright wooden slats with nettle-cord twining." p. 238: "Corselets of hardwood slats with nettle-bark twining were used by leading warriors." (Fieldwork, 1916-17.)

Hough, Primitive American Armor, 1895, n., p. 640; Pl. 15, fig. 2. Specimen in U. S. National Museum, Cat. No. 20944. "Made of 44 oval rods of pine wood. The cord is of native hemp and cords made from sisal, the latter probably derived from ropes. The weaving is diversified by using cords colored red and yellow; bound with buckskin painted red; shoulder straps of buckskin; tying straps at the sides. Width, 38 inches; height, 21 inches." Two arm notches; upper edge between arm notches slightly raised; bottom edge straight; single tier of rods; rods appear to be

Tribe or Location Authorities and Notes

12. Klamath (continued)

slat-like; closure would be down the front; edges trimmed with leather.

Spier, Klamath Ethnography, 1930, p. 196. "Slat armor ...is the familiar waistcoat form; vertical wooden slats, two inches wide, split from any sort of tree, and twined with nettle cords. It is long front and back, but necessarily short under the arms, opens in the front, and ties over the shoulders with buckskin thongs." (Fieldwork, 1925-26.)

Voegelin, Northeast California, 1942, p. 73. "Rod jacket." p. 192, "of split serviceberry stalks, woven into form of tunic; tied together on right side, under armpit." (Probably is a reference to the slat type of armor described by Curtis, Hough and Spier above; fieldwork, 1936.)

13. Kato

Curtis, E. S., ...North American Indian, 1907-30, Vol. 14, p. 8. "Certain active men, say the Kato, were trained to personate bears, and those who proved the swiftest runners were provided with bearskins cut to fit the body and stitched together. The skin was stiffened with a lining of slats of yew, so that arrows could not pierce it." (Fieldwork, 1915-24; it is questionable whether or not this should be included with slat armors.)

14. Pomo

Loeb, The Western Kuksu Cult, 1932, p. 13. "Armor (despised as cowardly by other Pomo) sometimes worn: 'flat sticks tied to chest.'" (Listed for Northern Pomo; fieldwork, 1930, but apparently summarization of other sources.)

APPENDIX D

OCCURRENCE OF ARMOR FOR THE ARMS AND LEGS AND KILT ARMOR IN NORTH AMERICA

Tribe or Location — Authorities and Notes

Armor for the Arms

1. Lillooet

   Teit, The Lillooet..., 1906, p. 234-35.

2. Kutenai

   Turney-High, ...Kutenai, 1941, p. 87. Were equipped with strings in order to make them fast to the lashings of the cuirass.

3. Iroquois

   Charlevoix, Journal..., 1923, p. 320. "Rings" referred to may represent an error in translation or in the original, with the idea of rods having been intended; by context seems to refer to Iroquois.

4. Huron and Iroquois

   Thwaites, The Jesuit Relations..., 1896-1901, Vol. 13, p. 272, citing Lafitau, Moeurs des Sauvages, Vol. 2, p. 197. Refers generally to natives of New France, but probably more specifically to Huron and Iroquois.

5. Tarascan

   Hough, ...Armor, 1895, p. 645, citing Brinton, American Race.

Armor for the Legs

1. Tlingit

   Hough, ...Armor, 1895, Pl. 10.

2. Kutenai

   Turney-High, ...Kutenai, 1941, p. 87.

Tribe or Location Authorities and Notes

3. Iroquois

Charlevoix, Journal..., 1923, p. 320. (See note under Iroquois--Charlevoix above.)

4. Huron

Sagard, The Long Journey..., 1939, p. 154.

Champlain, Voyages and Discoveries..., 1929, Pl. 6, fig. E.

5. Penobscot

Speck, Penobscot Man, 1940, p. 147.

6. Nahua

Bandelier, On the Art of War..., 1877, n. 59, p. 110. Seemingly illustrated in codices.

7. Tarascan

Hough, ...Armor, 1895, p. 645, citing Brinton, American Race.

Apron or Kilt Armor

1. Haida

La Pérouse, A Voyage..., 1807, Vol. 1, p. 328, citing Maurelle (voyage of 1779). Natives of Bucarelli Bay (Kaigani?).

2. Nootka

Curtis, The North American Indian, 1907-30, Vol. 11, p. 70.

3. Huron

Champlain, Voyages and Discoveries..., 1929, Pl. 6, fig. E. Context seems to indicate Huron.

4. Penobscot

Speck, Penobscot Man, 1940, p. 147.

Tribe or Location	Authorities and Notes
Full Body Armor Cited	
1. Huron	
	Lalemant, Relation..., 1898, Vol. 23, p. 155.
	Sagard, The Long Journey..., 1939, p. 154.

APPENDIX E

DISTRIBUTION OF TUNIC AND JACKET HIDE ARMOR IN NORTH AMERICA

Tribe or Location — Authorities and Notes

1. St. Lawrence Island

   Cadzow, Objects from St. Lawrence Island, 1925, p. 124. An ivory figurine showing hoop (?) armor found here; may have been imported.

2. Tanaina: Tyonek area

   Osgood, The Ethnology of the Tanaina, 1937, p. 111. "skin armor made from a base of brown bear skin cut and sewn like a parka over the whole of which is added alternating coatings of spruce gum and sand." (Fieldwork, 1931-34.)

3. Tanaina: Middle Inlet and Kenai area

   Osgood, The Ethnology of the Tanaina, 1937, p. 111. Above statement for Tyonek area pertains also to Kenai area.

   Osgood, Tanaina Culture, 1933, p. 704. Armor "in the form of a grizzly bear parka covered with alternate layers of spruce gum and sand." (Middle Inlet; fieldwork, 1931.)

4. Tanaina: Lower Inlet and Kachemak Bay area

   Osgood, Tanaina Culture, 1933, p. 704. Above statement for Middle Inlet pertains to Lower Inlet also.

   Osgood, The Ethnology of the Tanaina, 1937, p. 111. Above statement for Tyonek and Kenai area pertains also to Kachemak Bay area.

5. Tlingit

   Hough, Primitive America Armor, 1895, Pls. 16-18. U. S. National Museum specimens, Cat. Nos. 130587, 60239, 60240, and 130588. All are waist or hip length forms; 130588 wraps around right side, leaving left side open but all others wrap around left side,

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5. Tlingit (continued)

leaving right side open;but all fasten over both shoulders, leaving a gap for the head; all have a hole for the arm on the wrapped side.

Niblack, The Coast Indians..., 1890, p. 268. "doublet or shirt...has an opening for the neck and one for the left arm; the right side is not sewed up" but "is secured by ties or toggles and straps." (Fieldwork, 1885-87.)

6. Tlingit: Chilkat

Hough, Primitive American Armor, 1895, Pl. 19, fig. 1. U. S. National Museum specimen, Cat. No. 46464. A waist length form, wrapped around left side, open down right; fastened over each shoulder leaving gap for head; hole for left arm.

7. Tlingit: Lituya Bay

Emmons, Native Account..., 1911a, p. 297. "heavy coats of hide." (From native account pertaining to La Perouse's visit in 1786.)

8. Tlingit: Sanyakwan

Drucker, Northwest Coast, 1950, p. 187. "Hide tunic (long)." (Fieldwork, 1937.)

9. Tlingit: Nass

Niblack, The Coast Indians..., 1890, pp. 268-70. Hide armor which had in the center "a hole sufficient to admit the head and left arm to pass through," worn "over the right shoulder and under the left arm," the "left side...sewed up, but the right side remains open." (Citing Vancouver, Voyage, Vol. 2, p. 339.)

10. Tlingit: Taku

Hough, Primitive American Armor, 1895, Pl. 19, fig. 2. U. S. National Museum specimen, Cat. No. 168159. Similar to example described above under Tlingit: Chilkat.

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11. Haida: Bucarelli Bay (Kaigani ?)

La Pérouse, A Voyage Round the World..., 1807, Vol. 1, p. 328, citing Maurelle. "a fine skin hanging from the shoulder almost to the knee" worn on top of rod armor. (Year 1779.)

12. Haida: North Island

Newcombe, The Haida Indians, 1907, Vol. 1, p. 139. "'leather for armor'...was one of the items in greatest demand." (Citing Ingraham; year 1772.)

Haida: Massett

Drucker, Northwest Coast, 1950, p. 187. "Hide cuirass." (Fieldwork, 1937.)

Haida: Skedans

Drucker, Northwest Coast, 1950, p. 187. "Hide tunic (long)." (Fieldwork, 1937.)

13. Tsimshian proper: Hartley Bay

Drucker, Northwest Coast, 1950, p. 187. "Hide cuirass." (Fieldwork, 1937.)

14. Tsimshian: Gitksan

Drucker, Northwest Coast, 1950, p. 187. "Hide cuirass." (Fieldwork, 1937.)

15. Kwakiutl

Curtis, E. S., The North American Indians, 1907-30, Vol. 10, p. 18. "sleeveless jackets of tanned skin." (Fieldwork, 1910-14.)

16. Kwakiutl: Haisla

Drucker, Northwest Coast, 1950, p. 187. "Hide cuirass." (Fieldwork, 1937.)

Tribe or location

11. Haida: Nucumeilt

. . . . . Le Jésuites, A. Vogel, ...
p. 329, cited Kroeber.
the microlith also
armor. (Vogel 1777).

12. Haida: North Island

Newcombe, The Haida
"leather for armor
out dancing." (Dr

Haida: Masset

Drucker, Northwest Coast
(Fieldwork, 1937.)

Haida: Skidegate

Drucker, Northwest Coast
(Long). (Fieldwork

13. Tsimshian proper: Ha

Drucker, Northwest Coast
(Fieldwork, 1937.)

14. Tsimshian: Gitksan

Drucker, Northwest
(Fieldwork, 1937.)

15. Kwakiutl

Curtis, E. S., The
Vol. 10, p. 10.
(Fieldwork, 1910-1

16. Kwakiutl: Nakalm

Drucker, Northwest Coast
(Fieldwork, 1937.)

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17. Kwakiutl: Haihais

Drucker, Northwest Coast, 1950, p. 187. "Hide cuirass." (Fieldwork, 1937.)

18. Kwakiutl: Bella Bella

Garfield, Tsimshian Clan and Society, 1939, p. 268. "a thick, sleeveless leather jacket." (From a tale; fieldwork, 1932-37.)

19. Kwakiutl: Kosquimo and Kwexa

Drucker, Northwest Coast, 1950, p. 187. "Hide cuirass." (Fieldwork, 1937.)

20. Bella Coola

Drucker, Northwest Coast, 1950, p. 187. "Hide cuirass." (Fieldwork, 1937.)

21. Salish: Klahuse

Barnett, Gulf of Georgia Salish, 1939, p. 247. "Elkskin gown, sleeveless." (Fieldwork, 1934-35.)

22. Salish: Squamish

Barnett, Gulf of Georgia Salish, 1939, p. 247. "Elkskin gown, sleeveless;" also "Elkskin vest." (Fieldwork, 1934-35.)

23. Salish: Cowichan proper

Barnett, Gulf of Georgia Salish, 1939, p. 247. "Elkskin vest." (Fieldwork, 1934-35.)

24. Nootka

Cook, A Voyage..., 1785, Vol. 2, pp. 307-8. "a thick leathern mantle doubled" from the "throat to the heels." (Nootka Sound, year 1778.)

Drucker, Northwest Coast, 1950, p. 187. "Hide cuirass." (Clayoquot; Fieldwork, 1936.)

Tribe or Location Authorities and Notes

24. Nootka (continued)

Drucker, The Northern and Central Nootkan Tribes, 1951, pp. 103, 207. "elk-skin armor." (Fieldwork, 1935-36.)

Koppert, Contributions to Clayoquot Ethnology, 1930, p. 105. "the armor is worn after the manner of a modern vest, laced in the front with a thong." (Clayoquot.)

Meares, Voyages..., 1790, p. 254. "a thick leathern frock or doublet...reaches from the neck to the heels." (Nootka Sound, year 1788.)

25. Puget Sound

Eels, The Puget Sound Indians, 1887, p. 214. For armor they "formerly made shirts...from...skins." (c.a. 1887.)

26. Twana; Chemakum; and Klallam

Eels, The Twana, Chemakum, and Klallam Indians..., 1889, p. 633. "a kind of shirt made of dried buck-skin," as armor. (c.a. 1889.)

27. Quinault

Spier, Havasupai Ethnography, 1928, p. 258. (From armor distribution list; information provided by Olson.)

28. Kutchin

Spier, Havasupai Ethnography, 1928, p. 258. (From armor distribution list, Loucheux.)

29. Hare

Spier, Havasupai Ethnography, 1928, p. 258. (From armor distribution list.)

30. Kaska: Upper Liard River

Honigmann, The Kaska Indians..., 1954, p. 93. "bear skin armor in the form of a sleeveless coat that reached to the knees." (Fieldwork, 1944-45.)

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31. Tahltan

Emmons, The Tahltan Indians, 1911b, p. 116. "a defensive dress of hard tanned moose or goat skin."

Honigmann, The Kaska Indians..., 1954, n., p. 98. "skin armor...of thick goat skin." (Citing Jenness, Indians of Canada, 1932, p. 372.)

32. Sekani

Spier, Havasupai Ethnography, 1928, p. 258. (From armor distribution list.)

33. Western Déné

Morice, The Western Dénés..., 1889, pp. 140-41. "a sleeveless tunic falling to the knees,...of moose skin,...soaked in water, then repeatedly rubbed on the sandy shores of a stream or lake and dried with the sand and small pebbles adhering thereto, after which it was thoroughly coated with a...glue, the principal ingredient of which was boiled isinglas obtained from the sturgeon," process repeated several times.

Morice, The Canadian Dénés..., 1906, p. 217. "armour... of stiffened skin."

34. Carrier

Morice, Notes Archaeological, 1894, p. 149. Statement almost identical to one above for Western Dene under Morice, 1889.

Ray, Plateau, 1942, p. 153. "Elkskin poncho or vest," as armor. (Lower Carrier; fieldwork, 1936-37.)

Babine

Spier, Havasupai Ethnography, 1928, p. 258. (From armor distribution list.)

35. Chilcotin

Morice, The History of the Northern Interior of British Columbia, 1904, p. 17. "a sleeveless, tunic-like

Tribe or Location | Authorities and Notes

35. Chilcotin (continued)

cuirass of moose-skin covered with a coat of glued sand and gravel." (From a tale pertaining to ca. 1745.)

Teit, The Shuswap, 1909, p. 785. "thick elk-hide shirts" as armor. (Fieldwork, 1900.)

36. Lillooet

Ray, Plateau, 1942, p. 153. "Gown of elkskin," as armor. (Fieldwork, 1936-37.)

Teit, The Lillooet Indians, 1906, p. 234. "sleeveless tunics of double elk-skin reaching to the knee," as armor.

37. Shuswap

Teit, The Shuswap, 1909, p. 338. "Sleeveless tunics of double and treble elk-skins" as armor. (Fieldwork, 1887-1904.)

38. Thompson

Ray, Plateau, 1942, p. 153. "Elkskin poncho or vest" as armor. (Lower Thompson; fieldwork, 1936-37.)

Teit, The Thompson Indians..., 1900, p. 265. "a tunic of elk-hide, that reached about halfway to the knee. The sleeves came to the elbows. Before being used, it was soaked in water..."

39. Okanagan

Cline, et. al., The Sinkaietk..., 1938, p. 55. For the southerly bands of Southern Okanagan, one type of armor, a poncho of a single piece of rawhide, reaching to below the hips, with hole cut for head, laced together on sides. Another type for same group of two pieces of rawhide, one in front, one in back, sewn over shoulders and tied at the sides, being cut to fit shoulders and neck, reaching to waist or lower. Northerly bands of Southern Okanagan used armor similar to last described. (Fieldwork, 1930.)

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39. Okanagan (continued)

Teit, The Salishan Tribes..., 1930, p. 256. "Cuirasses ... of heavy hide....Some...were low, and only encircled the waist." (Okanagan and Sanpoil; fieldwork, 1904-09.)

40. Sanpoil

Teit, The Salishan Tribes..., 1930, p. 256. Statement by Teit, 1930, under Okanagan pertains.

41. Kalispel

Ray, Plateau, 1942, p. 153. "Elkskin poncho or vest" as armor. (Fieldwork, 1936-37.)

42. Flathead

Teit, The Salishan Tribes..., 1930, p. 359. "cuirasses of heavy elk skin and rawhide." (Fieldwork, 1904-09)

43. Coeur d'Alene

Teit, The Salishan Tribes..., 1930, p. 117. "A sleeveless shirt or tunic of heavy elk hide, reaching below the hips," if possible, "soaked in water before being used."

44. Nez Perce

Curtis, E. S., The North American Indian, 1907-30, Vol. 8, p. 45. "armor...of rawhide...protected the upper part of the body, had half-length sleeves, and was fastened at the front with thongs."

Spinden, The Nez Perce Indians, 1908, p. 228. "a sleeveless tunic of elk-hide which hung almost to the knees." (Fieldwork, 1908.)

45. Yakima

Pandosy, Grammar and Dictionary..., 1862, p. 38. A Yakima language dictionary listing of "armor, (cuirass) krem-na-was;" probably refers to hide armor.

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46. Klikitat

Ray, Plateau, 1942, p. 153. "Elkskin poncho or vest." (Fieldwork, 1936-37.)

47. Western Washington; Northwestern Oregon

Gibbs, Tribes of Western Washington..., 1877, p. 192. "elk skin shirt, remarkably thick, doubled...with holes for the arms...,descends to the ankles." (Citing Cox, Adventures..., 1832; probably Chinook.)

48. Chinook: Kathlamet

Boas, Kathlamet Texts, 1901, pp. 27,28. Elkskin armor mentioned in text of a myth.

49. Chinook: Lower

Ray, Lower Chinook..., 1938, p. 60. Armor "of double thickness of elk skin covered the body down to the ankles; arm holes were provided." (Fieldwork, 1931-36.)

Ray, Plateau, 1942, p. 153. "Elkskin poncho or vest." (Fieldwork, 1936-37.)

Ross, Adventures of the First Settlers..., 1904, p. 104. Armor "of elk-skin, dressed and worked to the thickness of nearly half an inch...covers the whole body, with an opening left on the right side." (Travels, 1810-13.)

50. Alsea

Drucker, Contributions to Alsea Ethnography, 1939, p. 87. "voluminous gowns of doubled elkskin" for armor. (Fieldwork, 1933-34.)

51. Siuslaw

Barnett, Oregon Coast, 1937, p. 170. "Elkhide armor-gown, sleeveless, I piece, hole for head." (Fieldwork, 1934.)

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52. Tututni

Barnett, Oregon Coast, 1937, p. 170. "Elkhide armor-gown, sleeveless, 1 piece, hole for head." (Fieldwork, 1934.)

Curtis, E. S., The North American Indian, 1907-30, Vol. 13, pp. 97,228. "elk rawhide tunic." (Fieldwork, 1916-17.)

Galice Creek

Barnett, Oregon Coast, 1937, p. 170. Same statement as Barnett, 1937, under Tolowa.

Sixes River

Barnett, Oregon Coast, 1937, p. 170. Same statement as Barnett, 1937, under Tolowa.

53. Tolowa

Barnett, Oregon Coast, 1937, p. 170. "Elkhide armor-gown, sleeveless, 1 piece, hole for head." (Fieldwork, 1934.)

Curtis, E. S., The North American Indian, 1907-30, Vol. 13, pp. 97, 228. "elk rawhide tunic." (Fieldwork, 1916-17.)

Driver, Northwest California, 1939, pp. 328, 391. Armor of "Elkhide, no rods,...double thickness,... to knees or more" (p. 328). "Fine gravel glued to elkhide" (p. 391). (Fieldwork, 1935.)

Drucker, The Tolowa..., 1937, p. 87 . "Armor, tunic-like affair of heavy elk hide; 'wet so arrows would slip off.'" (Fieldwork, 1933-34.)

54. Takelma

Sapir, Notes on the Takelma Indians..., 1907, p. 273. Rod armor was "covered with two undressed hides... sewn together." (Fieldwork, 1906.)

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54. Takelma (continued)

Sapir, Takelma Texts, 1909, pp. 157, 255. "elk skin armor" (p. 157, from text of a myth). "armor of elk hide" (p. 255, from a vocabulary). (Fieldwork, 1906.)

55. Karok

Driver, Northwest California, 1939, p. 328. "Elkhide, no rods" (Upper and Lower Karok). "Double thickness...bearhide" (Lower Karok). (Fieldwork, 1935.)

56. Yurok

Driver, Northwest California, 1939, p. 328. "Elkhide, no rods,...to knees or more" (Martins Ferry). "Elkhide, no rods,...double thickness (Requa). (Fieldwork, 1935.)

57. Wiyot

Driver, Northwest California, 1939, pp. 328, 391. Wiyot of Eel River. "Elkhide, no rods,...double thickness,...to knees or more" (p. 328). "Hide fastened at back" (p. 391). (Fieldwork, 1939.)

58. Hupa

Curtis, E. S., The North American Indian, 1907-30, Vol. 13, p. 7. "elk-hide tunics of single or double thickness." (Fieldwork, 1916-17.)

Driver, Northwest California, 1939, p. 328. "Elkhide, no rods."

Hough, Primitive American Armor, 1895, Pl. 20. U. S. National Museum specimen, Cat. No. 126908. A full length hid tunic wrapped around left side, open on right, slit for left arm, no tailoring for shoulders and neck.

Mason, The Ray Collection..., 1889, p. 230, fig. 105. Same specimen as above under Hough. Adds that there is a "tie on the right shoulder, and it is also tied below the right arm."

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58. (continued)

Chilula

Driver, Northwest California, 1939, p. 328. "Elkhide, no rods." (Fieldwork, 1935.)

Mattole

Driver, Northwest California, 1939, p. 328. "Elkhide, no rods." (Fieldwork, 1935.)

Nongatl

Driver, Northwest California, 1939, p. 328. "Elkhide, no rods." (Fieldwork, 1935.)

Sinkyone

Driver, Northwest California, 1939, p. 328. "Elkhide, no rods,...double thickness,...to knees or more." (Fieldwork, 1935.)

Nomland, Sinkyone..., 1935, p. 158. "Elk hide armor ...doubled at neck, raised up high in back; hung below knees, tied at neck, across chest with string. Cut out on shoulder, slit down right side." (Fieldwork, 1928-29.)

Lassik

Essene, Round Valley, 1942, p. 17. "Elkhide, no rods, ...to knees or more." (Fieldwork, 1938.)

Wailaki

Klimek, The Structure of California Indian Culture, 1935, Table 5. "Elkskin armor." (Secondary sources.)

Kroeber, Handbook..., 1925, p. 845. "Elkskin armor."

Kato

Driver, Northwest California, 1939, p. 328. "Elkhide, no rods,...double thickness,...to knees or more." (Fieldwork, 1935.)

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58. Kato (continued)

Essene, Round Valley, 1942, p. 17. "Elkhide, no rods,...to knees or more." (Fieldwork, 1938.)

Loeb, The Western Kuksu Cult, 1932, p. 16. "double deer-hide aprons" as armor. (Fieldwork, 1930.)

59. Chimariko

Driver, Northwest California, 1939, p. 328. "Elk-hide, no rods,...double thickness,...to knees or more." (Fieldwork, 1935.)

60. Wintu

DuBois, Wintu..., 1935, p. 124. "Elkskin; whole hide used; split down belly, laced together in front; legs cut off and wearer's arms thrust through holes; neck of animal placed around wearer's neck; rump... hangs down to wearer's heels."

Voegelin, Northeast California, 1942, p. 73. "Hide tunic, no rods." (Fieldwork, 1936.)

61. Wintun

Curtis, E. S., The North American Indian, 1907-30, Vol. 14, p. 190. "elk-hide tunic" as armor. (Northern Wintun; fieldwork, 1915-24.)

Gifford and Kroeber, Pomo, 1937, p. 142. "Elk skin armor." (Hill Wintun)

Goldschmidt, Nomlaki Ethnography, 1951, p. 425. Elk-hide armor "slipped over head, rested on the shoulders, and reached to the ankles." (Hill Wintun; fieldwork, 1936.)

62. Patwin

Gifford and Kroeber, Pomo, 1937, p. 142. "Elk-skin armor." "Informant uncertain, or did not understand." (Hill Patwin)

Klimek, The Structure of California Indian Culture, 1935, Table 5. "Elkskin armor." (River Patwin; secondary

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62. Patwin (continued)

sources.)

Kroeber, The Patwin..., 1932, p. 299. "Elk hide tunic from neck to knees, possibly with sleeves." ("authenticated only for the hills.")

63. Yuki

Curtis, E. S., The North American Indian, 1907-30, pp. 41. "untanned elk-skin tunics" as armor. (Fieldwork, 1915-24.)

Foster, A Summary of Yuki Culture, 1941, p. 190. "Elkskin armor." (Fieldwork, 1937.)

64. Pomo

Barrett, Material Aspects..., 1952, p. 191. "Bear Doctor's suit" served as a kind of armor. "The heavy skin of the suit...sometimes lined with a layer of soaproot fibers." (Fieldwork 1894-1952.)

Essene, Round Valley, 1942, p. 17. "Elkhide with rod bracing." (Northern Pomo; fieldwork, 1938.)

Gifford and Kroeber, Pomo, 1937, p. 142. "Elkskin armor" (Northern and Southern Pomo). "Deer-hide armor" (Eastern Pomo). "Bear-skin armor" (Northern, Southern, and Eastern Pomo).

65. Klamath

Spier, Klamath Ethnography, 1930, p. 196. "The tunic ...of elk hide, alternately of bear or deer skin, hangs to the calf, has holes for the arms, and is tied together down the sides." (Fieldwork, 1925-26.)

Voegelin, Northeast California, 1942, p. 73, 192. "Hide tunic, no rods" (p. 73). "1-piece; no sleeves; 2 arm holes; tied together on 1 side and at top, over 1 shoulder" (p. 192). Eastern Achomawi informant said Klamath armor was made like an apron, lacking any backpiece (p. 192). (Fieldwork, 1936.)

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66. Modoc

Kroeber, Handbook..., 1925, p. 332. "Armor...of doubled elk skins."

Voegelin, Northeast California, 1942, p. 73. "Hide tunic, no rods."

67. Shasta

Dixon, The Shasta, 1907, p. 438. "elk-hide...armor." (Fieldwork, 1900-04.)

Kroeber, Handbook..., 1925, p. 298. "elk skin... armor."

Voegelin, Northeast California, 1942, p. 73. "Hide tunic, no rods." (Eastern Shasta; fieldwork, 1936.)

68. Achomawi

Curtis, The North American Indian, 1907-30, Vol. 13, p. 142. "two-ply tunic of elk-skin reaching below the knees and up around the back of the head." (Fieldwork, 1916-17.)

Kroeber, Handbook..., 1925, p. 310. "long body armor of hard elk or bear hide."

Voegelin, Northeast California, 1942, p. 73. "Hide tunic, no rods." (Fieldwork, 1936.)

69. Atsugewi

Garth, Atsugewi Ethnography, 1953, p. 154. "gowns... of dried elk or bear skins...extended to the ankles or lower...worn over one shoulder so that it protected only the side turned toward enemy." (Fieldwork, 1953.)

Voegelin, Northeast California, 1942, p. 73. "Hide tunic, no rods." (Fieldwork, 1936.)

70. Yana

Gifford and Klimek, Yana, 1936, p. 82. "Elkskin armor" (Central Yana). "Armor a frontpiece of rods and

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70. Yana (continued)

elkskin" (Northern Yana). (Fieldwork, 1934.)

Sapir and Spier, Notes on the Culture of the Yana, 1943, p. 269. "Elkhide armor...reached to hips, leaving arms unprotected." (Fieldwork, 1907.)

71. Maidu

Curtis, E. S., The North American Indian, 1907-30, Vol. 14, p. 110. "long, elk-hide shirt" as armor. (Valley Maidu; Fieldwork, 1915-24.)

Klimek, ...California Indian Culture, 1935, Table 5. "Elkskin armor." (Northern Maidu; secondary sources.)

Kroeber, Handbook..., 1925, pp. 400, 845. "The elkhide coat...more characteristic of the valley" (p. 400). "Elkskin armor...found among the...northern valley Maidu (p. 845).

72. Paviotso

Lowie, Notes on Shoshonean Ethnography, 1924, p. 245. "an armor of stiffest animal hide, doubled so as to be hard and stiff. They wetted it first, then stiffened it by drying....The whole body was covered with it." (Pyramid Lake, Fallon, and Lovelock.)

73. Snake or Shoshoni

Coues, History of the Expedition..., 1893, p. 561. "armor something like a coat of mail, which is formed by a great many folds...of dressed antelope-skins, united by means of a mixture of glue and sand. With this they cover their own bodies and those of their horses." (Apparently Lemhi River Shoshoni; Lewis and Clark Journal, seen A.D. 1805.)

Secoy, Changing Military Patterns..., 1953, p. 47. "'a Coat without sleeves six fold leather quilted, used by the Snake tribe to defend them.'" (Citing Cocking, An Adventurer from Hudson Bay, Burpee, ed., Proceedings and Transactions, Royal Society of Canada, 1908, p. 110; seen A.D. 1772.)

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74. Northern Plains

Ewers, The Horse..., 1955, p. 204. "the Cree and their enemies...wore 'coats of mail, made of many folds of drest leather.'" (Citing Umfreville, The Present State of Hudson's Bay..., London, 1790, pp. 188-189; seen c.a. A.D. 1775.)

75. Blackfoot

Ewers, The Horse..., 1955, pp. 203-04. "Wind River Shoshoni referred to the Blackfoot as 'Hard-clothes (armor) people.'" (Citing Shimkin, Wind River Shoshoni Ethnogeography, University of California--Anthropological Records, Vol. 5, p. 251.) "long shirts, reaching below the knees, made of three thicknesses of buckskin" (Blackfoot informant).

Secoy, Changing Military Patterns..., 1953, p. 47. "'Jackets of Moose leather six fold, quilted, & without sleeves.'" (Citing Cocking, An Adventurer from Hudson Bay, Proceedings and Transactions, Royal Society of Canada, Burpee, ed., 1908, p. 111; seen A.D. 1772.)

Wissler, Material Culture of the Blackfoot Indians, 1910, p. 163. "buckskin shirts of two or morethicknesses" as armor (traditional).

76. Cree: Plains

Ewers, The Horse..., 1955, p. 204. "'coats of mail, made of many folds of drest leather.'" (Citing Umfreville, Present State of Hudson's Bay..., London, 1790, p. 188-189; seen c.a. A.D. 1775.)

77. Yankton

Pond, Journal..., 1908, p. 354. Armor "a Garment Like an Outside Vest with Sleeves that Cum Down to thare Elboes Made of Soft Skins and Several thicknesses." (Seen A.D. 1774-74.)

78. Cheyenne

Curtis, E. S., The North American Indian, 1907-30, Vol. 6, p. 157. "a shirt of mail...of two layers

Tribe or Location | Authorities and Notes

78. Cheyenne (continued)

of deerskin separated by a layer of pebbles held in place by means of glue," before guns were common.

79. Pawnee

Hough, ...Armor, 1895, p. 646. "Mr. Dorsey informs methat there is reason to believe that the Pawni formerly employed a kind of hide cuirass and a defensive helmet."

80. "Padouca"

Fletcher and La Flesche, The Omaha Tribe, 1911, p. 79. Horse armor "was made of thick rawhide cut in round pieces and made to overlap likethe scales on a fish. Over the surface was sand held on by glue....Some of them ["Padouca"] had breastplates made like those on their horses." (From a Ponca tradition of an early Ponca battle with the "Padouca.")

Hough, ...Armor, 1895, p. 646. "Du Pratz states that the Padoucas (Comanches) 'cover their horses with dressed leather (probably bison hide) hanging down quite round...' it is perhaps permissible to infer that their riders were protected in the same way."

Margry, Mémoires et Documents..., 1879-88, Vol. 6, p. 446. "ils ont des peaux de boeuf passées exprès, dont ils se garnissent, en ils entourent les chevaux." (Extract from De Bourgmont, Relation du Voyage du Sieur De Bourgmont, [1724]; seen A.D. 1724.)

81. Wichita

Lewis, La Harpe's First Expedition..., 1924, p. 346. "'These nations raise very good horses being unable to do without them either in war or hunting. They have saddles, bridles which are very well made and even wear breastplates of leather to protect their flesh.'" (Human or horse armor? Citing La Harpe's journal in Margry, Decouvertes et Establessement des Francais...)

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82. Hasinai

Kellogg, Early Narratives..., 1917, p. 320. "body covering of several skins, oneover the other" as armor. (Extract from Memoir on La Salle's Discoveries, by Tonty, 1678-1690, [1693]; seen A.D. 1690.)

Swanton, Source Material..., 1942, p. 189-90. "'For defensive arms they have...leather jackets (cuera).'" (Refers to the Hasinai confederacy and "'up to its borders'"; extract from Morfi, Memories for the History of the Province of Texas; period A.D. 1673-1779.)

83. Southwest

Winship, The Coronado Expedition..., 1896, p. 548. "'leather jackets, which are made of cows' hide, colored'" as armor. (Extract from a letter of Mendoza to the King, 1540; Mendoza is direct quoting Melchior Diaz who solicited an account of the Pueblo country from various Indians about 150 leagues north of Culiacan, Sinaloa, Mexico; above citation pertained to a sedentary village people living to the north.)

84. Apache

Barreiro, Ojeada..., 1942, p. 311. "defensivas [armas] de cuera y chimal" (Apache of the Mexican province of New Mexico, c.a. A.D. 1832.)

Espinosa, Crusaders..., 1942, p. 151. "leather jackets" as armor (Probably eastern Apache since reference is to war junta of "Tewas, Tanos, Picuries and many Apaches" in A.D. 1693; citing Vargas' Journal.)

Russell, Pima Annals, 1903, p. 78. "rawhide armor" (Probably western Apache since reference is to Apache raid against Pima, A.D. 1836-37.)

85. Apache, Eastern or Lipan

Dunn, Apache Relations in Texas..., 1911, p. 222. "skin armor, painted variously blue, red, green, or white." (Citing Flores in documentary sources; period A.D. 1718-50.)

Tribe or Location Authorities and Notes

85. Apache, Eastern or Lipan (continued)

Ibid., p. 232. "armed with leather breastplates." (Citing Bustillo, in documentary source; seen A.D. 1732.)

Secoy, Changing Military Patterns..., 1953, p. 13. "leather armor for both horse and rider." (Citing French, 1851, Vol. 3, pp. 47-48.)

86. Apache: Mescalero

Gifford, Apache-Pueblo, 1940, pp. 32, 123. "Armor of hide" (p. 32). "six-ply buckskin" (p. 123). (Fieldwork, 1935.)

87. Apache: Gila

Thomas, Forgotten Frontiers, 1932, p. 217. "'A cuirass and its round covering for the hind quarters of a horse.'" (Human or horse armor? Extract from Diary of Captain Martinez..., 1780; campaign against Gila Apache, 1780.)

88. Apache: San Carlos

Gifford, Apache-Pueblo, 1940, pp. 32, 123. "Armor of hide" (p. 32.) "tunic, open at neck" (p. 123). (Fieldwork, 1935.)

89. Apache: Janos and others

Thomas, Forgotten Frontiers, 1932, p. 216. "Soldiers with leather armor" listed for "Janos," "San Elezario," "San Buenaventura," and "Carrizal." (From a list of troops, some locally recruited, for a campaign against Gila Apache; extract from Diary of Captain Martinez...1780.)

90. Navajo

Franciscan Fathers, An Ethnologic Dictionary..., 1910, pp. 458-59. "so-called big shirt was made of four-ply buckskin glued with pitch."

Hill, Navaho Warfare, 1936, p. 9. "armor of four thicknesses of buckskin,...had sleeves which reached

Tribe or Location Authorities and Notes

90. Navajo (continued)

almost to the elbow,...fitted tightly around the neck and were laced across the chest with a series of thongs." Layers of skin were separated by layers of catus glue and leather cuttings, "then the shirt was quilted to insure its keeping its shape. Another type was made of eight buckskins. It was constructed...as the first but reached down to the knees, ...slit at the bottom both in front and behind, in order that...horse might be straddled." (Fieldwork, 1936.)

91. Havasupai

Spier, Havasupai Ethnography, 1928, pp. 249-50. Armor a shirt or smock fitting close around neck, hanging nearly to ground. Of 2 thicknesses buckskin, sewed but not glued together. (Fieldwork, 1918-21.)

92. Walapai

Kniffen, et al., Walapai..., 1935, p. 96. "Several layers of buckskin were worn as armor. These consisted of a front and a back piece tied together under the arms, leaving a head hole; a separate collar was tied around the neck."

93. Pueblos

Cushing, Pueblo Indians..., 1896, p. 848. "cuirasses of skin."

Espinosa, Crusaders..., 1942, p. 151. Statement under Espinosa for Apache (No. 84) pertains.

94. Hopi

Hill, Navaho Warfare, 1936, pp. 5-6. "'Every Oraibi warrior had a buckskin tied over his left and under his right shoulder;'" from a Navajo account of a raid on the Hopi; it may not be a reference to armor. (Fieldwork, 1936.)

Tribe or Location Authorities and Notes

95. Zuni

Spier, Havasupai Ethnography, 1928, p. 258. From armor distribution list.

96. Keres

Gifford, Apache-Pueblo, 1940, pp. 32, 123. "armor of hide" (p. 32). "1 thickness buckskin" (p. 123). (Santa Ana; fieldwork 1935.)

97. Tewa

Espinosa, Crusaders..., 1942, p. 60. "leather jackets." (Inferred for Tesuque but not directly stated; citing Vargas Journal, Sept. 14, 1692.)

Ibid., p. 151. See the statement under Espinosa for Apache (No. 84.) (Tewas, Tanos, Picuries)

Gifford, Apache-Pueblo, 1940, pp. 32, 123. "armor of hide" (p. 32). "heavy buckskin or buffalo-hide" (p. 123). (San Ildefonso; fieldwork, 1935.)

Thomas, After Coronado, 1935, p. 93. "'From the pueblo of Nambé, ten, with blankets, leather jackets and guns.'" (From muster roll of Indian troops on Hurtado's campaign to the plains, dated 1715; citing documentary source.)

98. Tiwa

Espinosa, Crusaders..., 1942, p. 151. See this statement under Espinosa for Apache (No. 84.) (Picuries)

99. Seri

Kroeber, The Seri, 1931, p. 16. "Body armor, with sleeves and helmet...of hide, were worn." (Fieldwork, 1930.)

100. Cree, Eastern; Salteaux, Northern

Skinner, Notes on the Eastern Cree..., 1911, p. 78. Armor made of wood, bark, or hard leather which rested next to skin of wearer, covered with outer skin

Tribe or Location Authorities and Notes

100. Cree, Eastern; Salteaux, Northern (continued)

which was inflated; almost certainly does not belong in category of more western skin tunics and jackets. (Fieldwork, 1908-09.)

101. Iroquois, Mohawk

Wood, Nevv Englands Prospect, 1898, p. 61. "sea horse skinnes and barkes of trees, made by their Art as impenitratable it is thought as steele, wearing head peeces of the same." (Experience, A.D. 1629-33.)

102. Nahua

Beals, The Comparative Ethnology of Northern Mexico..., 1932, p. 116. "hide or tunic armor."

103. Mixtec

Beals, The Comparative Ethnology of Northern Mexico..., 1932, p. 116. "hide or tunic armor."

Joyce, Mexican Archaeology, 1920, p. 126. "The defensive armour of the Mixtec was of hide."

APPENDIX F

DISTRIBUTION OF THE USE OF AN ADHESIVE WITH SAND OR GRAVEL TO FORTIFY ARMOR IN NORTH AMERICA

Tribe or Location — Authorities and Notes

1. Tanaina

   Osgood, Tanaina Culture, 1933, p. 704. (Fieldwork, 1931.)

   Osgood, The Ethnology of the Tanaina, 1937, p. 111. (Fieldwork, 1931-34.)

2. Sekani

   Jenness, The Sekani Indians..., 1937, pp. 18, 37. (Fieldwork, 1924.)

3. Western Dene

   Morice, The Western Denes..., 1889, pp. 140-41.

4. Carrier

   Morice, Notes Archaeological..., 1894, p. 149.

5. Chilcotin

   Morice, The History of the Northern Interior of British Columbia, 1904, p. 17. (From a tale pertaining to about A.D. 1745.)

6. Shuswap

   Teit, The Shuswap, 1909, p. 538. (Fieldwork, 1887-1904.)

7. Okanagan

   Teit, The Salishan Tribes..., 1930, p. 256. (Fieldwork, 1904-09.)

8. Sanpoil

   Teit, The Salishan Tribes..., 1930, p. 256. (Fieldwork, 1904-09.)

Tribe or Location | Authorities and Notes

9. Tolowa

Driver, Northwest California, 1939, p. 391. (Fieldwork, 1935.)

10. Shoshoni: Lemhi River

Coues, ...Lewis and Clark, 1893, Vol. 2, p. 561. (from journal of Lewis and Clark; seen A.D. 1805.)

11. Cheyenne

Curtis, E. S., The North American Indian, 1907-30, Vol. 6, p. 157.

12. "Padouca"

Fletcher and La Flesche, The Omaha Tribe, 1911, p. 79. (From a Ponca tradition of an early contact with the "Padouca.")

13. Navajo

Franciscan Fathers, An Ethnologic Dictionary..., 1910, p. 458. "four-ply buckskin glued with pitch."

Hill, Navaho Warfare, 1936, p. 9. Multiple-ply buckskin separated by layers of glue and leather cuttings. (Fieldwork, 1933.)

14. Havasupai

Spier. Personal communication. Probable but not certain.

15. Walapai

Spier. Personal communication. Probable but not certain.

APPENDIX G

SOURCE MATERIAL ON WIDE BELT ARMOR IN NORTH AMERICA

Tribe or Location — Authorities and Notes

1. Nootka

   Drucker, ...Nootkan Tribes, 1951, p. 207. "wide belt, usually of twisted cedar bark, although it might be of hide" worn by shaman while curing disease; one shaman wore hid elkskin (jacket?) armor in curing. (Fieldwork, 1935-36.)

2. Okanagan

   Teit, The Salishan Tribes..., 1930, p. 256. Some hide cuirasses "were low, and only encircled the waist." (Fieldwork, 1904-09.)

3. Sanpoil

   Citation of Teit under Okanagan above pertains.

4. Coeur d'Alene

   Ray, Plateau, 1942, p. 153. "Wide rawhide belt" as armor. (Fieldwork, 1936-37.)

5. Kutenai

   Citation of Ray under Coeur d'Alene above pertains.

6. Klikitat

   Ray, Plateau, 1942, p. 153. "Wide rawhide belt" as armor; somedoubt on part of Ray. (Fieldwork, 1936-37.)

7. Tillamook

   Barnett, Oregon Coast, 1937, p. 170. "Wide rawhide belt for protection." (Fieldwork, 1934.)

8. Siuslaw

   Citation of Barnett under Tillamook above pertains.

Tribe or Location Authorities and Notes

9. Galice Creek; Sixes River

Citation of Barnett under Tillamook above pertains to both these groups.

10. Chetco

Citation of Barnett under Tillamook above pertains.

11. Yuki

Powers, Tribes of California, 1877, p. 129. "wide elk-skin belt" as armor.

12. Mohave

Drucker, Yuman-Piman, 1941, p. 120. "Wide strip of hide etc. around belly" as armor. (Fieldwork, 1938.)

13. Walapai

Citation of Drucker under Mohave above pertains.

14. Maricopa

Drucker, Yuman-Piman, 1941, p. 120. "Rope wrapped around belly" as armor (fieldwork, 1938.) Cotton blanket wrapped around body in folds and wound with a lariat (citing Bartlett, Personal Narrative ..., New York, 1854, Vol. 2, p. 216.)

15. Papago

Citation of Drucker under Mohave above pertains.

APPENDIX H

SOURCE MATERIAL ON THE CURTAIN SHIELD IN NORTH AMERICA

Tribe or Location — Authorities and Notes

1. Carrier

Teit, The Shuswap, 1909, p. 539. "'A cord fastened a blanket or leather covering under the right armpit, so it hung upon the left shoulder, and might be occasionally employed as a target.'" (Citing Alexander Mackenzie; seen A.D. 1793 among Carrier of Frazer River.)

2. Shuswap

Fraser, Journal..., 1889, p. 179. A shield "large enough to cover the whole body,...of splinters of wood like the ribs of stays, and neatly enclosed with twine made of hemp." (Seen A.D. 1808.)

Teit, The Shuswap, 1909, p. 538. "Long shields of double elk-hide were fastened with a thong around the neck. Sometimes...glued and rubbed with sand." (Fieldwork, 1887-1904.)

3. Thompson

Teit, The Thompson Indians..., 1900, p. 266. A shield of an "almost square piece of stiff elk-hide, sometimes double, long enough to cover most of the body, ...fastened around the neck or shoulder with a thong, and two loops...attached for the thumbs of both hands, by which means it was shifted around." (Fieldwork)

4. Kutenai

Ray, Plateau, 1942, p. 153. "Apron of elkskin,... covers exposed side only,...fastened around neck." (Fieldwork, 1936-37.)

5. Coeur d'Alene

Citation of Ray under Kutenai above pertains.

Tribe or Location | Authorities and Notes

6. Modoc

Voegelin, Northeast California, 1942, p. 73. "Hide curtain as shield." (Fieldwork, 1936.)

7. Shasta

Holt, Shasta Ethnography, 1946, p. 313. Shield of whole elkhide "tied at the neck,...protected left side, leaving the right arm free," maneuvered by left arm. (Fieldwork, 1937.)

Citation of Voegelin under Modoc above also pertains.

8. Wintu

Citation of Voegelin under Modoc above pertains.

9. Tolowa

Driver, Northwest California, 1939, p. 328. "Hide curtain held in teeth." (Fieldwork, 1935.)

10. Karok: Lower

Citation of Driver under Tolowa above pertains.

11. Yurok

Driver, Northwest California, 1939, p. 392. "Hide curtain sometimes hung from helmet to chest, with holes for eyes." (Fieldwork, 1935.)

12. Hupa; Chilula

Citation of Driver under Tolowa above pertains to both these groups.

13. Wailaki

Powers, Tribes of California, 1877, p. 129. Shields of stiff elkskin "wide enough to shield two or three men,...worn on the back," warrior turns his back to screen himself from missiles.

Tribe or Location | Authorities and Notes

14. Atsugewi

Garth, Atsugewi Ethnography, 1953, p. 154. "gowns... of dried elk or bear skins...extended to the ankles or lower...worn over one shoulder so that it protected only the side turned toward enemy." (Curtain shield or tunic armor? Fieldwork, 1953.)

15. Havasupai

Spier, Havasupai Ethnography, 1928, p. 250. "heavy buckskins held out horizontally before body on a bow." (Fieldwork, 1918-21.)

16. Walapai

Drucker, Yuman-Piman, 1941, p. 120. "Curtain shield of hide" (Fieldwork, 1938.)

Kniffen, et al., Walapai..., 1935, p. 93. Buckskin hung over the arm, stick, or bow used as shield. (Fieldwork, 1929.)

Spier, Havasupai Ethnography, 1928, p. 258. "Curtain shield."

17. Yavapai

Citations for Drucker under Walapai and for Spier under Walapai both pertain.

Gifford, Northeastern and Western Yavapai, 1936, p. 288. "shield was curtain of deer buckskin attached to stick and hung from bow held horizontally." (Fieldwork, 1932.)

18. Navajo

Hough, ...Armor, 1895, p. 628. "The Navajoes made a shield of cedar rods twined together with cord (Cat. No. 8401, U. S. National Museum)." (Possibly misinformation or an error in cataloging.)

19. Apache: Northern Tonto

Gifford, Apache-Pueblo, 1940, p. 32. "Curtain shield of buckskin." (Fieldwork, 1935.)

Tribe or Location Authorities and Notes

20. Seri

Bancroft, The Native Races..., 1875-76, Vol. 1, p. 579. "shield...of small lathes closely interwoven with cords...could be shut up like a fan, and... carried under the arm." (In addition to hide shields)

Kroeber, The Seri, 1931, pp. 16-17. "shield...4 or 5 feet high, roof-shaped toward the front,...not clear whether it was set up by an archer in front of himself, or carried for him by another man." (Fieldwork, 1930.)

McGee, The Seri Indians, 1898, p. 264. "shield...a pelican pelt, or a robe or kilt comprising several skins...employed either for confusing the enemy by swift brandishing...or for actual protection... against...missiles or weapons. So far as known it is not backed or otherwise strengthened."

21. Chicoratos (headwaters, Sinaloa River)

Citation of Bancroft under Seri above pertains.

22. Central Mexico: "wild tribes"

Bancroft, The Native Races..., 1875-76, Vol. 1, p. 627. "Shields...of small canes so woven together with thread that they can be folded up and carried tied under the arm,...when opened out they cover the greater part of the body." (Source not clear.)

23. Nahua

Nuttall, ...Mexican Shields, 1892, p. 35. A shield which "was oblong and so ingeniously constructed... its bearer...could roll it up and carry it under his arm. When needed...it was...unrolled and covered its man from head to foot. (Citing Bernal Diaz, Historia Verdadera, Madrid, 1632, f. 67; citing Diego Godoy, Relacion, Historiadores Primitivos, Madrid, 1749, Vol. 1, p. 167; although Nuttall calls these shields Mexican, her references seem to be the same as those for the shields of Chiapas cited by Joyce under Chiapas below.

Ibid., "Clavigero surmises that these folding shields

Tribe or Location | Authorities and Notes

23. Nahua (continued)

were manufactured of leather or nequen-cloth covered with a layer of indiarubber." (Citing Clavigero, Historia Antigua, ed. Mora, Mexico, 1844, Vol. 1, p. 215; probably erroneous and they were of rod construction instead.)

24. Chiapas

Joyce, Mexican Archaeology, 1920, p. 289-90. "both Diaz and Godoi mention long shields, covering most of the body, which could be folded or rolled up and carried...under the arm...among the tribes of Chiapas."

25. Maya

Joyce, Mexican Archaeology, 1920, p. 288-89. "At Piedras Negras and Menche figures are found carrying objects which I take to be shields of some pliable material, and these are paralleled in the reliefs on the ball-court at Chichen Itza." (Referring to relief carvings in the ruins.)

APPENDIX I

SOURCE MATERIAL ON HELMETS AND VISORS IN NORTH AMERICA

Tribe or Location — Authorities and Notes

1. St. Lawrence Island

   Collins, Archeology of St. Lawrence Island, 1937, p. 225. Bone plate found resembling plates of Asiatic conical plate helmets.

2. Tanaina: Kenai area

   Osgood, The Ethnography of the Tanaina, 1937, p. 111. (Fieldwork 1931-34.)

3. Tlingit: Lituya Bay

   Emmons, Native Account..., 1911a, p. 297. (Seen A.D. 1786.)

4. Tlingit: Chilkat

   Drucker, Northwest Coast, 1950, pp. 187, 259. Helmet (p. 187, 259). Visor (p. 187). (Fieldwork, 1937.)

5. Tlingit: Sitka

   Niblack, The Coast Indians..., 1890, Pl. 13, fig. 42.

6. Tlingit: Sanyakwan

   Drucker, Northwest Coast, 1950, p. 187. (Fieldwork, 1937.)

7. Haida: Bucarelli Bay (Kaigani ?)

   La Pérouse, A Voyage..., 1807, Vol. 1, p. 328. (Citing Maurelle, voyage of 1779.)

8. Haida: Massett

   Drucker, Northwest Coast, 1950, p. 187. (Fieldwork, 1937.)

9. Haida: Skidegate

   Niblack, The Coast Indians..., 1890, Pl. 13, fig. 44.

Tribe or Location Authorities and Notes

10. Haida: Skedans

Drucker, Northwest Coast, 1950, p. 187. "Visor." "Skin helmet." (Fieldwork, 1937.)

Niblack, The Coast Indians..., 1890, Pl. 13, fig. 45. Wooden helmet.

11. Tsimshian proper

Drucker, Northwest Coast, 1950, p. 187. (Fieldwork, 1937.)

[illegible]. Tsimshian: Hartley Bay

Drucker, Northwest Coast, 1950, p. 187. (Fieldwork, 1937.)

12. Tsimshian: Gitksan

Drucker, Northwest Coast, 1950, p. 187. (Fieldwork, 1937.)

13. Kwakiutl: Haisla

Drucker, Northwest Coast, 1950, p. 187. (Fieldwork, 1937.)

14. Kwakiutl: Haihais

Drucker, Northwest Coast, 1950, p. 187. (Fieldwork, 1937.)

15. Kwakiutl: Bella Bella

Garfield, Tsimshian Clan and Society, 1939, p. 268. "headress of leather with fur on it" as adjunct to hide armor. (From a tale; fieldwork, 1932-37.)

16. Kwakiutl: Kosquimo

Drucker, Northwest Coast, 1950, pp. 187, 259. (Fieldwork, 1937.)

17. Salish: Klahuse

Barnett, Gulf of Georgia Salish, 1939, p. 247.

Tribe or Location Authorities and Notes

17. Salish: Klahuse (continued)

(Fieldwork, 1934-35.)

18. Salish: Cowichan proper

Barnett, Gulf of Georgia Salish, 1939, p. 247. (Fieldwork, 1934-35.)

19. Tahltan

Emmons, The Tahltan Indians, 1911b, "headpieces of wood."

Honigmann, The Kaska Indians..., 1954, n., p. 98. "helmets of thick goat skin." (Citing Jenness, Indians of Canada, Bulletin, Canadian Department of Mines, Vol. 65, 1932, p. 372; and Teit, On Tahltan (Athabaskan) Work, Summary Reports of the Geological Survey of Canada, 1912, p. 485.)

20. Kaska: Upper Liard River

Honigmann, The Kaska Indians..., 1954, p. 95. (Fieldwork, 1944-45.)

21. Slave: Lower Liard River

Wentzel, Letters..., 1889, p. 96. As part of war dress: "A cap decorated with feathers..., sometimes bear claws sewed to a piece of leather served the purpose of a cap." (Period A.D. 1807-25.)

22. Carrier: lower

Ray, Plateau, 1942, p. 153. (Fieldwork, 1936-37.)

23. Chilcotin

Farrand, The Chilcotin, 1899, p. 647. (Fieldwork, 1897.)

24. Shuswap

Ray, Plateau, 1942, p. 153. "'Protective cap' representing guardian spirit." (Fieldwork, 1936-37.)

Tribe or Location Authorities and Notes

17. Salish: Tillamook (continued)

Swanton, 1938-39. . . . . .

18. Salish: Cowlitzan group

Barnett, Data on Coast Salish, 1939, p. 207. (Fieldwork, 1937-38.)

19. Tahltan

Emmons, The Tahltan Indians, 1911b, "Headdress of women."

Hodgsmann, The Lands Indians..., n.d., p. 20. "Dancers of Union goat wool." (Atlin, Canada.)

Lewis of Jesuits, Relations, Canadian Department of Mines, Vol. 95, 1923, p. 39, and cuts. See Tahltan Indian Notes. Survey Memoirs on the Geological Survey of Canada, 1912, p. 38.)

20. Kawki: Upper Iskut River

Fortigrum, The Lands Indians..., 1924, p. 59. (Fieldwork, 1914-15.)

21. Slavey: Lower Liard River

Wentzel, Journal..., 1809, p. 90. As part of war dance: "A dog decorated with feathers..., ceremonies held alone around to a place of leather serve the purpose of a cap." (Period A.D. 1807-25.)

22. Carrier: Lower

Hey, Diaries, 1912, p. 163. (Fieldwork, 1911-12.)

23. Chilcotin

Farrand, The Chilcotin, 1897, p. 327. (Fieldwork, 1897.)

24. Bluewater

Hey, Diaries, 1912, p. 163. "Decorative bags: tassels, porcupine quills."

Tribe or Location | Authorities and Notes

25. Nez Perce

Spinden, The Nez Perce..., 1908, p. 228. "A helmet, or hat, is said to have been made of stiff elk-hide; character uncertain." Peabody Museum specimen ascribed to Nez Perce has open crown and flap down back of neck and is similar to Cheyenne examples.

26. Klikitat

Ray, Plateau, 1942, p. 153. (Fieldwork, 1936-37.)

27. Western Washington; Northwestern Oregon

Gibbs, Tribes..., 1877, p. 192. (Citing Cox, Adventures..., N.Y., 1832; probably Chinook.)

28. Chinook: Lower

Ray, Lower Chinook..., 1938, p. 60. Helmet of hide or basketry. (Citing John Dunn, History of Oregon Territory, London, 1844, p. 125.)

Ray, Plateau, 1942, p. 153. "Elkskin helmet." (Fieldwork, 1936-37.)

29. Sixes River

Barnett, Oregon Coast, 1937, p. 170. (Fieldwork, 1934.)

30. Tututni

Barnett, Oregon Coast, 1937, p. 170. (Fieldwork, 1934.)

31. Tolowa

Barnett, Oregon Coast, 1937, p. 170. (Fieldwork, 1934.)

Chetco

Barnett, Oregon Coast, 1937, p. 170. (Fieldwork, 1934.)

32. Takelma

Sapir, Notes on the Takelma, 1907, p. 273. (Fieldwork, 1906.)

Tribe or Location Authorities and Notes

33. Yurok

Driver, Northwest California, 1939, pp. 328, 392. Helmet (p. 328). "Hide curtain sometimes hung from helmet to chest, with holes for eyes (p. 392). (Fieldwork, 1935.)

34. Hupa

Driver, Northwest California, 1939, p. 328. Probably present but some doubt on part of informant or ethnographer. (Fieldwork, 1935.)

Chilula

Driver, Northwest California, 1939, pp. 328, 392. (Fieldwork, 1935.)

35. Sinkyone

Driver, Northwest California, 1939, p. 328. (Fieldwork, 1935.)

36. Kato

Essene, Round Valley, 1942, p. 17. Elkhide helmet said to be present, but some doubt on part of ethnographer; however, "Elkhide pulled partly over head to make effective helmet." (Fieldwork, 1938.)

37. Klamath

Voegelin, Northeast California, 1942, p. 73. Affirmed, but some doubt on part of informant or ethnographer. (Fieldwork, 1936.)

38. Modoc

Voegelin, Northwest California, 1942, p. 73. (Fieldwork, 1936.)

39. Shasta

Dixon, The Shasta, 1907, p. 438-39. (Fieldwork, 1900-04.)

Tribe or Location Authorities and Notes

39. Shasta (continued)

Holt, Shasta Ethnography, 1946, p. 313. (Fieldwork, 1937.)

Kroeber, Handbook..., 1925, p. 298.

Voegelin, Northeast California, 1942, p. 73. (Fieldwork, 1936.)

40. Achomawi

Voegelin, Northeast California, 1942, p. 73. (Fieldwork, 1936.)

41. Atsugewi

Garth, Atsugewi Ethnography, 1953, p. 154. (Fieldwork, 1938-39.)

Voegelin, Northeast California, 1942, p. 73. (Fieldwork, 1936.)

42. Yana

Gifford and Klimek, Yana, 1936, p. 82. (Fieldwork, 1934.)

Sapir and Spier, ...Culture of the Yana, 1943, p. 269. (Fieldwork, 1907.)

43. Wintu

Voegelin, Northeast California, 1942, p. 73. (Fieldwork, 1936.)

44. Paviotso

Lowie, ...Shoshonian Ethnography, 1924, p. 245. (Paviotso of Pyramid Lake, Fallon and Lovelock.)

45. Cheyenne

Spinden, The Nez Percé..., 1908, p. 228. Peabody Museum specimen ascribed to the Nez Percés has open crown and flap down back of neck. According to

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Tribe or Location Authorities and Notes

45. Cheyenne (continued)

Spinden: "Similar specimens are common among the Cheyenne, from whom this piece may...have been obtained."

46. Huron

Champlain, Voyages and Discoveries..., 1929, Pl. 6, fig. E. Figure of a probable Huron warrior in rod armor pictures also a helmet, seemingly of rod construction. (Period A.D. 1603-15.)

47. Iroquois: Mohawk

Wood, Nevv Englands Prospect, 1898, p. 61. Armor of "sea horse skinnes and barkes of trees" and "head peeces of the same." (Period A.D. 1629-33.)

48. Delaware

Lindeström, Geographia Americae..., 1925, pp. 197, 206. "helmets made of hard wooden pins and strong wood" (p. 197). "helmets which are made of sticks and wood" (p. 206). (Period A.D. 1654-56.)

49. Lower Savannah River

Oviedo, Historia General y Natural..., 1851-55, Vol.1, p. 561. "capaçetes hechos de cueros de vacas crudos y pelados." (From diary of Rodrigo Ranjel, 1540.)

50. Seri

Kroeber, The Seri, 1931, p. 16. "helmet...of hide." (May have been similar to the war caps of the Southwest and not a true helmet; fieldwork, 1930.)

51. Cahita

Beals, The Comparative Ethnology of Northern Mexico..., 1932, p. 27. "wore something resembling a helmet." (May have been similar to war caps of the Southwest and not a true helmet.)

Tribe or Location	Authorities and Notes
52. Nahua	
	Bandelier, On the Art of War..., 1877, pp. 110-11. "wooden forms, intermediate between masks and helmets, imitating heads of ferocious beasts... and covered with the skins of these animals." (Citing Anonymous Conqueror from a documentary source; and Clavigero, Lib. 7, cop. 23.)

APPENDIX J

SOURCES FOR LOCAL ARMORS NOT OF THE STANDARD ROD OR HIDE CONSTRUCTION IN NORTH AMERICA

Tribe or Location — Authorities and Notes

1. Kwakiutl

   Curtis, E. S., The North American Indian, 1907-30, Vol. 10, p. 18. (Fieldwork, 1910-14.)

2. Nootka: Muchalat

   Drucker, ...Nootkan Tribes, 1951, p. 335. (Fieldwork, 1935-36.)

3. Nootka: Clayoquot

   Drucker, Northwest Coast, 1950, p. 187. (Fieldwork, 1936.)

4. Pomo

   Gifford and Kroeber, Pomo, 1937, p. 142. (Central Pomo.)

5. Yellowknife

   Osgood, ...Great Bear Lake Indians, 1932, p. 62. (Citing Mason, manuscript, National Museum of Canada.)

6. Cree, Eastern

   Skinner, ...Eastern Cree and Northern Salteaux, 1911, p. 78. (Description seems questionable; fieldwork, 1908-09.)

7. Saulteaux, Northern

   Citation of Skinner under Cree above pertains.

8. Penobscot

   Speck, Penobscot Man, 1940, p. 147. (Fieldwork, 1907-18.)

Tribe or Location Authorities and Notes

9. Iroquois: Mohawk

Wood, Nevv Englands Prospect, 1898, p. 61. (It is doubtful that this armor was similar or related to the hide armor of the West; period A.D. 1629-33.)

10. Yavapai

Gifford, ...Southeastern Yavapai, 1932, p. 225. (Fieldwork, 1929-30.)

11. Pueblos

Cushing, Pueblo Indians..., 1896, p. 848. (Questionable; sources not given.)

APPENDIX K

SOURCE MATERIAL ON ROD SHIELDS IN NORTH AMERICA

Tribe or Location — Authorities and Notes

1. Iroquois

   Thwaites, The Jesuit Relations..., 1896-1906, Vol. 13, p. 272. "'shields...of osier or of bark, covered with one or more skins stretched across.'" (Citing Lafitau, Moeurs des Sauvages Ameriquains, Paris, 1724, Vol. 2, p. 197.)

2. "Massawomek" (Susquehanna?)

   Smith, The Generall Historie..., 1907, Vol. 1, p. 129. "light Targets (which are made of little small sticks woven betwixt strings of their hempe and silke grasse, as is our Cloth, but so firmly that no arrow can possibly pierce them)." (Observed, year A.D. 1608)

3. Lower Savannah River

   Garcilaso de la Vega, The Florida of the Inca..., 1951, p. 323. "great numbers of oblong shields, ...of cane, woven with...precision and strength." (Observed, A.D. 1540 at "Talomeco" on the lower Savannah River.)

4. Lower Mississippi River

   Oviedo y Valdés, Historia General y Natural..., 1851-55, Vol. 1, p. 573. "escudos, que son hechos de canas juntas, tales y tan texidas con tal hilo que openas los passa una ballesta." (Observed, A.D. 1541 at De Soto's crossing of the Mississippi River.)

5. Western Déné

   Morice, The Western Dénés..., 1889, p. 140. Oval shield "of closely interwoven branches."

6. Carrier

   Morice, The Canadian Dénés, 1906, p. 217. A shield called by the descriptive name "'amelanchiar which is held in the hand'" thereby indicating a rod shield for amelanchiar was the material for rods in their

Tribe or Location Authorities and Notes

6. Carrier (continued)

rod armor.

7. Shuswap

Fraser, Journal..., 1889, p. 179. A rod curtain shield; see full citation in Appendix H, p. 200, under Shuswap.

Teit, The Shuswap, 1909, p. 538. Shields "of medium size, made of wooden slats or rosewood rods, woven together with bark thread or thong."

8. Okanagan, Southern

Cline, et al., The Sinkaietk..., 1938, p. 53. "square slat shields were made of sticks 'braided' closely together in a checker (?) weave." (Apparently using the term "slat" generally; fieldwork, 1930.)

9. Achomawi

Voegelin, Northeast California, 1942, pp. 73, 192. "Circular rod shield" (p. 73). "String in center, by which to hold shield" (p. 192). (Western Achomawi; fieldwork, 1936.)

10. Navajo

Hough, ...Armor, 1895, p. 628. A rod curtain shield. See full citation in Appendix H, p. 202, under Navajo.

11. Seri

Bancroft, The Native Races..., 1875-76, Vol. 1, p. 579. A rod curtain shield. See full citation in Appendix H, p. 203, under Seri.

12. Chicoratos (headwaters, Sinaloa River)

Citation of Bancroft under Seri above pertains.

13. Jalisco

Noticias Varias..., 1878, pp. 263. "rodelas de unas varas muy recias y muy entretejidas." (Information

rod, arrow.

. . . . . .

7. Shuswap

Fraser, Journal..., 1889, p. 179. A red arrowhead quiver; see full citation in Appendix H, p. 200, under Shuswap.

Teit, The Shuswap, 1909, p. 533. Shield "of medium size, made of wooden slats or peeled rods, sewed together with bark thread or thong."

8. Okanagan, Southern

Cline, et al., The Okanagan..., 1938, p. 53. "Square flat shields were made of slender 'peeled' sticks, sewed together in a cluster (?) weave." (Apparently using the term "slat" generally; Pettitbone, 1920.)

9. Lakonawt

Voegelin, Northeast California, 1938, pp. 73, 102. "Circular rod shield" (p. 73). "Shield in general, by which to hold shield" (p. 102). (Eastern Lakonawt; Fieldwork, 1936.)

10. Navajo

Hough, ...Armor, 1895, p. 628. A rod curtain shield. See full citation in Appendix H, p. 202, under Navajo.

11. Seri

Bancroft, The Native Races..., 1875-76, vol. 1, p. 579. A rod curtain shield. See full citation in Appendix H, p. 203, under Seri.

12. Chilcowtos (Northwestern, Siuslaw River)

Citation of Bancroft under Seri above applies.

13. Yaimoco

Noticias Varias..., 1878, pp. 265. "Traslar de unas varas muy rectas y muy entretejidas." (Intermediate

Tribe or Location Authorities and Notes

13. Jalisco (continued)

received by Antonio de Leyva, A.D. 1579.)

14. Central Mexico: "wild tribes"

Bancroft, The Native Races..., 1875-76, Vol. 1, p. 627, A rod curtain shield. See full citation in Appendix H, p. 203, under Central Mexico.

15. Nahua

Bancroft, The Native Races..., 1875-76, Vol. 2, p. 406. Round or oval shields "of flexible bamboo canes, bound firmly together." (Source not clear; could be from Sahagun.)

Nuttall, ...Mexican Shields, 1892. This source describes numerous museum specimens and codex representations of Nahua rod shields, also cites as historical sources Anonymous Conquerer, Bartolome de las Casas, Herrera (Historia de las Indias), Sahagun, Bernal Diaz (Historia Verdadera), and Diego Godoy (Relacion).

16. Chiapas

Joyce, Mexican Archaeology, 1920, pp. 289-90. A rod curtain shield. See full citation in Appendix H, p. 204, under Chiapas.

17. Maya

Bancroft, The Native Races..., 1875-76, p. 742. "Shields...of split reeds." (Source not clear.)

Joyce, Mexican Archaeology, 1920, pp. 289-290. Probable rod curtain shields. See full citation in Appendix H, p. 204, under Maya.

Nuttall, ...Mexican Shields, 1892, p. 36. War-shields which were "'round made of split bamboo closely interwoven.'" (Citing Diego de Landa, Relacion, ed. B. de Bourbourg, p. 172.)

Tribe or Location	Authorities and Notes
18. Nicaraugua	
	Bancroft, The Native Races..., 1875-76, p. 742. "Shields...of split reeds." (Source not clear.)