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THE POSSIBLE MIDDLE AMERICAN ORIGIN OF NORTHWEST COAST WEAVING

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BLANKETS of dog's hair, mountain goat wool, fireweed cotton, feathers, and of various combinations of these materials were manufactured in considerable numbers on the northwest coast of America in aboriginal times. The art virtually disappeared soon after the arrival of the whites and today it is an old Indian, indeed, who preserves even a memory of them. Unfortunately, less than a dozen of these blankets seem to have been preserved, while the number of the looms extant is certainly not more than half that number.

A fairly large number of early travellers and pioneer ethnographers have described the spinning and weaving of the area, but for the most part with indifferent success.[1] More recently several excellent descriptions of the technique have appeared[2] and a few attempts have been made to solve the problem of its origin.[3] The possible explanations are that the art is a local development, unconnected with comparable features in either the Old or the New World; that at least the two-bar loom and the spindle are recent innovations due to early European influence; that the historical origin is to be sought in Asia; that it is an elaboration of the suspended warp basket weaving of the greater part of northern North America; and, that it is a far-flung outpost of the more highly developed craft which is found over a large

[1] F. W. Howay has given an excellent compilation of mentions by the early explorers and traders down to 1860 (Wash. Hist. Quart., 9: 83–92, 1918). The early ethnographic material is largely that of Boas (Mem. Am. Mus. Nat. Hist., 8, pt. 2; and Rept., Brit. Assoc. Adv. Sci., 1890: 562–715), and Niblack (Rept., U. S. Nat. Mus., 1888: 225–386). Briefer accounts have been given by Teit, Morice, Eells, Hill-Tout, and Curtis.

[2] The best are those of Emmons (Mem. Am. Mus. Nat. Hist., 3, pt. 4); Kissell (Amer. Anthr., n.s., 18: 264–270, 1916); Willoughby (Amer. Anthr., n.s., 12: 1–10, 1910); and Heye and Orchard (Leaflets, Mus. Amer. Ind., Heye Found., no. 5).

[3] Kissell, op. cit.; Wissler, The American Indian, 53–59 (New York, 1922); Kroeber (Amer. Anthr., n.s., 25: 1–20, 1923).

section of southern North America and the greater part of South America. Each of these hypotheses has certain evidence in its favor, and none can lay claim to anything like the bulk of it. The problem would be much simpler if there were not so many variations in the northwest weaving methods.

Among the Tlingit, Haida, Tsimshian, Kwakiutl, and probably the Nootkan tribes and the Bella Coola, the loom was a single bar supported by two uprights. Over this bar the warp strands were suspended and the woof strands woven in, chiefly by the simple twining technique. The Chilcotin, Thompson, Lillooet, the Salish tribes of the southern coast of British Columbia, all the coastal tribes of Washington, and an undetermined number of those in eastern Washington seem to have used the two-bar or half-loom. The use of dog's hair, feathers, and fireweed cotton seems to have about the same distribution as the two-bar loom. The wool of the mountain goat is used throughout the region. Shuttles are unknown; the weft yarns are inserted singly, in pairs, or in threes with the fingers. The use of the spindle seems to coincide with that of the two-bar loom, the only exception being the Kwakiutl of Vancouver island.

The opinion that the weaving in this area is only an elaboration of the basketry and rabbitskin blanket techniques is based on the continuous distribution of one or both from the Aleutian islands to eastern Canada and from the Arctic to Yucatan.[4] Further, in both these and the Northwest Coast blanket the weaving is with the fingers, commonly in simple or twilled twining; and the weaving is done from the top downward.

It seems unlikely that the technique has Asiatic affiliations, since the looms of the Ainu, on the northeastern periphery of the Asiatic weaving area, are of an entirely different type, and are certainly related to those of southeast Asia.[5]

The notion that the spindle and loom have been introduced by whites is backed by rather flimsy evidence. It is true that

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[4] Wissler, op. cit., 57.

[5] Hugo Ephraim, Ueber die Entwicklung der Webetechnik und ihre Verbreitung ausserhalb Europas (Jena, 1904).

Kane[6] gives us the earliest mention of either the spindle or the loom, but where is an earlier mention of the suspended warp loom, which no one would deny is aboriginal? If the two-bar frame and the spindle were European introductions it does not seem likely that their use would have spread from tribe to tribe over so great an area in such a short time. As to spindles, the common employment of stone and whalebone argues against their being introduced by whites. For the most part, the statements of the natives clearly and decisively indicate that both the spindle and two-bar loom are ancient. No doubts of their being native elements are expressed in the writings of Boas, Teit, Morice, Niblack, or other ethnographers who have dealt with this area. It must be admitted, however, that spindle whorls are rather uncommon in the archaeological collections from the area. This is partly explained by the frequent employment of wood and whalebone, neither of which is a very enduring material. A few stone whorls have been collected from the Kwakiutl and Thompson areas.[7]

That the spinning and weaving of the area are local developments might be argued on the basis of their seeming geographical isolation and because of their differences from comparable traits in the rest of the Americas. I will presently show that neither of these lines of evidence is as strong as it seems at first glance.

There remains the possibility of the Middle American origin of the spinning and weaving of the area, i.e., that these arts are historically connected with comparable ones known over virtually the whole agriculture-pottery area of the New World. It is generally conceded that proof of historical identity may be considered valid provided either continuous distribution or the presence of extrinsic similarities can be demonstrated. Both methods may be used in the comparison with the northwest technique with its more widespread potential relative.

Some years ago Bushnell published an article which gave a résumé of the data relating to the uses of buffalo hair in North

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[6] Paul Kane, Wanderings of an Artist among the Indians of North America (London, 1859).

[7] C. F. Newcombe, Guide to Anthropological Collection in the Provincial Museum, 37, 63 (Victoria, 1909).

America.[8] It appears that blankets of this material were woven by the Arikara, the Cheyenne, the Nez Percé, and the "Osage and neighboring tribes." It seems likely that the practice of twisting the hair into yarn which is used for weaving of one sort or another was practically co-extensive with the range of the buffalo itself. The scattered nature of the distribution in the tribes named is more probably due to inadequate data than to absence of the trait in other parts of the area. The Nez Percé case is especially significant in the light of Curtis' statements that

> among the Columbia River tribes yarn of the mountain goat was woven into blankets of rather coarse texture, and the Nespilim and the Kalispel women also made robes of strips of fur from the muskrat, the beaver, and the otter, while the Sanpoel sometimes used a long, soft grass.[9]

On the basis of these data it seems plausible that the art of weaving had a continuous but somewhat random distribution from the Northwest Coast up the basin of the Columbia and across the Plains area to southeastern United States where several types of looms were in use. These latter seem to link definitely with those of the Antilles and South America.[10] The weaving on the Northwest Coast (and perhaps that of the Plateau and Plains) differs from the other types in that the weft strands are commonly twined into the warp in pairs or threes. But the weaving of some sort of strands of twisted wool or hair on a frame is a sufficiently definite trait to deserve treatment despite these variations.

The case for the distribution of the spindle is more difficult. Until more definite data are obtainable its presence on the Northwest Coast is best explained by its intimate association with the weaving of twisted strands. Archaeology may eventually provide evidence in cases where the whorls were made of enduring materials. Too much stress should not be laid on the difference in size of Northwest Coast and other American spindles. Some specimens from the Northwest are but two inches in diameter—

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[8] David S. Bushnell, The Various Uses of Buffalo Hair by the North American Indians. Amer. Anthr., n.s., 11: 401–425, 1909.

[9] Edward S. Curtis, The North American Indian, 7: 72 (Cambridge, 1907–1924).

[10] Wissler, op. cit., 55, 59; James Adair, The History of the American Indians (etc.), 422–424 (London, 1775).

surely not so great a size when it is remembered that the yarn was commonly a quarter-inch or so in diameter.

Another evidence of the possible kinship of Northwest weaving and that of the rest of the Americas is afforded by an identical manner of winding the warp threads so that the completed fabric is a cylinder, or is a square which needs no hemming. Newcombe has described the process as follows: the loom

> consists of two vertical posts, in which slots are made at various distances, to receive the ends of two rollers, of which sets of different lengths are kept, and are fixed in place by means of small wedges. Having set these up, a stick or cord is fastened to the sides, horizontally, between the rollers. The warp is fastened to one end of it, and then passed over the rollers and round the stick, returning in the reverse direction. This is repeated until the vertical warp threads are all in place. A ball of twisted wool is then fastened to one edge of the weft [warp?] and is passed from side to side, between the warp strands, making a kind of twilled matting, without the aid of sticks or combs to tighten up. The worker, who sits on the ground in front of the loom, loosens the wedges from time to time, and by turning the rollers, brings a fresh part to a convenient position. When all is finished the cross line of stick or cord is unfastened and pulled out, leaving looped ends, and the blanket comes away without any cutting.[11]

The fabric forms a cylinder when the cord is left in position. Although this method of winding the warp was not always employed it probably was known to all the Northwest tribes who used the two-bar loom.

Nordenskiöld has described an identical method of winding the warp in several regions of South America.[12] It is found among the Chacobo, Chiriguano, Yuracáre, and Chané of Bolivia, the Mataco of the Argentine Chaco, and is reported for the Ijca of the Guajira peninsula, virtually on the shores of the Caribbean. This last is especially significant, since it shows a possible link with North America. The "loom with three cross rods" mentioned by Wissler for the Southeast and by Hunter for the Osage, Kickapoo, and Kansas might be taken to mean warp winding of this type.[13] A Peruvian bag in the collections of the Field Museum

[11] C. F. Newcombe, op. cit., 51–53.

[12] Erland Nordenskiöld, Comparative Ethnographical Studies, 2: 174–177 (Göteborg, 1920).

[13] Wissler, op. cit., 59; John D. Hunter, Memoirs of a Captivity Among the Indians of North America, 289–290 (London, 1823).

(cat. no. 169702) seems to have been woven in this fashion.[14] Dr. Nordenskiöld, in a personal communication, has stated that he thinks it very improbable that so special a feature would be invented twice; that the similarity in the Northwest and South America is a case of historical relationship rather than of parallelism. The practically continuous distribution of loom weaving, discussed above, strengthens this view and, conversely, the extrinsic similarity suggests that the stimulus to the weaving found on the Northwest Coast is the same stimulus which is responsible for all the loom weaving of the remainder of the Americas. In figure 1 I have indicated the tentative areas of different types of weaving and the region within which hair, wool, and cotton are twisted into yarns for weaving. The inset in the same figure is a diagrammatic representation of the special method of winding the warp strands, described above.

At least two extended analyses of the weaving of the Northwest Coast have been promised for the future.[15] If, as seems highly probable, it eventually proves to be of Middle American origin, the cases for other Northwest Coast traits might be profitably reexamined. The possibilities of historical kinship of such Northwest traits as age-societies, sib and moiety systems, and the solstitial calendar with comparable features in the rest of America have been examined and for the most part rejected. On the other hand, definite Middle American influence may be seen in such traits as the use of the metate by the Lillooet of British Columbia, and the growing of tobacco by Haida and Tlingit. Even the chewing of tobacco mixed with ashes or lime is known in South America.[16] The use of the balsa by the Thompson and Shuswap of British Columbia is probably linked with the knowledge of similar craft elsewhere in the Americas.[17] In the realm of weaving is the

[14] For this last datum I am indebted to Miss L. M. O'Neale, Research Assistant in Anthropology, University of California.

[15] Cf. Kissell, op. cit., 264; Gunther, Klallam Ethnography. Univ. of Wash. Publ. Anthr., 1: 225, 1927.

[16] W. E. Roth, An Introductory Study of . . . . the Guiana Indians. 38th Ann. Rept., B. A. E., 242–243 (Washington, 1924); Wissler, op. cit., 25–27.

[17] James Teit, The Thompson Indians. Mem. Am. Mus. Nat. Hist., 2: 256 (New York, 1900); The Shuswap. Same series, 4: 532 (New York, 1909).

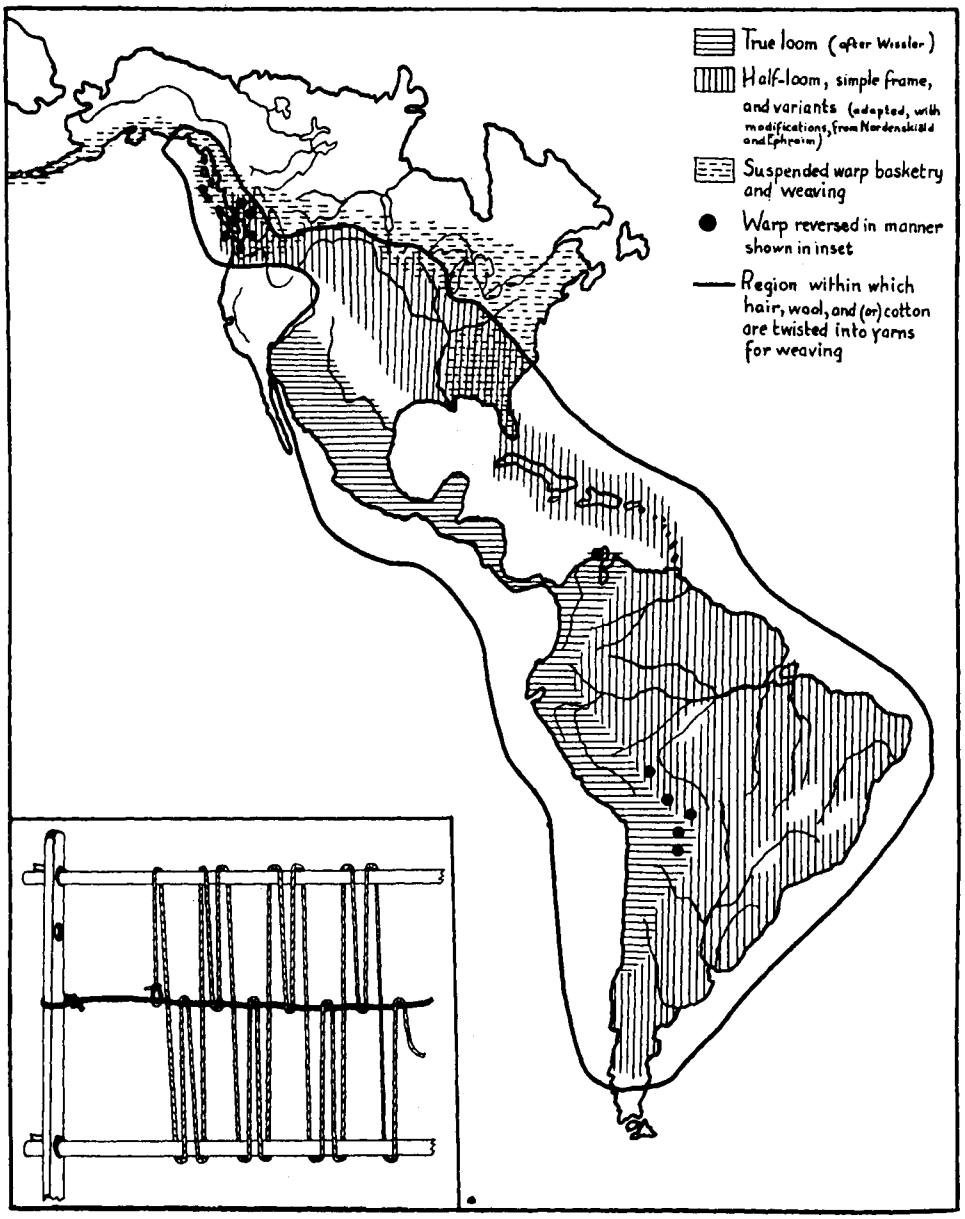

Fig. 1. Tentative areas of various weaving techniques in the Americas. Inset: Diagrammatic representation of the method of winding the warp so that its direction is reversed.

manufacture of blankets or mantles from yarns of the hair of shaggy dogs by the Chono of Chile.[18]

Tobacco, pottery, agriculture, sib and moiety systems, age-grade societies, and weaving extend far up the Missouri basin, and some of these beyond it; the Mound-Builder culture was once an outpost of high culture; and recent investigations in the California-Great Basin area extend the distribution of pottery in that region very considerably. In short, there are evidences that the Northwest Coast was not always as geographically isolated from the influences of Middle America as it was at the opening of the historic period. As we have seen, several traits show definite evidence of having traversed the Plains-Plateau gulf and of having become transplanted to the Northwest Coast. It seems possible that a dimly defined path of diffusion had been beaten across the northwestern Plains area. Other seeming parallels, notably those of social organization, geographically isolated from comparable traits found elsewhere in America may, contrary to present-day opinion, prove to be historically related. It is true that a few of the features enumerated here seem, in the light of internal evidence, to be of distinct origin. But the case for separate development is decidedly weakened by the probability of historical identity for others. Unless one wishes to outdo the extreme diffusionists in presupposing the stability of traits, the qualitative differences cannot be regarded as positive proof of parallelism or convergence in each case.

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[18] John M. Cooper, Analytical and Critical Bibliography of the Tribes of Tierra del Fuego. B. A. E., Bull. 63: 44, 194, 204 (Washington, 1917).