

**SMITHSONIAN INSTITUTION. UNITED  
STATES NATIONAL MUSEUM; BASKET-  
WORK OF THE NORTH AMERICAN  
ABORIGINES; FROM THE REPORT OF THE  
SMITHSONIAN INSTITUTION, 1883-84, PART  
II, PAGES 291-306, AND PLATES I LXIV**

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Smithsonian Institution. United States National Museum; Basket-Work of the North American Aborigines; From the Report of the Smithsonian Institution, 1883-84, Part II, Pages 291-306, and Plates I LXIV by Otis T. Mason

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**OTIS T. MASON**

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SMITHSONIAN INSTITUTION.  
UNITED STATES NATIONAL MUSEUM.

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BASKET-WORK OF THE NORTH AMERICAN ABORIGINES.

BY

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From the Report of the Smithsonian Institution, 1883-'84, Part II, pages 291-306, and plates I LXIV.

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## II.—BASKET-WORK OF THE NORTH AMERICAN ABORIGINES.

By OTIS T. MASON.

"Barbara de pictis veni basosuda Britannis,  
Sed me jam mavult dicere Roma suum."

—MARTIAL, xiv, 99.

The study of the minutest technique in the distribution of aboriginal arts is very necessary in making up our opinions on questions of Anthropology. The archæologist is frequently caused to halt in the reconstruction of ancient society by his ignorance of the arts of the savages around him. This is especially true of an art which had its culmination in savagery or barbarism, and which began to decline at the touch of civilization, or at least to give place to higher types of the same art. For the discussions of problems that have arisen in the past the data then in hand have been sufficient; but as the investigations of social progress become more intricate the demands for greater detail in the observation of anthropological phenomena around us is imperative.

I have lately had occasion to examine all the baskets in the National Museum, and the results of this research may not be uninteresting as a contribution to exact technology in an art which may be called *par excellence* a savage art.

In a basket there are several characteristics to be observed, which will enable us to make a classification of the objects themselves and to refer them to their several tribal manufacturers. These characteristics are the *material*, the *frame-work*, the *methods of weaving*, the *coiling or sewing*, the *decoration*, their *use*, &c.

The tool almost universally used in their manufacture is a bone awl or pricker and the makers are the women. Of the manipulation of the material previously to the weaving little is known.

In the drawings accompanying this paper the actual size of the specimens is indicated by a series of inch marks in the margin. The inches on the standard line are shown by spaces between dots. In order to indicate exactly the manner of weaving, a square, usually an inch in dimension, is taken from a portion of the surface wherein all the methods of manipulation occur. This square inch is enlarged sufficiently to make the structure comprehensible. This plan enables us to show form and ornamentation in the whole figure as well as the method of treatment in the enlarged inch.

## ALEUTIAN ISLANDS.

Mr. William H. Dall has contributed to the National Museum a large number of Aleut grass wallets, conoidal in form when filled (Fig. 1). The warp is of coarse straws, radiating from the center of the bottom. The covering or woof is made by plaiting or twisting two straws in a coil or twine, crossing them between each pair of warp straws. It is as if a twine of two strands had a straw or osier passed down through every half turn (Fig. 2). This plait or twine may be driven close home so as to be absolutely water-tight, or the weaver may leave spaces from one twine to the next wide enough to make a net. A very pretty effect is produced by these Aleutian basket-weavers by splitting the warp straws and twining woof straws around two of the half straws, joining 1 by 2, 3 by 4, 5 by 6, at one round, and the next twine inclosing 0 by 1, 2 by 3, 4 by 5, and so on. This produces a series of lozenge openings (Fig. 2). The split warp strands are often crossed to form X-shaped openings, or carried straight so as to produce parallelograms. I have observed the same effect in Peruvian mummy cloth, but a greater variety of network is there produced by alternating the rectangular and lozenge meshes in bands varying in width.

In the "Smithsonian Contributions to Knowledge," No. 318, plate 7, Mr. Dall figures and describes the matting of the Aleutian Islanders found in the caves in the Catherina Archipelago.

The method of manipulation in the matting is the same as that just described for the basketry of the Aleuts, and the delicacy of workmanship is most admirable. This method of weaving by means of twining two woof strands around a series of warp strands occurs in many places, and will hereafter in this paper receive the name of "twined basketry."

In a covered basket made of split bamboo from the Malabar coast the fastening off at the top of the basket and the weaving of the cover have a three-stranded twine. At every third of a turn the splint that is inward is hooked or passed behind the warp splint at that point. This produces a very smooth effect on the inside and a rough surface without.

The mats of the Aleuts are made of the fiber of the *Elymus*\* treated as hemp. The ornamentation on the outside of the mats and baskets is formed by embroidering on the surface with strips of the straw instead of the macerated fiber which forms the body of the fabric. The embroidery stitches in these, as in most savage basketry, does not always pass through the fabric, but are more frequently whipped on, the stitches passing always between the two woof strands, as in arese embroidery, showing only on the outside. Mr. Dall justly praises the marvelous nicety of this Aleutian grass-weaving, both in mats and basketry.

There is no Chinese or Japanese basket in the National Museum showing this plaited weft. The grass of these Aleutian wallets is exceed-

\* *Elymus mollis*, Sitka, Norton Sound, Kotzebue Sound; *E. arenarius*, Norton Sound, to Point Barrow; *E. Sibiricus*, Sitka. (See Rothrock, Smithsonian Report, 1867.)

ingly fine, the plaiting done with exquisite care, the stitches being often as fine as 20 to the inch, and frequently bits of colored worsted are embroidered around the upper portion, giving a pleasing effect. The borders are braided in open work from the ends left in the weaving, as follows (Fig. 1):

At some point on the border, when the solid part of the wallet is finished, the weaver bends two warp strands in opposite directions and gives each a twist with its next neighbor. These two are braided with the next warp thread; these three with the next. Now, start at a proper distance from the first point of departure and braid both ways, as before. These braids will meet and form a set of scallops around the edge, fastened at the ends and loose in the middle. Also, at the apex of each scallop will be a lot of warp straws, braided indeed at the base but loose for any required length. The weaver commences with any set of these to make a four-ply braid, catching up the next set and braiding them in as she went along, and fastening off a set as each new set is taken up. The upper border is thus a continuous braid, connected at regular intervals with the apices of the braided scallops. When the braider reaches her starting point she catches one braid into another, in a rather clumsy manner, and continues to braid a long four-ply string, which, carried in and out the scallops, forms a drawing-string.

**ALASKAN ESKIMO.**—Two types of baskets are found in close proximity in the neighborhood of Norton Sound—the twined and the coiled. In the former (Fig. 3) the treatment is precisely the same as in those of Aleutian Islands, but the Eskimo wallet is of coarser material and the plaiting is a little more rudely done.

The basketry of this type, however, is very strong, and useful for holding food, weapons, implements of all kinds, and various other articles. When not in use, the wallets can be folded up into a small space like a grocer's paper bag (Fig. 3). In the bottoms of the wallets of this class the weft is very open, leaving spaces at least one-half inch wide uncovered. The borders are produced by braiding four strands of sea grass into the extremities of the warp strands.

Ornamentation is produced by darning or whipping one or more rows of colored grass after the body is formed—not necessarily after the whole basket is completed, for each row of whipping may be put on just after the row of coil on which it is based (Fig. 4). Another plan of attaching the ornamentation is very ingenious but not uncommon. Two strands of colored straw or grass are twined just as in the body of the basket, and at every half turn one of the strands is hooked under a stitch on the body of the basket by a kind of arezene work. This ornament has a bold relief effect on the outside and is not seen at all on the inside.

The coiled variety of the Eskimo basketry, mentioned above (Fig. 5), consists of a uniform bunch of grass sewed in a continuous coil by a whip stitch over the bunch of grass and through just a few bits of grass



in the coil just beneath, the stitch looping under a stitch of the lower coil. When this work is carefully done, as among the Indians of New Mexico, Arizona, and California, and in some exquisite examples in bamboo from Siam and in palm-leaf from Nubia, the most beautiful results are reached; but the Eskimo basket-maker does not prepare her coils evenly, sews carelessly, passing the threads sometimes through the stitches just below and sometimes between them, and does not work her stitches home (Fig. 6). Most of these baskets in the collection of E. W. Nelson have a round bit of leather in the bottom to start upon (Fig. 5, *b*). The shape is either that of the uncovered band-box or of the ginger-jar. Especial attention should be paid to this form of stitching, as it occurs again in widely-distant regions in a great variety of material and with modifications producing striking effects.

The association of this coiled form of basket-making with the marks on the most primitive types of pottery-making has been frequently noticed by archaeologists. It is also well known that the modern savages of our Southwest build up their pottery in this manner, either allowing the coils to remain or carefully obliterating them by rubbing, first with a wet paddle of wood, and afterwards, when the vessel is dry, with a very fine-grained stone.

The Eskimo women employ in basket-making a needle made of a bird bone ground to a point on a stone (Fig. 100). Fine tufts of reindeer hair, taken from between the hoofs, are extensively used in ornamentation, especially in the Aleutian area.

#### TINNÉ INDIANS.

A few specimens of basketry from the vast Athapascan area contiguous to the Eskimo belong to the coiled type (Fig. 7). Instead of a bunch of grass, however, a rod of willow or spruce root is carried around in a coil and whipped on with a continuous splint of similar material (Fig. 8). The stitches of the coil in process of formation, passing regularly between those just below and locking into them, alternate with them and give a somewhat twilled effect to the surface\* (Fig. 8). If now a strip of bast or grass be laid on the top of the osier or spruce root coil and carried around with it, and the sewing pass always over these two and down between the bast and the osier of the coil below, a much closer ribbed effect will be produced. Several specimens of this kind of coiled basketry, in which a strip of tough material is laid on top of the coiled osier, were collected at the mouth of the Mackenzie River by McFarlane and Ross, and Mr. Murdoch has shown me a basket similarly wrought, from Point Barrow, which he thinks may have been obtained by barter from the Tinné Indians in the vicinity. The ornamentation on one specimen of this type is very

\*The working of this stitch is described and figured by Paul Schumacher in XII Report of Peabody Museum, p. 524: the coils are not, however, interlocked in all cases; that is, if the foundation rods were pulled out the stitches would separate and the whole structure come apart in some cases.

curious and elaborate (Fig. 9). The basket-maker had a number of little loops of bark and quill of different color prepared, and every time a stitch was about to be taken the lower end of one of these loops was caught over the splint thread and held down. The next stitch fastened the two ends of the loops home (that is, each stitch caught the lower part of a new loop and fastened down both ends of the preceding one after it had been doubled back), giving a series of imbrications (Fig. 10). On this specimen are between 3,000 and 4,000 separate loops sewed. This is one of the most striking examples of savage patience and skill, and must have occupied in its construction many hours of a renowned artist.

Mr. Jones tells us, in the Smithsonian Report (1856, p. 323), that the Hong Kutchin Indians, who live on the headwaters of the Yukon River, make basket-kettles of tamarack roots woven very neatly and ornamented with hair and dyed porcupine quills. The water is boiled by means of hot stones thrown in. For dyeing the roots and quills they use berries and a kind of grass growing in the swamps.

In looking at these coiled baskets, standing geographically so far removed from the Apache and Navajo country, one is reminded that the migration which separated these branches of a great stock may have been northward and not southward, and that the Tinné may have carried with them the art of making coiled baskets learned in a region where its beauty culminates.

#### CHILKAHT INDIANS.

†The basket work of these Indians is superb. Every one who sees it is struck with its perfection of workmanship, shape, and ornamentation. All the specimens of the National Museum collection are of the band-box shape; but they can be doubled up flat like a grocer's bag (Fig. 11). The material is the young and tough root of the spruce, split, and used either in the native color or dyed brown or black. The structure belongs to the twined or plaited type before mentioned, and there is such uniformity and delicacy in the warp and woof that a water-tight vessel is produced with very thin walls. In size the wallets vary from a diminutive trinket basket to a capacity of more than a bushel. All sorts of lovely designs in bands, crosses, rhombs, chevrons, triangles, and grecques are produced thus: First, the bottom is woven plain in the color of the material. Then in the building up of the basket bands of plain color, red and black, are woven into the structure, having the same color on both sides. Afterwards little squares or other plain figures are sewed on in arese, that is, only half way through, giving the most varied effect on the outside, while the inside shows only the plain colors and the red and black bands. The wild wheat straws are used in this second operation, whipped over and over along the outer threads of the underlying woof, or two straws are twined around in the manner explained above (page 293, bottom).

No more attractive form and ornamentation of basketry are to be seen than those produced by the Indians of this Thlinket stock extending from Mount Saint Elias to Queen Charlotte Archipelago, including Sitka.

#### HAIDA INDIANS.

These Indians live on Queen Charlotte Archipelago and adjacent islands. Their basket work differs in form from that of the Chilkahs, or Thlinkets, owing probably to the demands of trade; but the twined method is followed (Fig. 12) and the ornamentation is produced in a similar manner. The quality of the ware, however, is a little degenerated and more gaudy (Fig. 15). The Haidas are very skillful in imitating all sorts of chinaware in basketry, such as teapots, sugar bowls, toilet articles, table mats, bottles, and hats. They also introduce curved lines and spirals with good effect. The basketry hats of spruce roots, the most striking of their original designs, are made by the twining process (Fig. 14). The crown is twined weaving of the most regular workmanship and the fabric is perfectly water-tight when thoroughly wet (Fig. 15). An element of ornamentation is introduced into the brims by which a series of diamond patterns cover the whole surface (Fig. 16). This decoration is produced thus: Beginning at a certain point the weaver includes two warp strands in a half twist, instead of one; then makes two regular twists around single-warp strands. The next time she comes around she repeats the process, but her double stitch is one in advance of or behind its predecessor. A twilled effect of any shape may be thus produced, and rhombs, triangulated fillets, and chevrons made to appear on either surface.

The "fastening off" of the work is done either by bending down the free ends of the warp and shoving them out of sight under the stitches of the twisted web, or a braid of four strands forms the last row (Fig. 16), set on so that the whole braid shows outside and only one row of strands shows inside. The ends of the warp splints are then cropped close to the braid. This appearance of the entire four-stranded braid on the external surface is produced by passing each of the four strands alternately behind one of the warp sticks as the braiding is being done (Fig. 16). (Compare this with what was previously said about the basket from the Malabar coast, page 292.)

Special attention should be paid to the painted ornamentation on these hats (Figs. 14 and 15) showing head, wings, feet, and tail of the duck, laid on in black and red in the conventional manner of ornamentation in vogue among the Haidas and used in the reproduction of their various totems on all of their houses, wood and slate carvings, and the ornamentation of their implements.\*

\*A very interesting instance of survival is to be seen in the rag carpets of these Indians. The missionaries have taught the women to save up their rags and to cover their floors with pretty mats. They are allowed to weave them in their own way, however, and the result is a mat constructed on the ancient twined model, precisely as the weaving is done on the mats and hats.