47. Basketry: A Proposed Classification

Hélène Balfet
Translated and with preface by M. A. Baumhoff

Preface

The following article is a translation of a paper which originally appeared in French in the journal L'Anthropologie (1952, vol. 56, pp. 259-280). I am indebted to Miss Hélène Balfet, the author of the original article, both for permission to republish her paper in this form and for valuable critical assistance in the translation. Dr. Henry V. Vallois, editor of L'Anthropologie, kindly granted permission to publish the translation. Finally I extend my thanks to Dr. J. H. Rowe and Mr. Seth Leacock who assisted in certain technical aspects of the translation.

* * * * * * * * * * *

Basketry has long been a favorite topic of those ethnographers who concern themselves with technology or material culture. This is no doubt due to the large part played by basketry in the lives of the non-pottery making peoples. One aspect of basketry manufacture which has been exploited with partial success stems from the interest of Franz Boas in relationships between individuals and their culture. The type of study which Boas had in mind, and in which he himself carried out investigations (Boas et al., 1928), takes the form of "investigating the subjective attitude of the [basket] weaver, of determining individual reactions to craft aspects" (O'Neale, 1932). O'Neale's (ibid.) work with the Yurok-Karok basket weavers of Northwestern California is perhaps the most successful study of the kind.

One result which we might expect of such studies, if they come to fruition, is a systematic definition of the aesthetics of basket making. Since this would have come by induction to a group of individual craftsmen it would have had the virtue of being a generalization derived from the particulars in question and this may have been one of the things Boas was trying to find. But it is perhaps too much to expect artists to be articulate about the values of their art. In any case no good definition of the aesthetics of basketry has come from these studies. In fact I have not found anything in the literature on basketry which is entirely satisfactory from the standpoint of art criticism (cf. Weltfish, 1953). Whether this is because no critic has been able to accept the underlying artistic assumptions or whether the restrictive properties of basketry as a medium have prevented its attaining any real artistic value I do not know.

The Boas-O'Neale method has another aspect in which it has been decidedly more successful than it has in artistic analysis. This is the study of the methods of teaching and learning of the craft. Such studies are of help in giving us the mechanisms and partial explanations of the regularities and

variations which may be observed in the basketry of a given village or group. It is a pity this kind of study has not been done for more groups; if methods of training and work were known systematically they could perhaps then be obtained inferentially from the baskets themselves. This would be of particular value to the archaeologist, who must use all possible evidence in reconstructing culture.

A more immediate problem to technologists and archaeologists is that approached by Miss Balfet in the present paper--the classification of basketry techniques. Basketry techniques cannot even be identified and compared unless some sort of classification is used and up to the present we have been seriously handicapped in this respect. As Miss Balfet points out, the previous efforts have, on the one hand, been so cumbersome as to be impractical (Lehman, 1907) or, on the other hand, have been regional descriptions rather than classifications per se (Mason, 1904). Morris and Burgh's Anasazi Basketry will stand as an exception to this statement. Although they claim to deal only with the archaeological basketry of a small area of the southwestern United States yet their terminology and systematics are such that they can be used for classification of almost any coiled basketry.

One of the properties of basketry which makes its analysis attractive lies in the fact that its types may be regarded as discrete elements rather than as arbitrary points on a continuum. The basket weaver may twine with a right hand twist or a left hand twist but he cannot be half way in between these points. Furthermore his method of work is perfectly apparent in the finished product so the craftsman himself need not be observed at all. Thus for most situations in basket making there is only a finite number of logical alternatives and basketry analysis, in a way similar to kinship analysis, consists of working out the possible combinations. In both basketry and kinship the logical structure is so important that we are provided with powerful tools either for determining the causal relationships or for the purpose of elegant and economical description. Miss Balfet's basketry classification provides a point of entrance into the logical structure of basketry techniques. It is to be hoped that use of this classification will result in the sort of elaboration that has been achieved in kinship studies.

M. A. Baumhoff
Berkeley, California
February 1, 1957

Introduction

Basketry, which makes up an important part of all ethnographic collections, seems often to have resisted efforts at classification. Though certain well-known types are recognized with all their variants in certain geographical areas, it is still impossible to get an idea of their mutual relations. Furthermore, the inadequacy of the terminology makes description difficult and interpretation of the published accounts uncertain.[1]

In 1904 Mason published his classic description of American basketry.[2] Since that time most of the accounts, especially those in English, have simply adopted the types established by Mason, adding to them here or simplifying there, depending on the region under consideration. But it must be noted that Mason's monograph, which was based on the basketry of a single region, did not attempt to cover the range which has been attributed to it. In any case the work was rather an enumeration of types than a classification.[3]

The work of J. Lehman (1907-1912) has a greater classificatory value (see below) but it has only a very limited utility in practice because none of the forms described is named but only labeled with a formula. This obliges one to refer continually to the table of explanations to find the meaning of the formulas.[4]

This touches on one of the primary difficulties encountered in the course of this work. That is the necessity of naming types while having due regard for the traditional terminology and at the same time maintaining the logic and coherence of the classification. Wherever a name established through usage designates a well known form, it is unwise to replace it arbitrarily. But when it is necessary to create or choose names, it seems preferable to base them on a single principle of classification rather than on a resemblance to types previously named.

Another difficulty lies in the vagueness of the definition of basketry. In a general way we may agree that basketry is a hand-made assemblage of fibers which are relatively large and rigid, making a continuous surface, usually a receptacle.[5] In general basketry is distinct from weaving, in which flexible fibers are worked together to make continuous plane surfaces with the aid of an apparatus to put tension on the warps; from netting, by which plane surfaces as well as receptacles are produced by assembling fine flexible fibers manually; and finally from braiding, in which, also by hand, fibers are brought together into bands of variable widths. But even if these distinctions are granted there remain intermediate cases and examples of such complete identity between the technique of basketry and that of weaving or of netting that one cannot study the one without studying the others. The boundaries of the study here presented are often quite arbitrary, as the author well recognizes. Even more so does the author realize that the study of related techniques has been conducted along parallel lines and this knowledge is used in such a way as to permit at least the establishment of necessary connections when these domains shall be approached in the same way.

Finally, it is necessary to choose between the possible criteria of classification. In view of the preceding definitions, the classification cannot be based on function for we are not concerned with classifying baskets according to their use. Moreover it will not be based on exterior appearance or on degree of fineness or stiffness. It cannot be based on these factors because they vary infinitely with function, without enabling us to trace precise limits or define types. It may seem shocking that we leave these things out of account and classify together forms so diverse as a fence of bound sticks and certain fine and closely woven basketry simply because they have a similar weaving technique. It must be noted, however, that generally rigid threads (osier, wooden laths, or splints) do not lend themselves to the same work as do flexible threads (rush, raffia, strips of palm frond, etc.). In addition, to reserve a place for the form and function of the objects, it seems necessary to introduce, in the margin of the classification, a distinction between openwork basketry, basketry with one element spaced and the other tight, and closework basketry.

Most methods of basket-making lend themselves to two or three such variations, and it is thus possible to group two very different products under a single weaving technique. Figure 1 (a, b, c) shows three fragments of twined basketry as a very striking illustration of this fact.

It has been possible[6] to distinguish between the elements of basketry which may be called passive, i.e., relatively fixed, and which make up the foundation, on the one hand, as against the moving elements which are intertwined among the passive elements, on the other hand. These will be designated by the terms standard and thread, the first being more explicit than the second; the term standard may serve also as the general term when it is not possible to distinguish between the two. English terminology helps to make these terms precise by calling them warps and wefts respectively, thus equating them with the warp and filling of cloth.[7]

If one could list all the possible arrangements of standards and all the ways that the thread could be woven among them then this would give all the possible cases of basketry.[8] In practice it is possible to abbreviate this procedure somewhat while reserving irreducible forms as special cases.

Standards and Threads

Standards

These may be distinguished according to their nature, the number of layers they make up, and according to their general direction.

1. A single layer of passive parallel standards. Wattle[9] type (Fig. 2, nos. 1-12).

2. One or occasionally two layers of active standards. Standards and threads are in this case not distinct, i.e., they are generally flat and usually woven. The elements are parallel to each other but may be perpendicular to the edge (straight basketry) or oblique (diagonal basketry). Matting type (Fig. 2, nos. 13-38).

3. Two (or three) layers of passive standards. The two layers are sometimes oblique but the more usual case is for one of them to stand perpendicular to the edge while the other is wound around the vessel from bottom to top. Lattice type (Fig. 2, nos. 39-64).

4. A single standard wound in a flat coil at the base and then winding upward in horizontal coils in the vessel wall (Fig. 2, nos. 65-77).

5. A special case of the preceding. Coiled basketry of a single element (Fig. 2, nos. 78-90).

Threads

This is the moving element which holds the standards by intertwining among them in one of three ways.

1. Threads wound around the standards. Under the term "bound" are grouped all the cases in which the thread loops around the standard. This is usually done with a spiral motion or with a stitch, the latter also being in a spiral. At other times a knot or a half-hitch is used to fasten the thread to the standard. (Fig. 2, Bound.)

2. Threads twisted around the standard in two and threes. This is twined thread basketry, so named because of the twisting motion given to the threads in making a twine of two or three strands which encloses the standards. Various combinations are possible, the simplest being designated by the formula 1/1, which means that it is two strand cordage each twist of which encloses one standard. If the thread encloses two standards with displacement[10] we have the formula 2/2 corresponding to the simple twill of weaving. Odd combinations give several possible formulas of serge twill and even a form twined by braiding (and not by simple twisting). (Fig. 2, Twined.)

3. Threads woven among the standards. The intricacy with which the threads move among the standards gives weaves corresponding to those of cloth. They are plain weave (1/1),[11] simple twill (2/2 with displacement), serge twill (2/1 or other odd combinations with displacement of one standard per course), and satin (a special case of the preceding, 4/1 for example, with displacement of two standards). (Fig. 2, Woven.)

With the aid of these two series placed horizontally and vertically in tabular form the first chart has been constructed. This allows us to designate basketry by coordinates and gives evidence of the groupings among the various forms analyzed. They are seen to group themselves into four principal types: (1) bound lattice-work, (2) coiled basketry, (3) twined basketry, and (4) woven basketry. It may be noticed that these types, which group themselves on the chart, correspond to classical basketry types. The advantage here lies in having them better situated for purposes of comparison. It also helps to sharpen the definition of these types so as to demonstrate as variants of them other forms hitherto insufficiently definite.

The forms shown on the chart do not absolutely exhaust all possible cases but it seems that all other forms which one encounters may be placed there.[12] This chart (also Fig. 3 and Fig. 4) has been based on examples personally observed in six ethnographic museums (see Bibliography).[13] The greatest possible number of publications has been inspected in the cases where the detail which interested us was shown.

Bound Work[14]

Bound Wattle Work[15]

This is generally called wrapped in English terminology.[16] Montandon has called it wound ware. In this work the threads describe a turn around each standard (Fig. 2, no. 3).

This type, together with some of the more elaborate forms, is very widespread in distribution. It occurs in Tierra del Fuego, New Guinea (small baskets), Arizona, Andamans (burden baskets), the Sudan, and in Senegal (poultry cages).

The wattled work with tied threads (half-hitch or other knots) is exceptional--it is found only in the manufacture of objects which must have the threads firmly lashed to the standards (screens, railings). (Fig. 2, nos. 4, 5.)

Bound Matting Work[17]

The type in which the standard bends back against itself and is tied there with a half-hitch is known from a baleen net among the Central Eskimo[18] (Fig. 2, no. 16). It is interesting to note the proximity of this very exceptional case with the Kwakiutl type in which the standards and threads are both twined (Fig. 2, no. 18) and which is used to make objects of the same type.

Bound Lattice Work[19]

This type is frequently encountered, especially in its spiral thread form, but it has only rarely been distinguished in classifications. O. T. Mason cites it in his vocabulary[20] (lattice weaving) without giving it a place in the remainder of his work. Others group it with the twined work[21] or give to just one of its forms (Northwest American) the undescriptive name of "bird cage pattern." The name "basketry with multi-layer standard" given by A. Leroi-Gourhan[22] has here been given the additional word "bound" because other forms (twined or woven) are usually included in the twined or woven groups. In this type it is most usual for the standard to be in two layers, the elements of one being parallel and of the other perpendicular to the edge. There also occur cases of oblique standards and even cases of three layer standards. In the latter case one layer is enclosed by the other two, e.g., an oblique standard may be enclosed by layers with elements parallel and perpendicular to the edge.

Spiral Thread. In this case the standards are bound by winding flexible threads around them. The thread may be in a simple spiral or it may cross over itself or form various patterns similar to embroidery (Fig. 2, no. 39). The work obtained may be either open or close work.

The first form occurs sporadically throughout the world (fishtraps, etc.). The second has three principle centers of distribution: Central and East Africa (Congo, Uganda, Tanganyika); the Northwest Coast of North America; and Guiana (typical forms and the intermediate forms up to the sewed thread form).

Sewed Thread. Indonesia in particular offers a number of examples of receptacles made of leaves which have two layers of standards sewn together (Fig. 2, no. 40).

Tied Thread. This type is at the present time very rare and is combined in quite disparate fashion (Fig. 2, nos. 42, 43, 56).

Certain twined forms may, despite the rule enunciated above, be included here as a variant of the spiral bound type.[23] In fact this type is often found in bands on spiral bound basketry. In this case two threads are twined to allow an alternation of color in a decorative design. The requirements of decoration frequently lead to such an overlap of types.

Coiled Basketry[24]

The distinctive character of this group (Fig. 2, nos. 65-90) lies in the form of its foundation. This is made up not of a series of standards but of a single element wound in a spiral around itself.[25] The coils are kept in place by the thread[26] in various ways. Usually the work is done stitch by stitch and coil by coil without having an entire length of foundation laid out beforehand. The methods of sewing, as well as the nature of the coil, on which they depend in large part, enable us to define the variations within this type.

Spiral Coiling

(Fig. 2, nos. 65, 66).[27] This is the most frequent form of coiling. The nature of the standard may vary and the two following sub-types correspond to these variations: (1) Solid (made of a single whole stem)[28]--to bind each coil to the preceding one the thread must squeeze the two together, giving a diagonal or "twilled" effect (Figs. 1d, 1h). In some cases the stitch slips under the stitch of the preceding row without touching the standard (Fig. 1e).[29] (2) The double or triple standard[30]--in this case the thread catches in each stitch one of the elements of the preceding coil. Many combinations are possible and have been described in detail by Mason and G. Weltfish. (See Fig. 1f.)

The distribution of types (1) and (2) extends in a band across northern Eurasia and into Northwest North America (roots of conifers); the types are

found also in the Southern Pacific region (China and Melanesia) and some examples occur in Africa (Rhodesia).

Sewed Coiling

This type has a foundation of multiple elements, that is to say is made up of a bundle of fine fibers.[31] It is sewed coiling[32] made with the aid of a needle or an awl. The coil is bound to the one preceding by the thread, which goes through the body of the preceding coil (Fig. 1k).

The appearance of this type may change according to whether or not the thread conceals the foundation or whether it goes through the center of the corresponding stitch on the preceding coil as in the case of the "split stitch" type[33] (Figs. 1i, j, k).

This type of coiled ware has a very wide distribution. It is almost the exclusive form in many of the regions of Africa in the north and the west. It existed in ancient Egypt and it occurs in Arabia and throughout the Mediterranean Basin as far as Western Europe. It also occurs in India and sporadically in the Asiatic Pacific and finally outlines another distinct zone in North America (throughout the Pueblos).

Coiled with Wound Thread

This form is very rare. It is used to make the pottery rockers in the Sudan (Fig. 2, no. 67).

Half-hitch Coiling[34]

In this type the thread forms half-hitches holding the preceding loop of thread in place and the standard serves only as a support (Fig. 2, no. 68). It is not possible to differentiate this type from the half-hitch net without foundation (Fig. 2, no. 81) of which the geographic distribution is much more extensive.[35] This netting (with foundation), which requires very round and flexible material, appears to be limited to Australians, Tasmanians, Tierra del Fuegians and Pygmies.

Knotted Coiling[36]

The simplest knot (Fig. 2, no. 69) is also the most diffuse but many varieties may be noted in the Congo, in Indonesia, and among the Basket Makers.

Twined or Woven Coiling

These two types, which are rarer than the others, are grouped with the coiled ware because their foundations are coiled (Fig. 2, nos. 70, 74). But they have elements the lengths of which are arranged in advance, running from the center out to the edge. Because of this it is possible to regard them as twined or woven ware with flexible standards and stiff threads. The examples of twined coiling (or basketry with twined flexible standards) are very limited (Southern Africa). Woven coiling is well represented by a type from West Africa and by many cylindrical hats from tropical America.

Single Element Coiling[37]

This type differs from the preceding in detail but fundamentally it is part of the same group in that its single element follows a spiraled direction analogous to the path of the foundation in the usual type. It is rare to find cases with wound threads within this class (they would usually be grouped with the "knotless netting"). Coiled ware made from sewed braids (Fig. 2, no. 79) is attested to throughout North and Northeast Africa since the time of Ancient Egypt. There is some half-hitching without foundation of which one openwork variety is from East Asia.[38] Finally there is the knotted Fuegian basketry (Fig. 2, no. 82).

Twined Basketry[39]

In this variety the standards are held by having the threads twisted around them as if they (the threads) were being made into cordage (of two or three strands). We have already encountered (Figs. 1a, b, c) the three possibilities of twined: close twined, basketry with tight standards but spaced threads, and openwork basketry.

The latter type is almost universally distributed because it is a perfect solution to the problem of maintaining rigid standards with even spacing for fish traps, hurdles,[40] etc. The type with spaced threads may also be employed with flexible elements when one wishes to fabricate without stiffening (e.g., Ainu flexible basketry). In this form it occurs throughout the Northern Pacific from Japan to the American coast where it is found side by side with close twining (and with twined textiles or cloth).

Close twining occurs in three principal zones:

Western North America from Alaska to the Pueblos.
Australia.
Central Africa from the Congo to the East Coast.

In the regions of the greatest frequency, above all the American and African zones, we encounter the variations--variations in the threadwork, e.g., simple twilled twining;[41] serge twilled twining;[42] braided twining;[43] two superimposed layers of standards held with twined threading (straight[44] or diagonal[45]); "honey comb" twined,[46] in which the flexible standards are twined together two and two but with alternate pairing on successive courses of threading (Fig. 2, no. 19); and finally the exceptional basketry of the Kwakiutl in which both the threads and the standards are twined (Fig. 2, no. 18).

Woven Basketry[47]

This category includes all the types in which the threads weave among the standards. Three basic varieties of this may be distinguished:

Wattle work.
Plaited basketry with two perpendicular elements, straight or diagonal.

Work with three or more elements, the weaving of which varies to create the subtypes.

Wattle Work[48]

This type, with stiff standard and flexible threading, is universally distributed (Fig. 2, nos. 9-11). This is the most usual type in European and African baskets and it is also found in North and South America and in the Far East. It is everywhere used, at times, to build hurdles and the walls of houses. Plain weave is most usual in this type, often with an excess of threads which hide the standard. The various twills are also found in this type.

Although as a general rule this type will have the standards perpendicular to the edge, it also includes another form, with both European and Chinese variations, in which the standards, bent into semi-circles, look like meridians (convergent at the two poles--Europe) and parallels (China) when seen from the bottom, while the threads run from one edge to the other.

Plaited Work[49]

In this type, either the straight or diagonal, it is necessary to use flat fibers (Fig. 2, Nos. 22-25; 35-38). This type is very similar to textile weaving and uses the whole gamut of weaving techniques. Its decoration gives it an infinitely varied appearance. The diagonal forms are the most frequent with a tendency toward simple twill (2/2). According to the material and the technique, this type lends itself to a great variety of forms and it is here in particular that it is possible to make the best plane surfaces of large dimensions. It seems particularly well adapted to the natural resources and to the kind of life that is found in the intertropical regions. It has a vast distribution but its regions of emphasis complement those of coiled and twined ware, i.e., the regions which have rarely been cited--the Far East from Japan to Malaysia, tropical America, and Madagascar.

Woven Basketry with Three or Four Standard Layers[50]

Some varieties of this type are completely woven while others are intermediates between woven and lattice basketry--for example, two standards layered and one woven. This latter type,[51] "diamonds in three elements," has a very wide distribution (Fig. 2, no. 61). It is the technique most common in openwork basketry with flat elements that is found from Europe to Japan and in tropical America. In the latter region it is represented by a great number of varieties--straight (Nambikwara) and diagonal, and with double and triple threading. The really intricate types sometimes form figures which are variations of the diamond shape. However one type which is quite distinct is that of a closely woven fabric in three layers (1/1 or 2/1 weave) with a very limited distribution in Indonesia (Fig. 2, no. 37).

Starts and Finishes

It remains to describe two critical steps in the manufacture of basketry--the start, the initial placing of the elements, and the finish, which ends the work and gives it its definitive appearance.[52]

In these two operations there is a great variety of forms because the imagination is often impelled toward a decorative goal. We have seen that the geographic distribution of the weaving technique alone is of little help, therefore it will be necessary to find additional comparative elements in the analysis of starts and finishes in order to establish a satisfactory series of technical characteristics for the study of basketry.

However, it may be asked if the multiplication of details observed does much to give the observation additional comparative value, that is to say, in what measure are these details independent of each other? It is possible in fact that certain associations are inevitable or at least preferential. For example, a certain weave may imply a certain finish or a certain starting position for the standard. To make this idea more precise it seems preferable to wait until the possibilities of a statistical study on this point have been investigated.

Starts (Fig. 3)

It must be noted from the first that, at least in the case of basketry receptacles, the start is almost always the same as the base or the center of the vessel. Some rare exceptions will be shown below. As in the case of weaves the present classification is based on the position of the standards and the way they are grouped at the beginning.

1. Radial start - the standards occupy a position more or less radiating out from the center.[53] If the standards are handled individually they radiate typically (nos. 1-7); sometimes the standards are in bunches, the elements of which, gathered at the center, subsequently spread out to give the desired diameter (nos. 8-14).

2. Layered start[54] - the standards are placed in layers, usually two but sometimes one, three, or even four. The most usual form (flat start)[55] makes a surface which is more or less the same as the bottom of the basket (nos. 15-21). The "linear starts"[56] are of the same type, adapted to the weaving of objects with a flat section (nos. 22-28) except for the particular case called "start from the edge."[57] This latter is rarely used for receptacles (some examples from Oceania are made of palm fronds, no. 32) but are inevitable in the case of open end tubular baskets (sheaths, interior cones of fish traps, etc.).

The standards thus arranged may be held in various ways:

a. Tied to each other (chiefly the radial standard type).
b. Stratified (isolated, in bunches or layers).
c. Lashed type - the standards may be in a bundle bound on the inside (type with interior ring) or on the outside (type with exterior ring, of which one example is made of a splint of bamboo). Also the standards may be bound and folded back (umbilical type), or they may be in bunches bound flat; there may be bound layers of standards (flat start), or a single bound layer of standards (linear start).

d. Woven type - there may be isolated standards (4, 6, 8 or more) making a start which is square, hexagonal, octagonal or diaphragmatic

[as in a camera aperture] (nos. 4-7). The standards may be in 2, 4, 6 or more bunches of woven elements. Most frequently in this type the standards are in layers, straight or diagonal.[58] There may also be straight or diagonal linear starts or starts from the edge.

Entirely apart, there must be cited the coiled starts, the usual type in coiled basketry. It is interesting that we find divisions here which correspond to those we have just encountered: the spiral may be started from a central point (no. 36); it may be folded back several times to form a square or a rectangle before starting the spiral (no. 37); an oval base may be obtained with a coiled start of the linear type (no. 38); finally the coiled start from the edge (no. 39) exists in cases analogous to those cited above but again it is rare (it occurs in Indonesia for instance) except in open-ended tubular baskets.

Besides the case of coiled basketry where the agreement between the foundation and the start is almost a formal rule, it is proper to note that the greatest frequency of radial starts occurs with wattled weave and of flat starts with the plaited (or matting) weaves.

Finishes (Fig. 4)

We must make a preliminary note here corresponding to that which was made in the case of starts. The finish of basketry usually coincides with the edge of the basket so that frequently the term "edge" is used instead of "finish." It might be better to reserve the term "edge," common to all receptacles, to the description of shape.

I have left aside the purely decorative elements which often mask the essential characteristics and which, if taken under consideration in the present work, would entail excessive subdivision.[59]

Basically we may observe here two main types--edges in which the finish is produced by the elements of the basketry itself, generally the standards (simple finish), and on the other hand those in which the finishing element is added (composite finish).

The method of finishing, properly so called, furnishes a second criterion. The position of the standard does not seem to merit an essential place but it does introduce noticeable variation (the standards may be cut, may be laid tangent to the edge, or reversed).

Edges without finish,[60] with a free end (no. 1) are rare. One finds them on objects, hats for example, on which the edge is pointed down. Finish with knotted standards demands a great flexibility in these elements (coiled basketry with wound thread, for example, or matting). Finish with the thread wound in a coil presents various forms. Among the simple edges, almost all coiled basketry is finished with a "fag end" wound with thread (no. 3). Often this type will have a spiral in figure-of-eight pattern[61] for the purpose of embellishing and reinforcing the edge. The distinction between simple winding and figure-of-eight is functionally more important in the composite type. There the first form is frequently encountered when the

standards are bent flat at the edge (no. 31). The second form is seen as a stop for a weave of cut standards (no. 25), while the converse combinations are rare. The type with edges tightened between two slats (no. 26) offers great variety in the method of binding (tight or loose winding, figure-of-eight, knots, etc.). However, it seems possible to group these together without going into detail because the functional element is the binding between the two rigid pieces. Twined finish with cut standard of the simple type is used for flat edges in close weave--having some rows finer and tighter than the rest gives a very great solidity. Standards laid or reversed back into the weaving are frequent in woven basketry. When the standards are too stiff they are cut and the edge is stopped with a flexible element recalling a hair-pin.

Finally we must mention a very special type of edge, although it may be attached to composite edges of cut standards; the finish is made of an element of non-basketry material--gum (tropical America, for example), band of cloth (Ainu), or hide (East Africa).

Notes

1. The basis of a general classification of basketry proposed by A. Leroi-Gourhan in 1943 (L'Homme et la Matière, pp. 279-290) has been borrowed here in rough outline. The present work, which completes that classification, follows the body of a revision of terminology undertaken in 1948 under the direction of M. Leroi-Gourhan at the Department of Comparative Technology of the Musée de l'Homme. The figures were drawn by M. R. Humbert of the Centre National de la Recherche Scientifique.

2. Mason, 1904.

3. To convince oneself of this fact it is only necessary to examine the principle used in it. Of the two general classifications, one (woven basketry) is defined by a term which, if taken in its limited sense (woven), eliminates more than half of the forms discussed thereunder, but which if taken in its more general sense (intertwined) would include not only all basketry but most flexible solids as well. The other classification (coiled basketry) defined according to the direction of work, is by no means the opposite of the first. The detail of the work contains several similar cases.

4. Letters and numbers can certainly be very expressive if one is able to give an equivalent meaning to the same symbol in all cases. However [in Lehmann's work] in the formula IAa the letter A designates the weave (plain weave); in the formula IIAa the same weave is indicated by a, while A designates the wattled type as opposed to B, the coiled type.

5. Leroi-Gourhan, op. cit., pp. 279-280.

6. Ibid., p. 282.

7. The terms which have been translated as standard and thread are montant and brin. Montant appears to have the essential meaning of support (post of a door, upright of a ladder). Foundation might have been used tc translate this word but in English terminology it has already been specialized to coiled basketry. Similarly the word warp could not be used as it is specialized to non-coiled basketry.

   The word brin has a meaning similar to that of the English word thread--it also means strand, as in two-strand cordage. Again the words weft and stitch could not be used because of their specialized association in English terminology. (Transl.)

8. It is on this principle that the classification of Lehmann (1912) is based. To our way of thinking, however, his scheme presents one grave fault in that it describes only a fragment of basketry as detached from the whole. Thus great importance has been given to the active and passive character of the elements and to their number but not to their direction. For example, wattled and coiled ware are grouped under type II while scarcely any distinction is made between straight and diagonal basketry.

9. Fr. Clayonné (Montandon). The numbers 1 to 90 refer to those of Fig. 2 until otherwise indicated.

10. By displacement is meant, for example, in the case of the 2/2 type, that we have each strand of the weft going over two and under two on alternate pairs of warps. (Transl.)

11. In the textile terminology of English there are three basic weaves. These are the plain weave (1/1), twill weave (2/1, 2/2 or other combinations), and satin weave (4/1, 5/1, etc.). The main characteristic of the latter is that the weft goes under many more warps than it goes over, making the appearance and texture of the fabric almost entirely dependent on the material of the warp. In the French terminology there are four of these basic weaves--toile, corresponding to plain weave; croisé (2/2), corresponding to one part of our twilled variety; sergé (2/1 or other odd combinations), corresponding to the other part of our twilled variety; and finally satin, which is the same as our satin weave.

    It appears that the logic of neither classification is superior to the other. Perhaps the best solution would be to arrange the types to indicate whether or not the moving element passes over the same number of passive elements as it passes under. Within these two types the varieties could then be distinguished by formula. The classifications as they now stand are simply reflections of the cultures of England and France respectively and have no necessary connection with the practices of, say, the Indonesians or the Ainu. (Transl.)

12. This is why the blank spaces on the chart have been retained for forms which have not yet been discovered.

13. Let me take this occasion to acknowledge the kindness of the curators of the Museum für Völkerkunde in Vienna, the Department of Ethnography of the British Museum, the Pitt Rivers Museum in Oxford, the Museum of Archaeology and Ethnology at Cambridge, all of whom made this work possible by generously giving me access to their collections.

14. Fr. vannerie liée. (H. B.)

15. Fr. vannerie clayonnée à brins liés. (H. B.)

16. W. E. Roth (1916-1917) uses this term to designate bound lattice work with two layers of standards. This usage will be questioned later.

17. Fr. vannerie natte à brins liés. (H. B.)

18. Mathiassen, 1927.

19. This is the translation of vanneries à nappes superposées liées, basketry with bound superimposed layers. The word lattice implies a framework of supporting elements which cross each other and therefore are of necessity in at least two layers. (Transl.)

20. Mason, p. 195.

21. Semi-rigid twined work (Montandon); wrapped twined (Harrison, Weltfish). [In this and subsequent notes Weltfish 1930 is the reference.]

22. Ibid., p. 281.

23. Lattice twined (Mason, Harrison, Miner).

24. Fr. Vannerie spiralée (H. B.)

25. Montandon (1933, p. 6) bases the distinctiveness of coiled work on the existence of the pliant coil. This seems to me quite arbitrary since nothing distinguishes this coil from the strip which holds together the standards in the spiral bound type.

26. Mason distinguishes the elements of coiled basketry from the standards and threads in other types of basketry by calling them foundation and sewing. Similarly Graebner (1913) calls them die Wülste and die Uberflechtung (coiled basketry is Spiralwulstkorbe).

27. Spiral-coiling (Davidson); Fr. spiralée à brin roulé (or spiralée-spiralée). (H. B.)

28. Single-rod foundation (Mason); one-rod foundation (Weltfish).

29. Simple interlocking coils (Mason).

30. Two, or three-rod foundation (Mason, Weltfish).

31. Grass-coil foundation (Mason); multiple foundation (Weltfish).

32. Fr. spiralée cousue (H. B.)

33. Split stitch (Weltfish); furcate coiling (Notes and Queries); Fr. spiralée cousue à brin fendu (H. B.)

34. Half-hitch coiling (Davidson); Fr. spiralée demi-clef (H. B.).

35. This similarity has been confirmed by an unfinished sack net in half-hitching from tropical America which was recently acquired by the Musée de l'Homme. Several consecutive rows are being formed on a foundation which makes it temporarily into basketry. It is only necessary then to slip out the standard to give the object the flexibility of a net.

36. Fuegan coil (Mason); knot-stitch (Notes and Queries); spaced coiling (Morris and Burgh); Fr. spiralée nouée (H. B.).

37. Fr. spiralée sans armature (Montandon); coiling without foundation (Mason); vannerie spiralée à une seule nappe. (H. B.).

38. Cycloid coiling (Notes and Queries); looping (Miner).

39. Fr. Torsadé (Montandon); vannerie cordée (H. B.); German - Doppelfaden (Reesema), Zwirnbindung (Vogt).

40. A hurdle is "A coarse form of basket work in brush and trees for hunting and fishing purposes." (Mason, 1904, p. 195) This translates claie, an openwork of osier. (Transl.)

41. Diagonal twining (Mason, Harrison); diagonal twilled twining (Miner, Weltfish, Douglas); Fr. cordé croisé (H. B.).

42. Three-strand twining (Mason, Harrison, Weltfish); cordé sergé (H. B.).

43. Three-strand braid (Mason); three-strand braided twining (Weltfish); Fr. cordé tressé (H. B.).

44. Lattice twining (Mason, Harrison, Douglas).

45. Cross-warp twined (Harrison); crossed twining (Douglas).

46. Zigzag twining (Douglas); zigzag twilled twining (Miner); Fr. cordé "nid d'abeille" (H. B.).

47. Fr. vannerie tissée (H. B.).

48. It is to this type that English terminology has given the term wickerwork, literally osier work. Fr. type clayonné tissé (H. B.).

49. I have used the word "plaited" to translate natte in the section on woven basketry, that is, when the classification is based on the threads or moving elements. "Matting" is used to translate the same word when classification is based on the standards or foundation elements. (Transl.)

50. Fr. type canné (Montandon).

51. Cross-warp checker (Harrison); hexagonal plaiting (Miner); Fr. carreau à trois éléments (H. B.).

52. Starts and finishes (Fr. départs and arrêts [H. B.]) have been very little studied up to the present--that is why there are very few references in the pages that follow.

53. Radiating foundation or radiating ribs (British Museum); Fr. montant rayonnant (H. B.).

54. Fr. montant en nappe (H. B.).

55. Fr. départ à plat (H. B.).

56. Fr. départ linéaire (H. B.).

57. Fr. départ du bord (H. B.).

58. Often not discernible because the whole piece is initially woven flat and the concavity is finally made by retightening the edge.

59. Thus the chart cannot express the nuances that can be gotten from the description of a regional type. The general outline can only place principal types--one still has to outline details peculiar to the group studied.

60. This might be called the zero finish. (Transl.)

61. Herring-bone rim (Douglas); Fr. spirale en 8 (H. B.).

Bibliography[1]

Collections from the following museums:

Musée de l'Homme, Paris
Museum für Völkerkunde, Vienna
British Museum, Department of Ethnography, London
Horniman Museum, London
Pitt Rivers Museum, Oxford
Museum of Archaeology and Ethnology, Cambridge

Boas, F., H. K. Haeberlin, J. A. Teit, and H. H. Roberts
1928 Coiled Basketry in British Columbia and Surrounding Regions. Bureau of American Ethnology, Ann. Rept., 41, pp. 119-484.

Bühler, K.
1948 Basic Textile Techniques, Ciba Review, Vol. 6, No. 63, Basel.

Davidson, D. S.
1933 Australian Netting and Basketry Technique. Journal of the Polynesian Society, Vol. 42, pp. 257-299.

Douglas, F. H.
1935 Basketry Construction Technics. Denver Art Museum, Department of Indian Art, Leaflet 67.

Harrison, H. S.
1924 The Evolution of the Domestic Arts. Handbook to the Horniman Museum, Part II, London. Basketry pp. 15-19.

Lehmann, J.
1907 Systematik und Geographische Verbreitung der Geflechtarten. Abhandlungen und Berichte des Königl. Zoolog. und Anthrop. Ethnogr. Museums zu Dresden, Vol. XI.

1912 Flechtwerke aus dem Malayischen Archipel. Veröffentlichungen aus dem Städtischen Völker-Museum, Frankfurt-am-Main, Vol. IV, pp. 2-56.

Leroi-Gourhan, A.
1943 L'Homme et la Matière. Albin Michel, Paris. (Basketry pp. 279-290).

Mason, O. T.
1904 Aboriginal American Basketry. Ann. Rept. of the U. S. Nat. Museum for 1902, pp. 171-548.

---

[1]Bibliographic references are limited to works containing precise explanations of terms (definitions or figures with annotations). [Additional works cited in Preface or Notes follow. (Transl.)]

Miner, H.
1936 The Importance of Textiles in the Archaeology of the Eastern United States. American Antiquity, Vol. 1, No. 3, pp. 181-192.

Montandon, G.
1934 Traité d'Ethnologie Cyclo-Culturelle. Payot, Paris. (Basketry pp. 493-510.)

Morris, E. H. and R. Burgh
1941 Anasazi Basketry. Carnegie Institution of Washington, Publ. No. 533.

Notes and Queries on Anthropology
1951 6th Edition, London. (Basketry pp. 272-276.)

Reesema, E. S. van
1926 Contribution to the Early History of Textile Technics. Amsterdam.

Roth, W. E.
1901 String and other Forms of Strand: Basketry, Woven bag, and Network. North Queensland Ethnography, Bull. 1, 15 pp.

1917 An Introductory Study of the Arts, Crafts and Customs of Guiana Indians. Bureau of American Ethnology, Ann. Rept., 38, pp. 137-143. (Terminology pp. 137-143.)

Schmidl, M.
1928 Altägyptische Techniken an Afrikanischen Spiralwulstkorben. Koppers, Festschrift, pp. 645-654.

Vogt, E.
1937 Geflechte und Gewerbe der Steinzeit. Monographien zur Ur- und Frühgeschichte der Schweiz, Vol. 1, 124 pp. Basel.

Weltfish, G.
1930 Prehistoric North American Basketry Techniques and Modern Distributions. American Anthropologist, Vol. 32, pp. 454-459.

Additional References

Graebner, F.
1913 Gewirkte Taschen und Spiralwulstkörbe in der Südsee. Ethnologica, Vol. 2, pp. 25-42.

Mathiassen, Therkel
1927 Archaeology of the Central Eskimos. Report of the fifth Thule Expedition, 1921-1924, Vol. IV.

O'Neale, Lila M.
1932 Yurok-Karok Basket Weavers. Univ. of California Publications in American Archaeology and Ethnology, Vol. 32, no. 1.

Weltfish, G.
1953 The Origins of Art. The Bobbs-Merrill Company.

Explanation of Illustrations

Figure 1

a, b, c. Three examples of twined basketry: a, close twining (British Columbia); b, standards close and threads spaced (Nieptani); c, openwork twining (bamboo fish trap from Laos).

d, e, f, g. Four forms of coiled basketry with spiral thread: d, tight standard, twilled effect; e, tight standard, thread holding but the preceding one; f, double standard; g, sewed coiling, split stitch type.

h, i, j, k. Coiled basketry: h, spiral coiling, same as Fig. 1d (Poland, a milk vessel made of pine roots); i, sewed coiling, tight stitches hiding the foundation (Abyssinia); j, sewed coiling with spaced stitches (Ruanda-Urundi); k, sewed coiling (split stitch type).

Figure 2

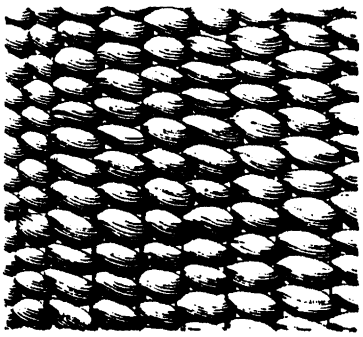
Classification of techniques. Threadwork is arranged horizontally and standard-work vertically.

Figure 3

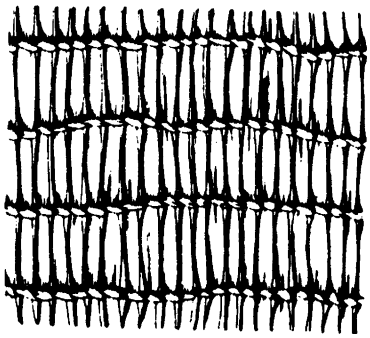
Classification of starts. Threadwork arranged horizontally and standard-work vertically.

Figure 4

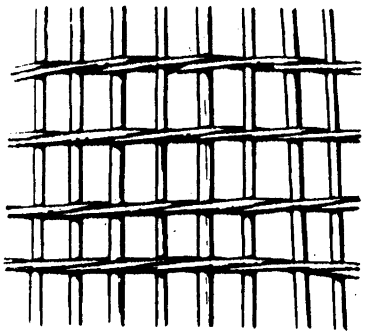
Classification of finish patterns. Threadwork arranged horizontally and standard-work vertically.



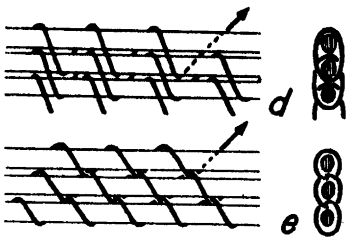
a

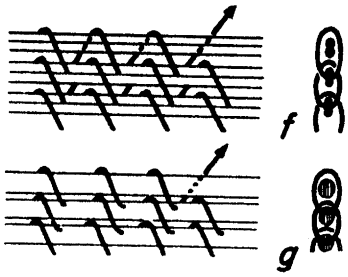


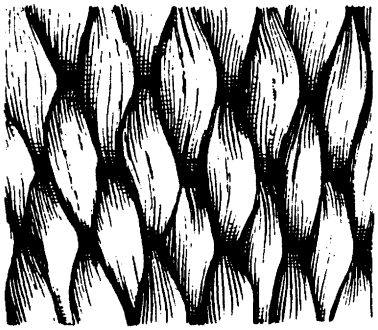
b



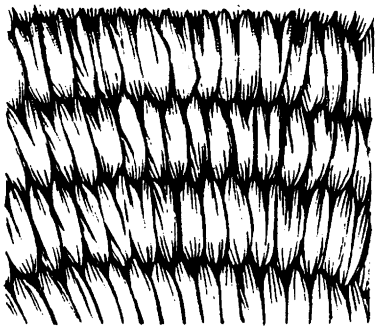
c



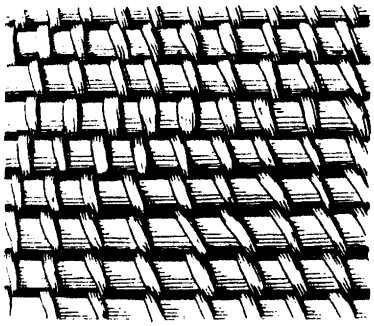




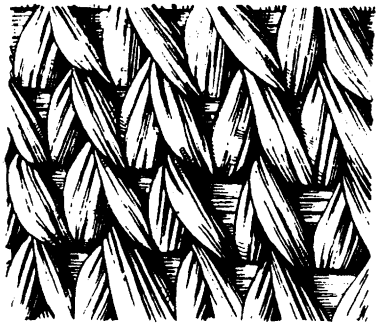
h



i



j



k

Fig. 1

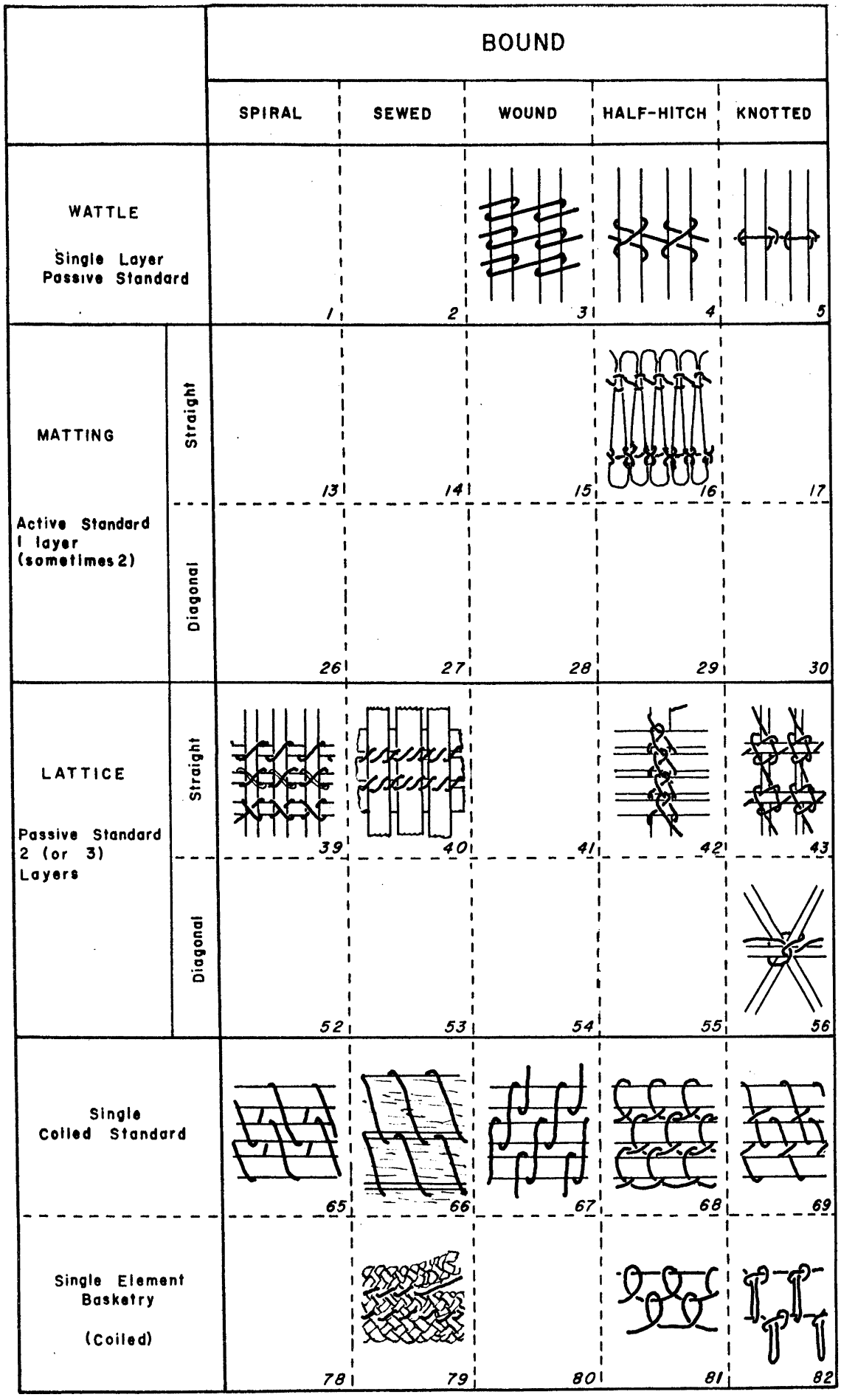

BOUND
SPIRAL
SEWED
WOUND
HALF-HITCH
KNOTTED
WATTLE
Single Layer
Passive Standard
1
2
3
4
5
MATTING
Straight
Diagonal
Active Standard
1 layer
(sometimes 2)
13
14
15
16
17
26
27
28
29
30
LATTICE
Straight
Diagonal
Passive Standard
2 (or 3)
Layers
39
40
41
42
43
52
53
54
55
56
Single
Coiled Standard
65
66
67
68
69
Single Element
Basketry
(Coiled)
78
79
80
81
82

Fig. 2

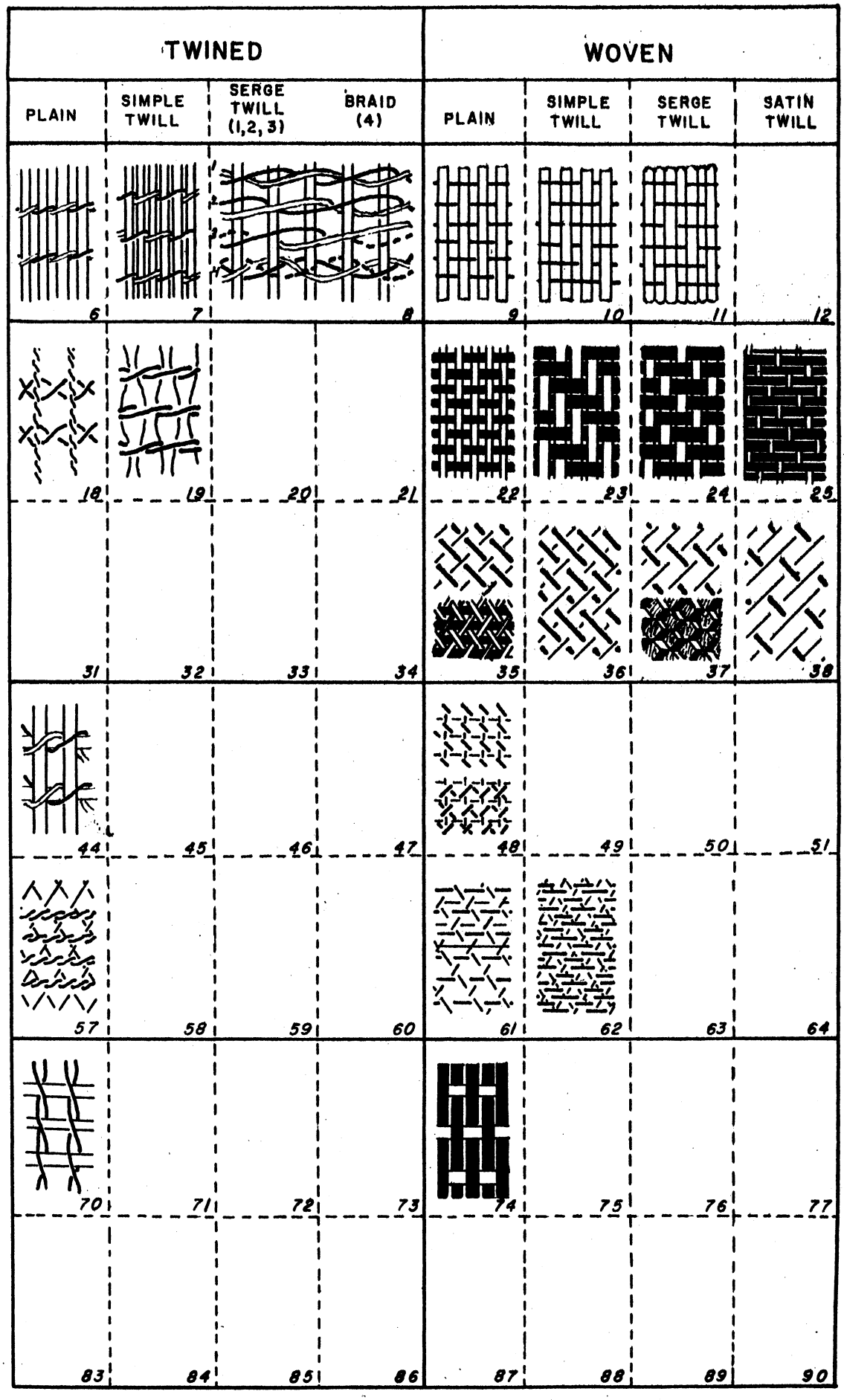

TWINED
WOVEN
PLAIN
SIMPLE TWILL
SERGE TWILL (1,2,3)
BRAID (4)
PLAIN
SIMPLE TWILL
SERGE TWILL
SATIN TWILL
6
7
8
9
10
11
12
18
19
20
21
22
23
24
25
31
32
33
34
35
36
37
38
44
45
46
47
48
49
50
51
57
58
59
60
61
62
63
64
70
71
72
73
74
75
76
77
83
84
85
86
87
88
89
90

Fig. 2 (cont'd.)

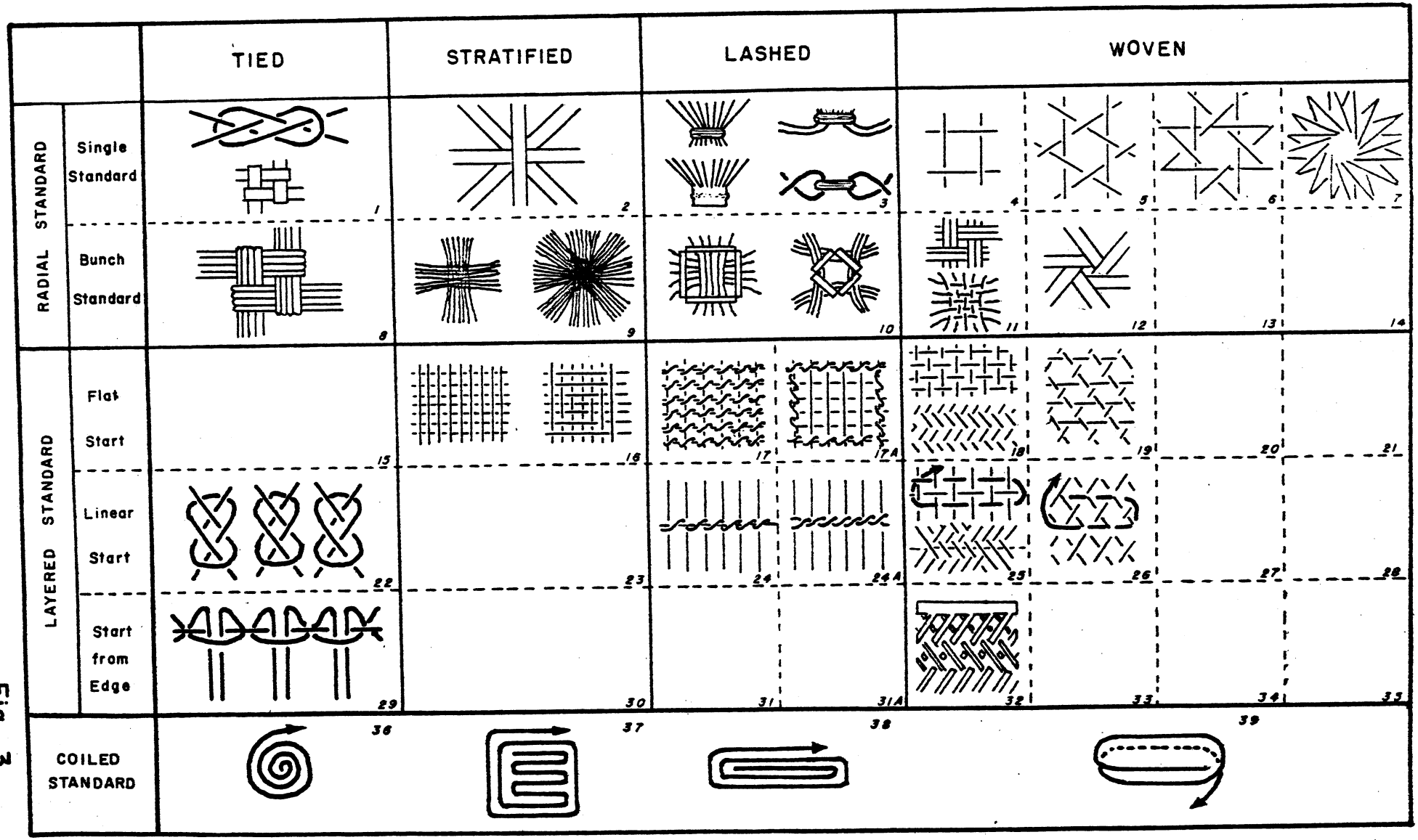

TIED
STRATIFIED
LASHED
WOVEN
RADIAL STANDARD
Single Standard
Bunch Standard
LAYERED STANDARD
Flat Start
Linear Start
Start from Edge
COILED STANDARD
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
17A
18
19
20
21
22
23
24
24A
25
26
27
28
29
30
31
31A
32
33
34
35
36
37
38
39

Fig. 3

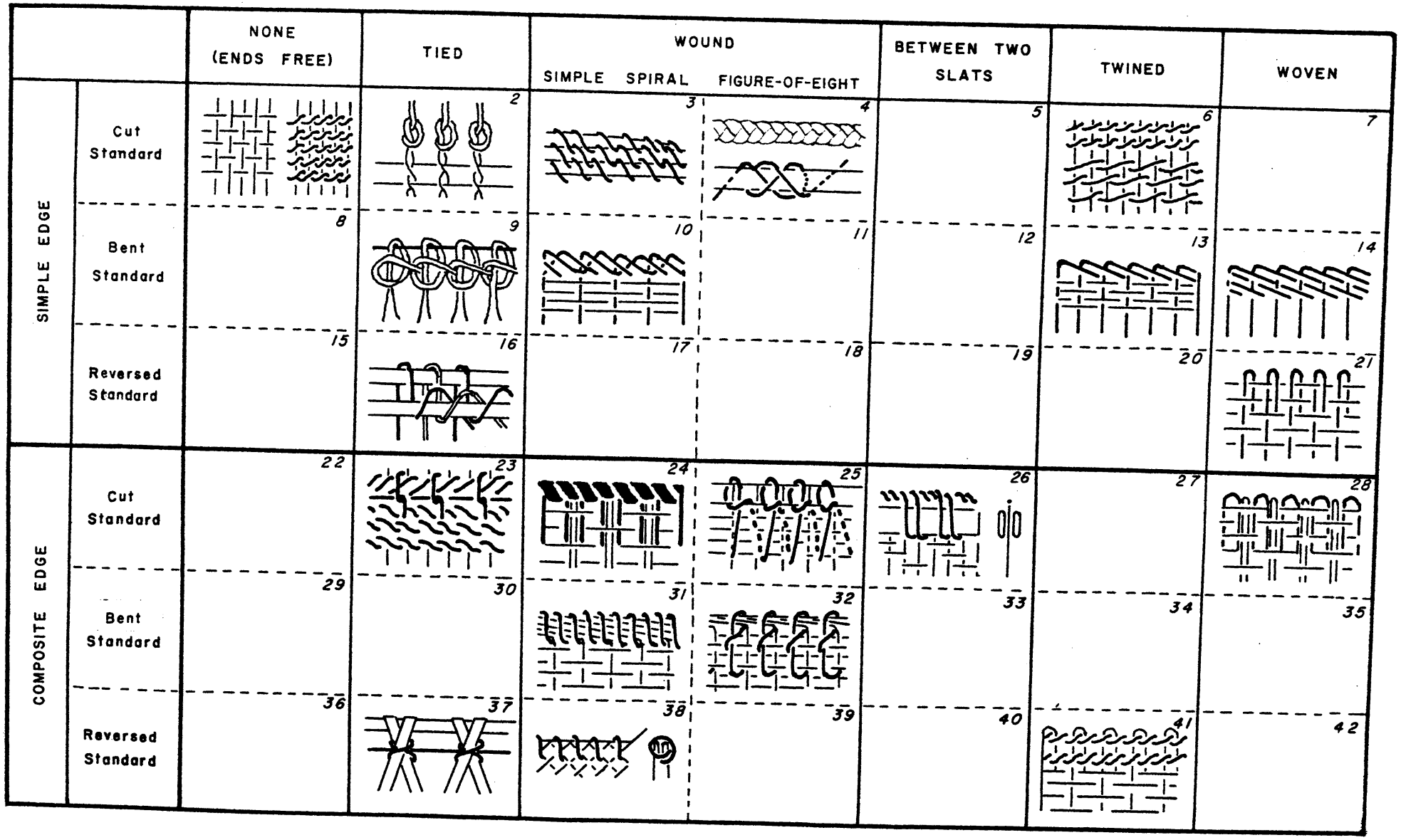

NONE (ENDS FREE)
TIED
WOUND
SIMPLE SPIRAL
FIGURE-OF-EIGHT
BETWEEN TWO SLATS
TWINED
WOVEN
SIMPLE EDGE
COMPOSITE EDGE
Cut Standard
Bent Standard
Reversed Standard
Cut Standard
Bent Standard
Reversed Standard
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42

Fig. 4