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VOCABULARY OF MALAYSIAN BASKET-
WORK: A STUDY IN THE W. L.
ABBOTT COLLECTIONS

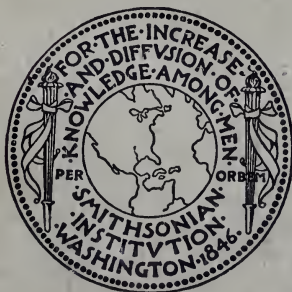
BY

OTIS T. MASON

Head Curator, Department of Anthropology, U. S. National Museum

No. 1631.—From the Proceedings of the United States National Museum,
Vol. XXXV, pages 1-51, with Plates I-XVII

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INTRODUCTION.

This vocabulary is the result of studies in large collections of basketwork from the Andamans and Nicobars, the Peninsula of Malacca, Sumatra and the islands thereabout, and Borneo south of Sarawak, with the view of having a lucid nomenclature in describing the Abbott specimens more at length in a larger work. The collections were personally gathered and presented to the United States National Museum by Dr. William L. Abbott, of Philadelphia.

The Abbott collections are of greatest scientific value as types, because after studying the wants of the Museum he labeled each specimen carefully according to the latest requirements, and they come in the most opportune time to compare with the vast material now being sent from the Philippines. The Abbott collections also ally themselves with the textile handicrafts of Japan, China, the southeastern Asiatic states, and the islands of the Pacific.

The terms "basketry" and basketwork" are here taken to embrace all handicrafts used in the manufacture of Malaysian baskets proper and in other industries as well, in which the same technical processes occur. Later will be shown the varied and wide application of the terms.

The word Malaysia is preferred to Malaya, since the latter, as commonly used, is more restricted. The term also leaves room for the racial diversities known to exist from the Philippines to the Sunda Islands.

Plate I shows how different in form, structure, and technic the Malaysian basketwork is. The figures on the plate, beginning at the left, are first, a carrying basket (Cat. No. 232633, U.S.N.M.), in close oblique checker weaving, of pandanus. At the border the elements are turned down over a hoop and inwoven. The carrying zone is bound by two small stems run through the texture, forming a band

Malays: General brown people, in many subdivisions, ethnic and cultural.

Mincopi: Aborigines of Andaman Islands.

Niasese: Of Nias Island, west of Sumatra.

Nicobarese. (See Shompeng.)

Sakais: On the Malay Peninsula.

Sellungs: In Mergui Archipelago, west of Malay Peninsula.

Semangs: An aboriginal people of Malacca Peninsula.

Shompeng: Aborigines of the Nicobar Islands.

VOCABULARY.

Abbreviations.—If they are to be used, the following rules are suggested: In bibliography, those adopted for the International Catalogue would be the best. For special basketry expedients the letter x may stand for an indefinite number, as in the sentence, "At the upsett, about the carrying band, and on the borders of burden baskets, x rows of close work are added for additional strength."

There would be no obscurity in putting ver., hor., dex., and sin. for vertical, horizontal, dextral, and sinistral, in describing the intricate technic of certain classes of basketwork. Also, in describing twilled work, the fractional formula may be employed, for example, "under-two-over-one," could be $\frac{2}{1}$; or hor. = $\frac{\text{dex.}}{\text{sin.}}$ would mean "the horizontal splits all pass under the dextral and over the sinistral splits." Care should be taken to explain what is meant by an abbreviation and to have it signify always the same idea.

Dr. J. Lehmann reduces the whole nomenclature of loomless textiles (Geflechtsarten) to formulæ, in which Roman and Arabic numerals, capitals, and lower-case type, and Greek letters are employed to show at a glance the most intricate textures.

Added parts.—Include all attachments for adapting baskets to their specialties. The betel basket will have pockets for the different substances; at the bottom of the bolo basket will be a block of spongy wood to receive the point; the bird cage, the fish basket, the protector for hot food, will all be fitted for their several functions.

Ambong.—General Malay name for a carrying or burden basket.

Awl.—The Malaysian basket-makers practice something like sewing and make hundreds of fine holes for the rattan filaments that do the work of thread. The holes are made with piercers (see *Pierced work*), but as the effect is produced by a thrust, with revolutions, the instruments will be described and illustrated under *Drill*. (See Plate IV.)

Backpad.—A smooth piece of spathe or bark sewed on the side of a burden basket that is worn against the naked back of the carrier. Though this type of basket has rounded body, the squared foot and

framework and the fixed backpad make it proper to speak of sides. (See Plate III.)

Bajus.—In Nias, jackets made of *bark cloth*, which see.

Bamboo skin.—The outer skin of young bamboo stems, when peeled off and properly cured, is used like spathe and bast for making hats and for other smooth textures.

Bamboo work.—To the natives of Malaysia, bamboo stems serve the double use of receptacles and as the basis and material for much basketry technic. Bamboo is the common name for the large tree-like grasses belonging to the genus *Bambusa*, of which more than thirty species are known. Some send up canes from their rhizomes 50 to 60 feet high in a single season. In others, one of the hollow internodes may reach a foot in diameter and more than 3 feet in length. The bamboo canes are employed for no end of uses in Malaysia, both whole and split. Masts, sails, mats, roofs, walls, floors, furniture, and the finest baskets are made from stems, leaves, and finely-shredded outer skin.

Bark cloth.—The bast, or inner bark, of *Ficus bicuspis* and other exogens is beaten into tapa, narrow strips of which form the harness for attaching the burden basket to the body of the carrier.

Barkwork.—The various uses of bark in the basket-making art—outer bark and inner bark of exogens, both natural and textilized. The large bracts of leaves and spathes of flowers and the green skin of bamboo stems do most excellent service in the making and fitting of receptacles. (See *Tapa*.) These substances are rounded with the grain as they grew on the plant or across the grain and wrapped about a mold. They are cut into large pieces, to be made into hats or into strips to be woven. (See Plate I.)

Basketwork.—The basket, in Malaysia as elsewhere, is a receptacle and a vehicle. The myriad utensils there performing these functions go by the general name of basketry. The numberless varieties of loomless handicrafts in flexile materials to be found in and on baskets may be grouped under the word "basketwork." These same processes in other associations may bear different names. In materials, Malaysian peoples would have barkwork, canework, leafwork, rootwork, spathework, and stemwork. Or, if necessary, one could speak of bamboo work, "ejoo" work (meaning the long, black, tough hairs on the wine palm), palm-leaf work, pandanus work, rattan work, and as many more kinds as there might be substances furnishing the chief material.

In all these operations there is the attempt to produce a utensil or to imitate its processes on or in something else. Looked at from the naturalist's point of view, all the things here in mind have structures and functions, and may be studied as specimens for scientific investigation. In structure, the objects are made of flexile, or flexible mate-

rials, into this, that, or the other; but one characteristic remains—the material is pliant and pliable and is used by bending it into place.

Another step in the structural history of textiles before reaching the functional stage, may be called the “technic,” under which the material becomes a knot, a braid, a chain, a twine, a weft, a coil, a lacing—all done by hand, without loom or other substitute for hand-work, and all assembled as contributors in that intricate composition called basketwork.

Under function, two things come to pass: The true basketwork multiplies its offices and becomes walls, floor, matting, and roof for the house; hat, shoe, garment, and adornment for the body; covering and offering for the dead; the minister of industries and decorative arts, where it is no longer receptacle nor vehicle. (See *Uses*.)

It is in this broad acceptance that the word basketwork is here used. Whatever processes have been absorbed by the basket-maker will be taken into consideration, no matter if they be employed elsewhere. Indeed, some of the prettiest examples of basketwork are to be found on shields, shafts of spears, hilts of edged weapons, and in personal ornaments. They also furnish motives for the carver and painter.

The term “Malaysian basketwork” will be made comprehensive enough to cover all textile work that is loomless. As one example among many, the bamboo stem is not basketwork, but (1) its joints are made into receptacles and vehicles; (2) basketwork will be put on them before they can be useful; and (3) the tough and flexible and beautiful outer surface renders a wide range of textile services. The same may be said of the pandanus and other leaves, which lend themselves to basketry, so everything made of them may be studied in basketwork.

Marsden (p. 55) says that baskets, “bronong baccole,” are a considerable part of the furniture of a Sumatran house and the number is the token of the owner’s wealth. In them his harvests of rice or pepper are gathered and brought home. They are made of slices of bamboo connected by means of split rattans, and are carried chiefly by the women, on the back, supported by a string or band across the forehead.

Bastwork.—(See *Barkwork*.)

Beading.—Ribbon-like strips of pretty material run into open basketwork, for decoration.

Bejuco.—Also Behuco. (See *Calamus*.)

Belaying.—The process thus named by sailors is used by the Abbott peoples as an ornamental knotwork on the borders of baskets, which seems to be the original meaning of overlaying. The Dyak basket-makers tuck the moving part under the passive parts in passing and

make a kind of false braid or knotwork. (See also *Figure-of-8* work.) Captain Tozier calls it "overhand-knot in single strand."

Betel basket.—One of the forms of basketry on which the Malaysian craftswoman expends her utmost skill. Betel is chewed universally after the manner of tobacco. The quid is made up of betel nut, pepper leaf, and dry slaked lime. Marsden says (p. 74) that the "penang," or betel-nut tree, is in growth and appearance not unlike the cocoanut. The betel is the astringent seed of this palm (*Areca catechu*), about as large as a nutmeg. Large plantations are made of the "siri" (*Piper betel*), a creeping plant, whose leaf, of a strong aromatic flavor, they wrap about the nut, dip in powdered lime, and put into the mouth. The basket for holding all these and the utensils that belong with them is quite an exquisite affair, hung to the belt. (See figs. 31, 32.)

Bird Cage.—See *Technic*.

Body.—The part of a basket above the bottom, for which all other parts exist and to which they are attached. The materials, shapes, structural parts and their relations, technics, attachments, and decorations demand the closest study, inasmuch as they furnish the best means for classification. Okey speaks of the body as "sides." This is quite proper in Malaysia, since a large proportion of the baskets are attached to the person and have back and front and sides differentiated. Especial notice should be taken of the relations which added parts bear to the body. In some examples they are worked in when the body is forming; in others they are added afterwards. (See *Carrying basket, Cover, Framework, Ornamentation, Rim, Technic, Upsett, Warp, Weaving, Weft*.)

Cat. No. 221534, U.S.N.M., Plate II, is a burden basket from Siaba Bay, Nias Island, west of Sumatra, illustrating in an excellent manner the diversified technic that may be connected with it.

1. The body is a cylinder of rattan in three forms and woven in three directions. The horizontal elements are thin hoops; the right obliques are slender splits latticed on the hoops half an inch apart and slightly inclined; the left obliques are the active uniting elements, being also slender splits, going inside the hoops and outside the right obliques, lying flat against the former and making a twist or curl around the latter each time one is passed. The lower portion of the body is in quite open work, but above the strengthening hoop the technic is as close as possible.

2. The attachments and accessory technics to the body of this specimen are many. (a) The foot is a hoop, whose overlapping ends are joined by wrapping and which is held on by a sewing in long stitches. (b) The framework consists of uprights of rattan splits doubled over the hoop of the carrying zone, lashed to the body and to the bottom by a series of Malay knotwork.

3. Carrying parts are the stout hoop on the body a few inches from the top, answering to a hoop on the inside, for backing, and all held to the body technic by a series of knots. On the two uprights that limit the back of the body are knotted loops, or grommets, for the carrying band of soft bark cloth.

4. Borderwork will always be a chief point of interest. In this example it consists of two half hoops of rattan fitted against the upper rim of the body, a thin piece of rattan laid over the joint, and all neatly bound with two sets of knots close together, their connecting splits prettily interwoven. In other examples three or more sets of knots produce broad bands of ornamental work by their interweaving.

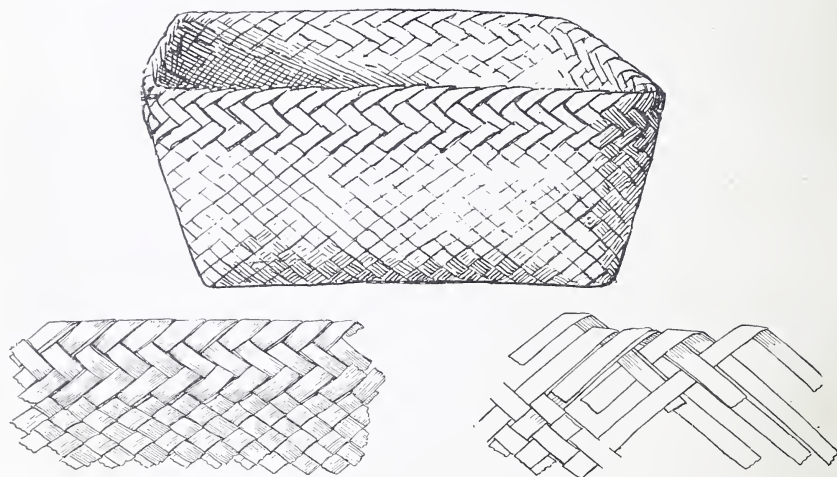


FIG. 1.—CLOSE, OBLIQUE CHECKERWORK WITH INWOVEN BORDER, SHOWING FINISHED BASKET AND DETAIL OF BORDER.

Borderwork.—If the upper margin of the body technic in a basket be called “rim,” borderwork will apply to that great variety of treatment bestowed by Malayaian basket-makers upon the margin, or rim. Some of the American Indian women were not far behind them.^a It is the part receiving the most scrupulous care on account of strain and stress, but it offered to decorative motives their best opportunities. Here will be found braidwork, coiledwork, hoopwork, knotwork, and twinedwork. All at once the basket-maker is thinking how best to fasten off body technic at the rim; what technic shall the distinctive borderwork receive. Here terminates also the framework, here rests the cover, and how shall they all be harmonized. Practically, borders are checker, double-hoop, two-hoop, thin hoop, sloping shoulder, wrapped, moused, interlocking helical, and inwoven.

^a See Emmons, Mem. Amer. Mus. Nat. Hist., New York, 1903, III, Pt. 2.

Cat. No. 232672, U.S.N.M. (fig. 1.), is an example of oblique checkerwork in pandanus leaf, and the accompanying drawings show the detail of bending downward and tuck-in at the border. The basket-maker has achieved two good results; she has given a neat and safe finish and, by turning checker into $\frac{3}{2}$ twill, adds the ornamental feature of variety. There is no end of the ways in which the Malaysian basket-makers do their tucked borders. (See also Plates I, XVII, and figs. 2-6.

Cat. No. 244280, U.S.N.M. (fig. 2), shows an example of figure-of-8 borderwork on plain checker or in wicker. The borderwork movement of each split is seen in the upper drawing (*a*). The result of using two splits of different colors is given in front (*b*) and back (*c*) view in the drawings.

Cat. No. 221538, U.S.N.M. (fig. 3), illustrates borderwork in which are combined a pretty braided effect on the upper margin with loops

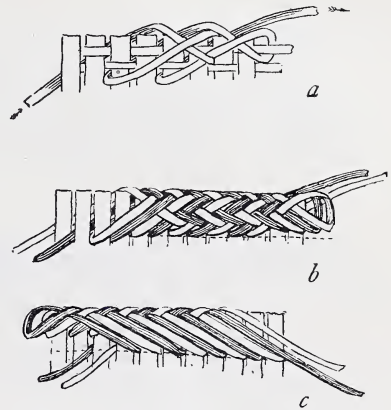


FIG. 2.—FIGURE-OF-8 BORDERWORK.

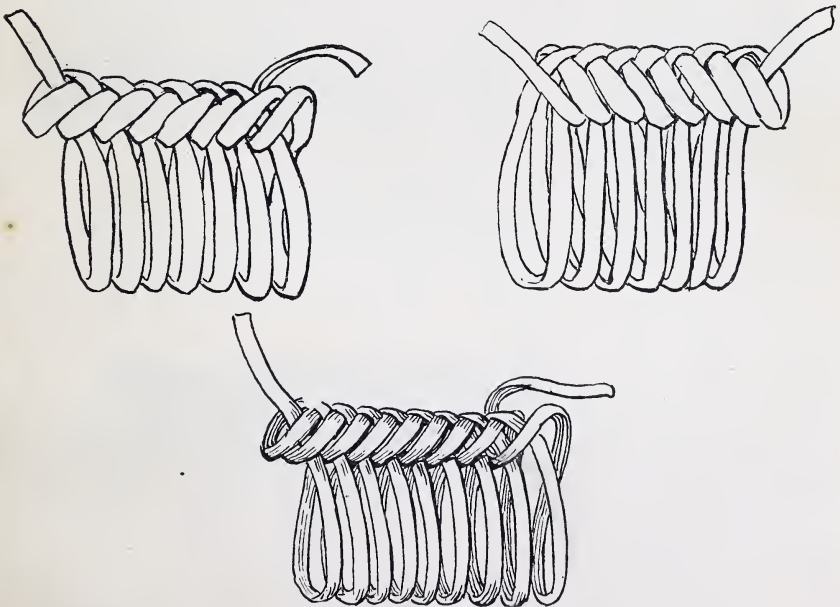


FIG. 3.—LOOPEO AND BRAIDED BORDERWORK.

deep enough to take in several rows of body technic. This is often necessary not only for strength, but to cover up stiff, unsightly ends ever obtruding themselves in the bamboo and rattan country.

Cat. No. 232630, U.S.N.M. (fig. 4), is borderwork in which a row of stiff warps are turned down between two half hoops of rattan, the whole bound together by two series of Malay knotwork and the

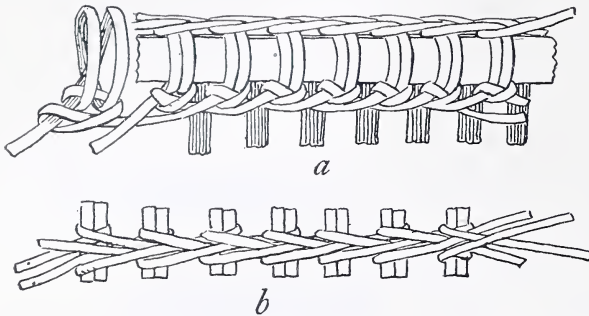


FIG. 4.—BORDERWORK CONCEALING ROUGH ENDS WITH HOOPS AND KNOTWORK.

ugly gap between the hoops covered by three rows of wrapped weft done in the tops of the turns in the Malay knots. The upper drawing (a) shows side view of the warps, hoops, knot series, and the covering of the space between hoops. The lower (b) gives a top view of the three wrapped wefts so interlaced as to produce a three-strand braid effect on the upper turns of the knots.

Cat. Nos. 221510, 221523, and 221513, U. S. N. M., are brought together (fig. 5) to show the procedure from a simple turn in border to more complex forms without recourse to knotwork of any kind. It is wickerwork on warps in pairs. The borderwork in the upper drawing shows the bending down of one of each pair to the right, the other to the left, skipping the neighboring pair in each case and thrusting the ends into the wickerwork two warps away.

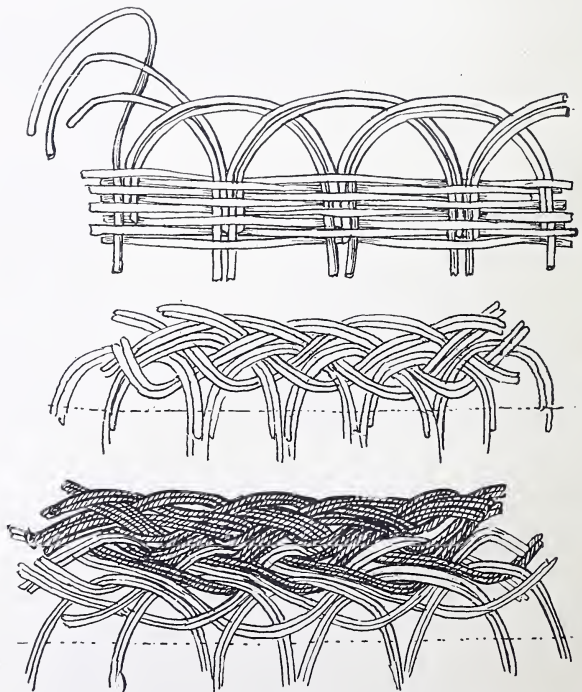


FIG. 5.—ENDS OF WARPS TURNED DOWN FOR BORDERWORK.

In the middle drawing this border serves as the basis of twined work among the bends of the warps, the separate elements of the twine being stems in pairs.

In the lower drawing it is braidwork among the bends and the stems are in twos and fours.

Cat. No. 221516, U.S.N.M., gives a border in braidwork without knotwork (fig. 6), in which three stems of rattan braid together in pairs, *ab*, *ac*, *bc*, over the bends of warps. Such combinations are found on ornamental baskets in wickerwork.

Bottomwork.—Malaysian basketry, though it varies greatly, finds its prime motive in the bottomwork, especially the burden baskets,

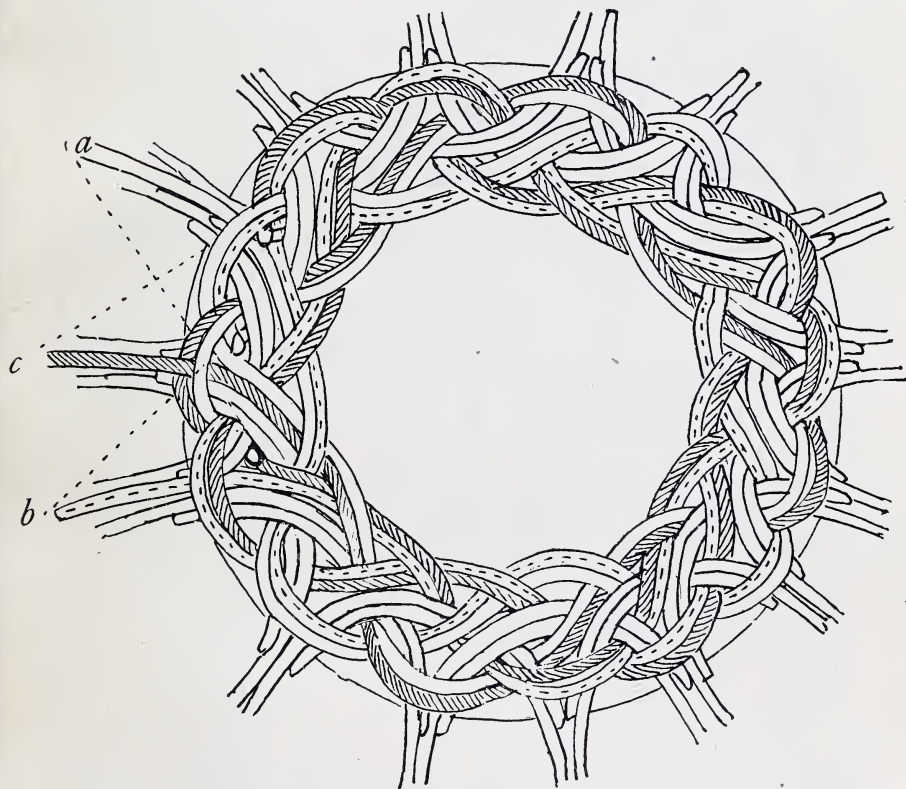


FIG. 6.—RATTAN STEMS BRAIDED IN PAIRS OVER BENT-DOWN WARPS.

with their square footing and framework for cylindrical and conical bodies. A deal of bottomwork is simplest checker or twilled work in what will be the stakes, the warp, the active elements in forming the body. Added to these will be the stiffening parts, the footing, the knotting, the sewing, and the staying parts, or accessories. The following varieties are easily distinguished:

1. Bottom and body in one indistinguishable.
2. Bottom in similar technic, much plainer.
3. Bottom elements all warps of sides.

4. Bottom bounded by upsett in different technic.
5. Bottom with foot.
6. Bottom separate and set in.
7. Bottom entirely movable.

Cat. No. 232636, U.S.N.M., is a type of bottom seen in a great number of Malaysian baskets (fig. 7). It consists of two series of thin splits latticed at right angles in their middles. They are held securely in place by a double row of boustrophic twinedwork forming the upsett, and also braced by single rows of twining crossed diagonally. The splits are then all bent up at right angles to become the warps

of the body, which is built up by various technics over a mold. (See *Molding*.)

Fig. 8 (Cat. No. 221513, U.S.N.M.) shows the bottom of a globular wicker basket. Fifteen rattan stems in groups of fives laid side by side are bent and laid on and under one another so that each stem will cross one from another group, all in place resembling curved spokes of an iron wheel. In this position they are held

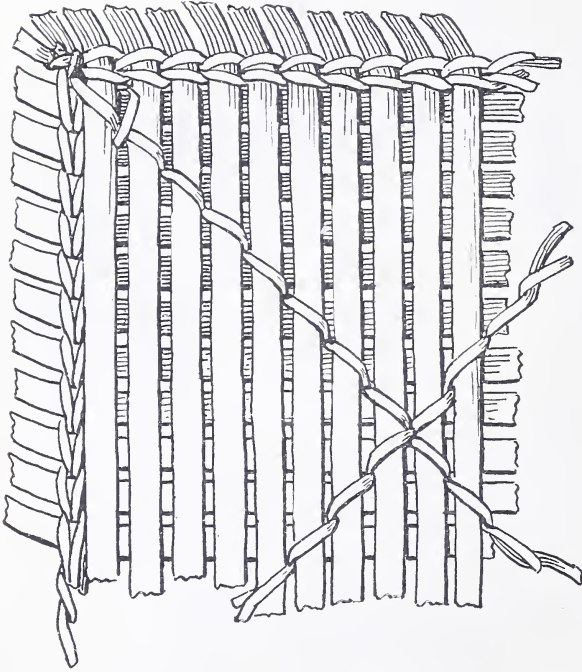


FIG. 7.—LATTICE BOTTOM, WITH TWINED UPSETT IN BOUSTROPH.

together in pairs by two rows of wrapping about alternate crossings. Adjacent stems are then brought together in pairs and fastened with another double row of wrapping. Just outside of this the regular wickerwork begins, forming the upsett. The pairs of stems continue as warp up to the rim.

Boustrophic.—Applied to twined or other technic that does not pass round and round spirally, but back and forth dextrally and sinistrally.

Braidwork.—Narrow fabric, in which three or more elements are interwoven, but there is no distinction between passive and active parts; all are pliant and active. The Malaysian women are wonderfully adept in making and applying it. Braidwork may be flat, like sennit, or round, or square. Braiding may be a part of general

technic, as in borders, or ready-made sennit or other braid may be an element in different kinds of weaving. (See figs. 9, 10, 11, 12.)

Brooms.—Made from fiber of coco palm by basket-making processes.

Bumban batu ("bemban," Skeat).—A large tough reed of dark color, growing on the hills of West Borneo. Used much in basket-making.

Burden basket.—A carrying basket for heavy loads. Usually supported on the body by means of a bark cloth band over the shoulders, like a knapsack. Sometimes the band goes across the breast and occasionally across the forehead. The burden baskets are the acme of the maker's art.

Calamus.—A genus of palms having over 80 species, in Asia, some in Australia and Africa. Slender, solid stems, sometimes 1 to 2 inches in diameter, growing to great lengths, clambering among the branches of trees by means of the hooked prickles on the stalks of their pinnate leaves. *C. rotang*, *C. rudentum*, *C. verus*, *C. viminalis*, and probably other Indian and Malaysian species are the source of the largely imported rattan canes used for the seats of chairs, and in their native countries for cables and a variety of other purposes.

C. montanus is twisted into suspension bridges over the river Sikkim. *C. scipionum* is the thicker Malacca cane, imported from Singapore for walking sticks, and *C. australis* is the Loya cane, from Australia.

In the Abbott collections its versatility seems to have no limit. A basket with no rattan in its make-up is a rarity. Hoopwork, footing,

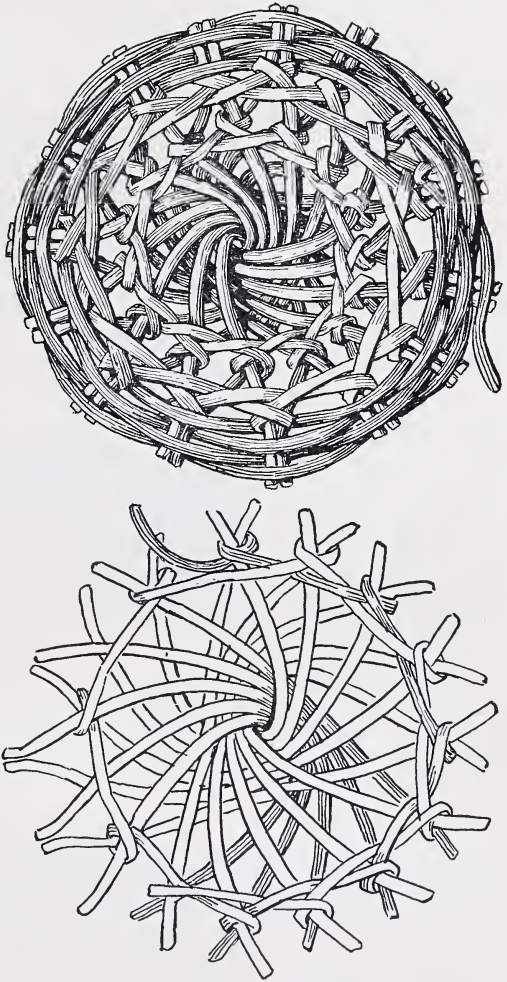


FIG. 8.—BOTTOM OF GLOBULAR WICKER BASKET.

framework, borders, knotwork, and body technic are dependent on it. Its tough, glossy surface is split into delicate filaments to serve as thread for sewing borders, into active elements in weaving, like the "cane" for chair seats, and the carrying parts of baskets. From the study of Malaysian textiles, rattan will never be absent.

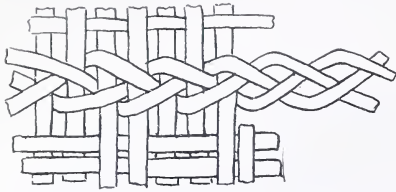


FIG. 9.—BRAIDWORK IN CARRYING ZONE OF BURDEN BASKET.

weapons, and articles of commerce. For these, the burden basket must have capacity, strength, carrying parts, comfort, and resting parts. Maxima and minima—the greatest strength and room with the least weight—seem to have been worked out by these primitive engineers. The abundant use of the triangle, the placing of a support where it is immediately needed, and protection of the

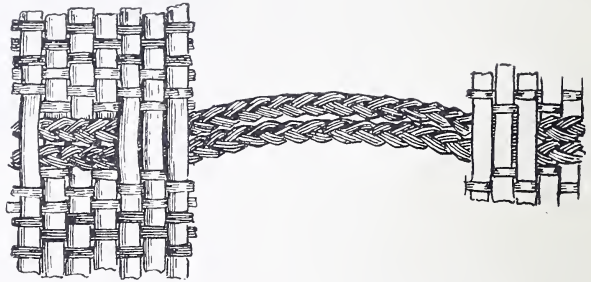


FIG. 10.—BRAIDWORK LOOPS FOR CARRYING BAND.

naked body could not be better looked after. Besides all the technic of ordinary baskets, there must be shoulder, head, and breast bands, backpads, framework, footing, strengthening parts, and stays. In

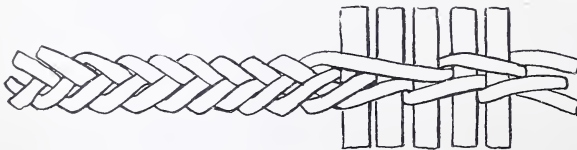


FIG. 11.—FOUR-STRAND BRAID IN CARRYING ZONE.

weaving the body of the burden basket the woman has this fact of carrying in mind. A few inches below the border she makes the technic stronger on both sides of the space where the carrying band and strengthening parts go around. A wale of stouter material is inserted, the courses are forced closer together, more strands are added in the technic, and half hoops with proper backing are knotted on. In this glossary the space thus guarded and strengthened is spoken of as the "carrying zone" and the structural parts added, with the burden function in mind as the "carrying parts."

Carrying basket.—A name borne by a multitude of basket forms in Malaysia. Owing to the hot climate little clothing is worn, so special provision must be made for everything that is borne about—from the siri quid to the heaviest burden—including food and drink, clothing, implements,

weaving the body of the burden basket the woman has this fact of carrying in mind. A few inches below the border she

Fig. 11, from Cat. No. 244267, U.S.N.M., shows the common open-work of a rattan basket and the insertion in the carrying zone of four rows of twined weaving in twilled, boustrophic technic.

Fig. 13, from Cat. No. 232630, U.S.N.M., illustrates the strengthening of the carrying zone by hoops fastened on with cross-wrapping single knots. Above and below the hoops two rows of half hitches over alternate warps are intertwined.

Figs. 9–12 (Cat. Nos. 244284, 244267, 244286, U.S.N.M.), illustrate the ingenious

ways in which the strengthening technic in the carrying zone may, when new duties demand, be braided away

from the texture to form handles or to become loops about the carrying bands. In fig. 10 there are two rows of 3-strand braid which form the loops. In fig. 11 is a compact single 4-strand braid. In fig. 12 there are two rows of 4-strand braid. All of these are designed to function in the same way.

Plate III represents a six-sided carrying basket (Cat. No. 221504, U.S.N.M.) from Pagi Islands, Mentawi Group, west of Sumatra. It shows the smooth pad of bast for the carrier's naked back; the head-band of soft bark for supporting the load; the zone of strong, double hoopwork, to strengthen the basket at its point of greatest strain. In

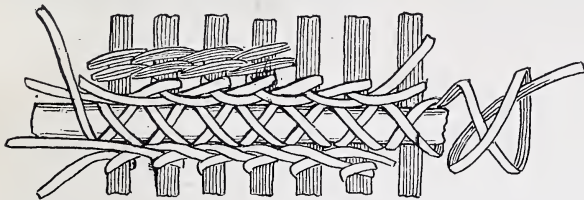


FIG. 13.—CARRYING ZONE STRENGTHENED BY HOOPWORK.

other baskets there is a great diversity of expedients to accomplish this end. In this specimen no sling of split passes from the carrying loops to be knotted under the bottom, that strain being relieved by the six uprights bounding the sides and brought together to form the foot. This is a fine specimen of hexagon weave and of a hoopwork border.

Carrying parts, carrying zone.—(See *Carrying basket.*)

Chainwork.—A technic in a single element, resembling chain stitching in needlework. It finds its nearest relative with wrapped weaving.

Check.—Where two elements cross each other. (See also *Decussation.*)

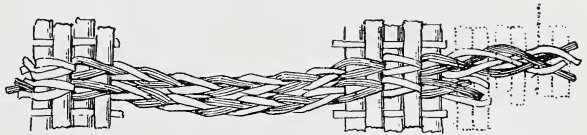


FIG. 12.—BRAIDS IN TWO COLORS IN CARRYING ZONE.

Checkerwork.—Basketwork in which the crossing elements are equally flexible and the checks are rectangular. It may be open or close, vertical, or oblique. (See figs. 1, 7, 14, 16.)

Fig. 14, from Rumpin River, Pahang (Cat. No. 219966, U.S.N.M.), and Plate I make plain what is meant by the term "close checkerwork," both in upright and oblique technic. The only difference between them and open checkerwork is in spacing and not in method. In the Malaysian area the basket-makers produce all sorts of fanciful shapes in checker by folding back the strips.

Chevron.—V-shape technic in which two or more colored lines meet at an angle. (Compare *Herringbone* and *Zigzag*.)

Chinking.—Soft materials between hard stems and soft technic. Seen in the bottoms and upsetting of many Abbott baskets, to protect delicate work.

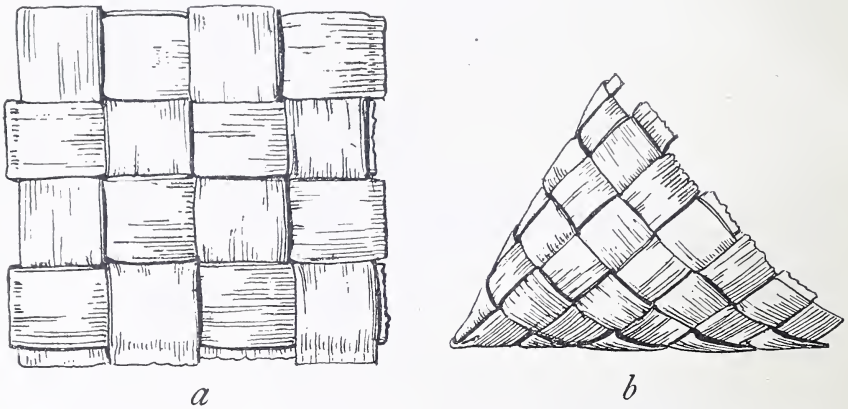


FIG 14.—UPRIGHT (a) AND OBLIQUE (b) CHECKERWORK.

Classification.—(See *Structural parts* and *Technic*.) The parts of basketwork in Malaysia are so numerous and varied, their technical processes so diversified and associated, and the uses* of the products are so multiplied, that classification is difficult for the whole fabric. A division by materials, function, bottom, body, framework, carrying parts, decoration, or technical processes must end there. A bark gutta tub will be a regular museum of added knotwork and a paddy basket a wonderful study in braiding.

Coiled basketry.—Basketwork in which a foundation of hard or soft material, arranged in a flat, cylindrical, or conic spiral, is held together by means of over-and-over sewing or wrapping. In the Abbott collections, owing to the abundance and fitness of rattan, the single-rod foundation is far the most common kind, and beautiful examples are seen. The fineness of close coiling depends on the number of turns to the inch.

Fig. 15 (Cat. No. 216279, U.S.N.M.) illustrates the most popular method of coiled work in Malaysian basketry. The rattan and its allies are so abundant and so well adapted that there is no need of the many kinds of coiled work seen in America. The upper drawing (a) shows a portion of a coiled basket near the rim; the middle drawing (b) is a diagram of the technic; the lower figure (c) explains the beginning at the bottom. It is the single-rod coil throughout and the border is finished off with a single split wound on the rim between the turns of the active part.

Color.—Malaysian basketry does not abound in bright colors. Living on the shady side of the forests, the women's textile work is not brilliant. Beautiful effects come from different woods, from aging, from native dyes, and from trade colors. It may be also that the motives for color are lacking. (See *Jernung.*)

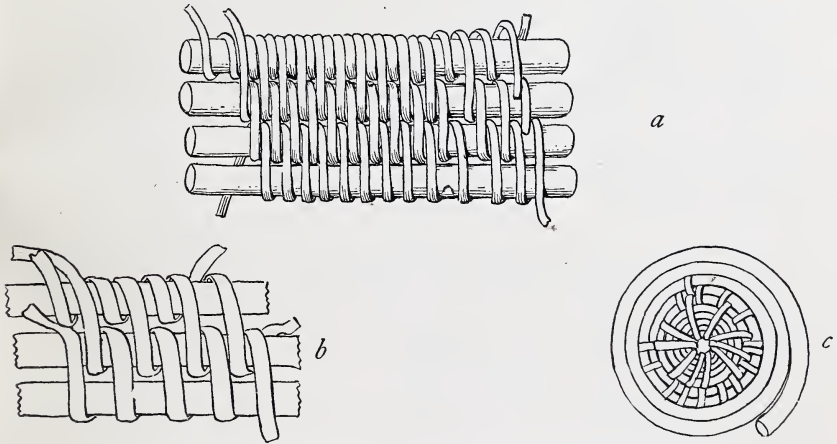


FIG. 15.—COILED BASKET, SINGLE-ROD FOUNDATION, SPIRAL BOTTOM.

Cover.—That part of the basket which closes the receptacle. What might be termed coverwork is here in mind, and the crude, primitive ways of building up a shoulder and fitting the cap are interesting. (See Plates I, V, VI, XII, XIV.)

Crossed warp.—Two sets of passive parts cross each other at an angle, as in hexagonal technic. They may be latticed or intertwined. Examples will show.

Curwork.—Especially in pandanus leafwork, the overlying strips are curled, to produce relief effects. (See fig. 16, and Plate II.)

Cycloidwork.—One or more stems bent round and round by cycloidal movement. The separate turns may be free or interlocked. Used in decorative foots, borders, covers, etc. (See fig. 33, and Plate XIV.)

Decoration.—(See *Ornamentation.*)

Decussation.—Crossing of warps at an acute angle. (See *Check*.)

Design.—Figure or pattern in the ornamentation of basketry. Not to be confounded with symbol.

Diastral.—Applied to the elements of basketwork that lean toward the right. (See *Horizontal*, *Sinistral*, and *Vertical*.) Common in Malaysian basketry.

Diagonalwork.—Passing the active elements over two or more warps, but not the same in adjoining rows. (See *Twilledwork*.)

Diaper.—A surface decoration produced by the technic showing a pattern by the crossing of the elements. The refinement of twilled-work.

Drill.—For the delicate sewing which is seen most abundantly on the borders of carrying baskets, the very fine holes are made through

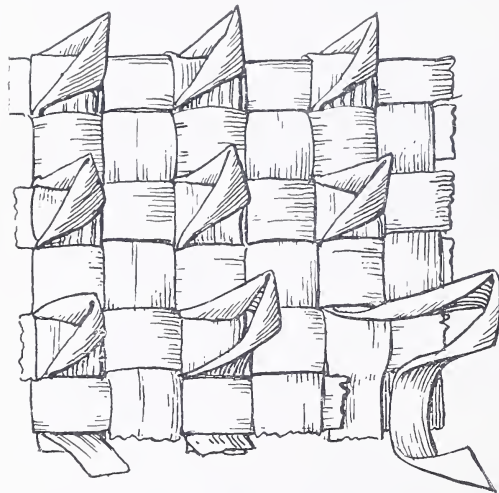


FIG. 16.—CURLED WORK IN PANDANUS LEAF.

bamboo, rattan, and other hard materials with long pointed drills made from old files. The point of the drill is drawn out almost needle-like, while the angular form of body is preserved. Plate IV shows a few varieties and also blunt prickers in monkey bone and in iron. (See *Pricker*.)

On the top row of Plate IV are basket-makers' drills, or awls (Cat. Nos. 249051–249054, U.S.N.M.), "simbal," of the Dyaks of Bayu and Gray, Sempang River, West Borneo. In sewing the borders, footings, and other parts of baskets with finely split rattan, holes must be drilled through hoops and other woodwork. The "simbal" is just the tool, not a needle nor an awl precisely, but a very fine drill, the blade made of an old file usually, and quadrilateral to the very tip.

On the lower part of Plate IV are the so-called prickers (Cat. Nos. 249049, 249050, U.S.N.M.), "pemudat," of the Dyaks of Bayu, Sempang River, West Borneo. The first specimen is made of iron; the latter of orang bone. This implement is used to pass between the elements of a finished texture, in order to open the way for weaving backward or overlaying as in the "*mad weave*."

Plate V shows an elegant old piece of twilled basketwork (Cat. No. 249413, U.S.N.M.) from Dyaks of Gray, West Borneo, introduced here to illustrate the use of the fine drills, but possessing many noteworthy characters. Among them especial attention is called to the

arabesque ornament in red diaper twill all over the body and the cover; the "hook-and-eye" work, the broad shoulder, the fine sewing, and the neat hoopwork at the border; and the same processes in the margin of the cover.

Ejoo.—A fiber compassing the stems of the kabun palm in Sumatra and seemingly bound on by thicker fiber or twigs, of which the Malays make pens for writing. It resembles coarse black horsehair and is used, among other purposes, for making ropes and mixing with mortar. (Marsden, p. 77.)

Embroidery.—Textile ornament added to the surface after the basket technic is finished. Usually it is false embroidery, which appears to have been added, but is really done with the weaving.

Ends.—On the rim of a basket the fastening of the ends of technic elements receives a vast deal of attention. They are cut off flush, merely turned back and inwoven, or, to give finish, change the technic altogether. It is a part that must never be overlooked. (See also *Borderwork* and *Rim*.)

Fagoting.—Same as hemstitching, or the gathering two or more warp threads into a bundle by wrapping.

False braid.—An appearance of braidwork very common in basketwork, made with a single strand or split, in what is called ball stitch, or racking seizing. (See *Seizing*.)

False embroidery.—An appearance given in basket-making by wrapping the strands that show on the outside of the structure with colored material.

Fiber.—Any flexible substance composed of filaments. Malaysia abounds in such material of the best quality.

Figure-of-8.—One of the technic movements in Malaysian basketwork by which the active element, either as principal or as bond, resembles at each bout the figure 8. In uniting coiledwork it may be clear, hitched above, hitched below, or twisted.

Filament.—Any delicate fiber used in basketwork. The sewing on the borders of Dyak burden baskets is done with filaments of rattan.

Fire fan.—The Nicobarese produce fans for fire-making from the sheathing petioles of palm trees. (Kloss, Andamans and Nicobars, p. 48.)

Flat spiral.—The form of coiled work seen in basket covers, wherein the result is a flat surface.

Folding.—In pandanus and other soft leafwork the Malaysian basket-makers produce ornamental effects on the surface by folding back the strips or by curling the edges, making the checks stand up.

Fig. 16 (Cat. No. 219975, U.S.N.M.) is a good example of what, for a better term, is here called "folding," and sometimes "curling" or "twisting." In pandanus leafwork it is often desirable to have the inside and the outside of a basket both smooth; then the strips

are doubled, just as they are in the basketwork of our southern Indians. In such baskets, for pretty effects, the Malaysian women, at the proper intervals fold back the active pandanus strips like a coat collar. In some examples of the mad weave (Plate XII) the patterns are quite intricate. (See *Curlwork* and *Twistwork*.)

Foot.—The part of a basket for resting on the ground. The foot may be, as in the baskets of commerce, a part of the body technic or something quite different. In the latter case it is usually hoopwork, angular or rounded. It is really interesting to note how the makers have struggled with this problem of footings. They are in rattan, bamboo, or hardwood. The rattan stem is soft inside and tough as

leather on the outside. You have merely to cut out a miter and bend the stem at the proper place and the thing is done. (See Plates I, II.)

Form.—This has reference to the outer shape of the finished basket or other product of basketwork. The clear and ready comprehension of the reader is the safest guide for giving names to forms in basketry. The Malaysian women excel in

both the practical and ornamental forms of their baskets. Economy has been worked out especially in the shapes of the burden baskets.

Framework.—Malaysian baskets are often made of such thin materials that additional support has to be given by framework. This consists of foot, uprights, and borderwork, which will be separately described. An interesting fact in the study of the division of labor is that the soft, textile parts of the basket are said to be made by women; the framework falls to the men.

Plate VI shows a basket from the Dyaks, West Borneo, which may be called a perfect specimen (Cat. No. 249407, U.S.N.M.) of Malaysian basket, on account of the framework and its relations with other parts. If it were removed it is doubtful whether the basket would

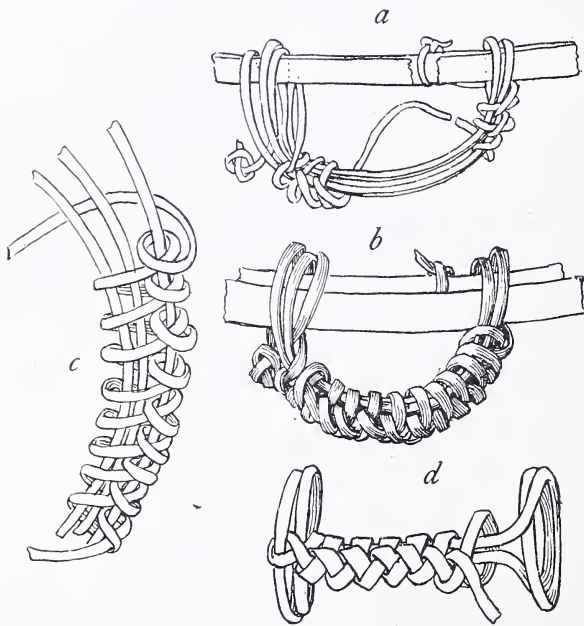


FIG. 17.—METHODS OF FORMING HANDLES.

stand alone. Its capacity is almost that of half a flour barrel. Everywhere proportion and beauty are united with strength and utility.

Frap.—To bind parts of a basket together, in order to strengthen the structure.

Furcated.—Said of the elements of basketry that are intentionally and symmetrically split a part of their length. The rattan lends itself willingly to such treatment.

Fyke.—An ever-set, detaining trap; a cage-pound for fish. (See Hugh M. Smith on The Fyke Nets, etc.)

Grommet.—A ring of stem or split made by crossing it and then laying or twisting the long end round the ring three times and neatly tucking in the end.

Handle.—Part of basket employed in carrying it in the hands. This is not common. In going through the jungle the hands are needed for other purposes. The basket is supported from the belt, the breast, the shoulders, or from the front of the head. Modern influences are creeping in and putting bails of rattan on some specimens. (See *Carrying parts.*)

Fig. 17 (Cat. No. 221534, U.S.N.M.) shows the ease with which a long thin split may become a grommet, a loop, a handle. Drawing *a* would be the coarsest form of loop for suspending a basket or guiding a carrying strap, the split being wrapped a few times back and forth and bound by half hitches. It might be on a border or on an upright, vertical, or horizontal. Drawings *b* and *c* are similar, but more neatly finished. Drawing *d* is in imitation of borderwork of the coiled type, the split at the same time forming chainstitchwork for a handle.

Helical coil.—That form of coil that would result from wrapping a wire about a cylinder. This is the method of coiled basket building in America, but it is greatly modified in Malaysia, as will appear in description.

Hemstitch.—Drawing warps together in groups of two or more and holding them by twined weaving.

Hens' nests.—Baskets, bag-shape and wide-meshed, for the hens to lay in, hang from the piles under Nicobarese houses. (Kloss, Andamans and Nicobars, p. 48.)

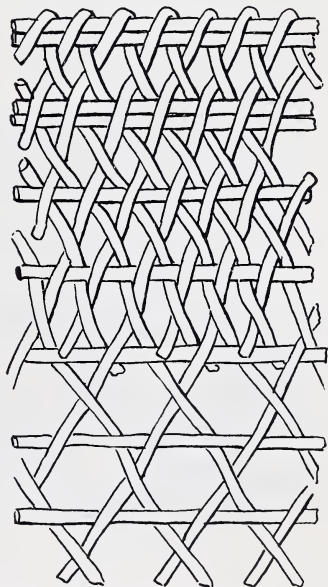


FIG. 18.—PLAIN HEXAGONAL TECHNIC AND BORDER.

Herringbone.—Basketry technic in which chevron patterns are in parallel series.

Hexagonal work.—Basketwork in which dextral, sinistral, and horizontal splits or strips of equal width and flexibility are so intertwined as to produce hexagons in the checks. (See Plates III, VII, figs. 18, 19, 20, and Lehmann, figs. 48, 53, 54, 55.)

Cat. No. 221524, U.S.N.M., is an excellent specimen of hexagonal work. (Plate VII.) The plate shows a burden crate reminding one impressively of the California Indian cradles. Noteworthy are (*a*) the light, strong framework and border of rattan half stems bound together over the rim of the weaving all around and having the gap on the margin covered with a thin split; (*b*) the rhomb and triangle

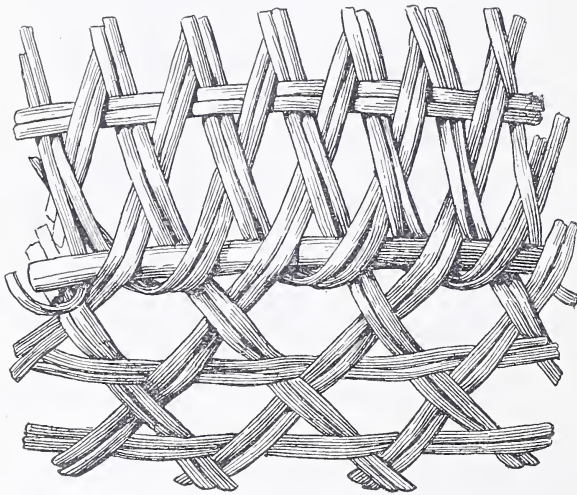


FIG. 19.—HEXAGONAL ELEMENTS IN PAIRS.

work in the footing, produced by different technic of the three elements; (*c*) the broad backing of bark; (*d*) the strengthening of the carrying parts with additional half stems, and (*e*) the head strap of tough bast. The multiplying of structural parts in Malaysian basketry and the diversity of technical process as compared with American bas-

kets are well illustrated in this specimen. If the horizontal splits be removed the other elements are latticed, the dextrals being outside. The horizontals bind all by passing outside of dextrals and inside of sinistrals. The obliques on the footing are not latticed, but closely woven, the horizontals crossing the intersections in pairs.

Cat. No. 237121, U.S.N.M., explains the crossing of parts in hexagon weaving (fig. 19). In this example the textile elements are in pairs. The introduction of a hoop for a horizontal split and doubling the number of uprights produces oblong pentagons.

Fig. 20, Cat. No. 221563, U.S.N.M., from an Abbott basket of Siaba Bay, Nias Island, illustrates another type of the hexagonal work, differing from Cat. No. 221524, Plate VII, in having the horizontals wide and thin hoops, while the obliques are slender splits.

Hitched work.—Technic in which the process called hitching is used. The brown race are the masters of it. The Malay knot, which

takes the place of nails, screws, pegs, etc., in holding the parts together, plays the whole gamut of uniting and decoration. (See *Knot*.)

Hook-and-eyework.—An ingenious method of uniting joints and fastening off ends in rattan, specially useful in making hoops and in fixing heavy borders. The rattan is whittled away, like the point of a quill pen, often many inches long, giving also a convenient shoulder. The thin point is drawn through a hole or about a border and caught down on the other side in the textile work. (See Plates II, III, V, VI, VII.)

Hoopwork.—The part played by hoops of wood in Malaysian basketwork is of great importance to the student of technology. In America it played a minor part with the Indians, but, on the other side of the Pacific, it entered into the bottom, body, stayings and strengthenings, footing, framework, carrying parts, and covers of baskets. Strictly speaking, a hoop is round, but, in this area, precisely the same technic is so often employed on angular forms that one may be pardoned for speaking of triangular, quadrangular, hexagonal, and octagonal hoops, or of their incurved sides and pinched corners.

Hoops in the Abbott basketwork are in the whole stems, slipped stems, half stems, splits, strips of different thickness, in rattan or other tough elastic wood, as the exigencies demand. The joinings of the ends may be splicing of most kinds known to mechanics, though the hooked splice of common barrels does not appear.

But there are others quite to the manner born, such as hook-and-eye splice, knotted, sewed, and pegged splices. The figures and plates will show how ingenious these practical basket-makers have been in putting their hoops at the right places to strengthen the basket without greatly increasing the weight; in combining angular bottoms with rounded bodies; in providing stable attachments for the loops, knotwork, strengthenings, and headbands of the carrying parts.

Plate VIII shows several structural and technical characters (Cat. No. 221546, U.S.N.M.) of hoopwork and reveals a diversity in other forms of handiwork worth noticing, such as the square bottom becoming the rounded body, the mixture of twined and wicker weaving, the strengthening of the texture at the carrying zone, the multiplication of hoops about the border, the shaping, splicing, adjusting, drilling and attaching of hoops, the loops and adjustments of the carrying band. (See *Joinerwork*.)

Horizontal.—Term applied to the level elements in hexagonal and other technic lying in three or more directions.

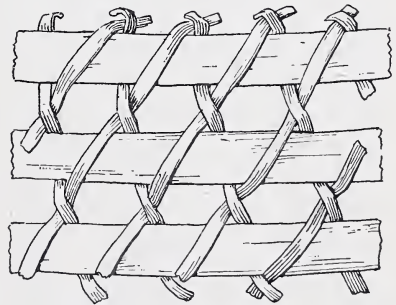


FIG. 20.—HEXAGONAL TECHNIC WITH WIDE HORIZONTALS.

Hurdle.—A very coarse form of basketwork in brush and cane fences, on land or in water, for hunting or fishing.

Impacted.—Driven close together. Not common in Abbott baskets.

Inset.—A structural part made separately and set into the structure. The funnels of fish traps and the ends of cylindrical baskets are so treated.

Interlacing.—The crossing and twining of parts.

Interrupted coil.—Work in which the active split is wrapped about the passive part for a space and then caught under the foundation below. Decorative figures are made in this manner. (See fig. 26.)

Interstices.—Open spaces left in basketwork.

Inweave.—To weave a pattern into the texture of a basket, to interweave, intertwine. Ends are bent down and inwoven.

Jernung.—Red stain resembling lacquer, applied to Dyak baskets, sword-sheaths, blowgun-dart cases, etc., in West Borneo. It is made by boiling the fruit of a small species of rattan and smearing the jelly on the surface, where it dries with a smooth finish.

Joinerwork.—That portion of basketwork which deals with solid wood and is done with tools. Usually wrought by men. It includes making hoops, uprights, solid rims, covers, staying, and bracing. Miters, kerfs, carving, and whittling demand the joiner's skill. The American craftswoman gives strength and rigidity to her texture in the weaving; but here lightness is most desirable and strength comes through wise joinerwork. In making joints with his somewhat intractable materials and most primitive tools the artisan is not able to conceal his work and leaves ugly gaps. To remedy this is the motive of much ingenious knotwork and braidwork. (See Plates I, II, III, V, VI, VII, VIII, XIV.)

Kabun palm.—The wine palm of the coast. The black, hairlike fiber, "ejoo," is used for string on Banka Islands.

Kain.—Cloth passed around the loins and between the legs. Worn by Indonesians of Malaysia and Malays.

Kajang.—Pandanus roof-mat. Every Malay boat and every Chinese sampan uses them. One of the most widely spread and useful things in Malaysia.

Kawin.—Rotan kawin. A small, very flexible rattan, growing in the hills of West Borneo, of which one of the weaves in the trident spear heads, serapang, is done.

Kerf.—A notch cut out of rattan or other stem so as to permit it to bend at an angle. In footing on burden baskets, the corners, made of rattan stem, have kerfed miters. The material is then bent to form triangles, rectangles, or polygons.

Keyed lattice.—Latticework in which the crossed passive parts are held in place by bending in and out between them stiff strips. (See Lehmann, figs. 65-68.)

Knives.—(See *Tools.*)

Knotwork.—The structure, successions, and series of knots are of immense account to the student of Malaysian basketwork. In speaking of them the illustrations and names given under the word "knot" in the Standard Dictionary should be used. In some cases the native

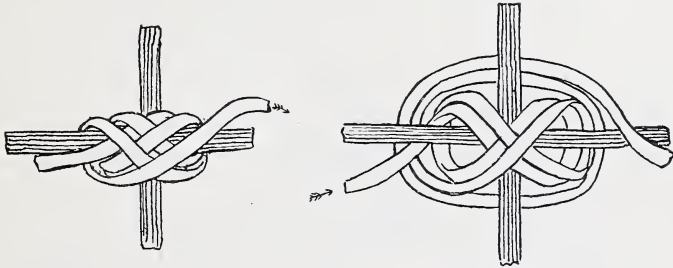


FIG. 21.—OVERHAND KNOT IN SINGLE STRAND.

name would be desirable.^a The knots found on basketwork by Lehmann are: *Overhand, simple knot*, in several variations; *weaver's knot*, several positions; *single bow knot*; *double bow knot*; *carrick bend*; *square knot*; *slip knot*, *Flemish bend*; *figure-of-8 knot*; and *clove hitch*. The *two-round turn* and *two-half-hitch knot*, extremely common in Malaysia, and here called Malay knot, or hitch, must be added.

Knots may be named after their technic and after their functions. There are single knots of any kind or series of knots or knots in a single series; they may be in the texture or superadded; for use or for ornamentation; in the middle of a strand, at the ends of a strand, the tying together of the two ends, or the joining of an end to a bend or middle; there are binding knots, sewing knots, slip knots, nooses, snares, trap knots, net knots, and covering knots to hide ugly splices, corners, rims, and joints. Of the covering variety, the overhand knot in single strand, hiding the tops of the little posts at the margin of carrying baskets, deserves special notice. (See fig. 21.)

Fig. 22 shows a species of knotwork, in single splits, seen on shields as well as baskets, to hold parts together and be ornamental. Four

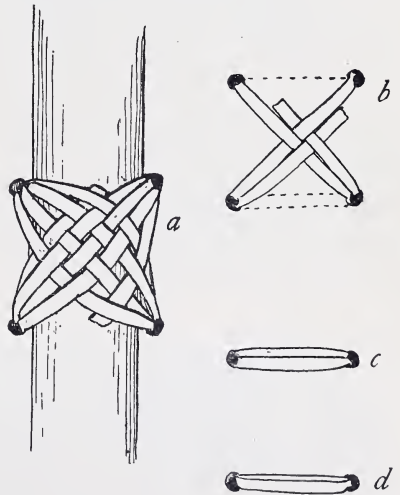


FIG. 22.—ORNAMENTAL KNOTWORK ON SHIELDS.

^a See Stokes, in Mem. Bernice Pauahi Bishop Museum, II, pp. 105-162.

holes are bored in the cover of the shield beside the frame, and the binding material is passed back and forth through them, crossing the frame piece diagonally on the outside, so as to form plain weav-

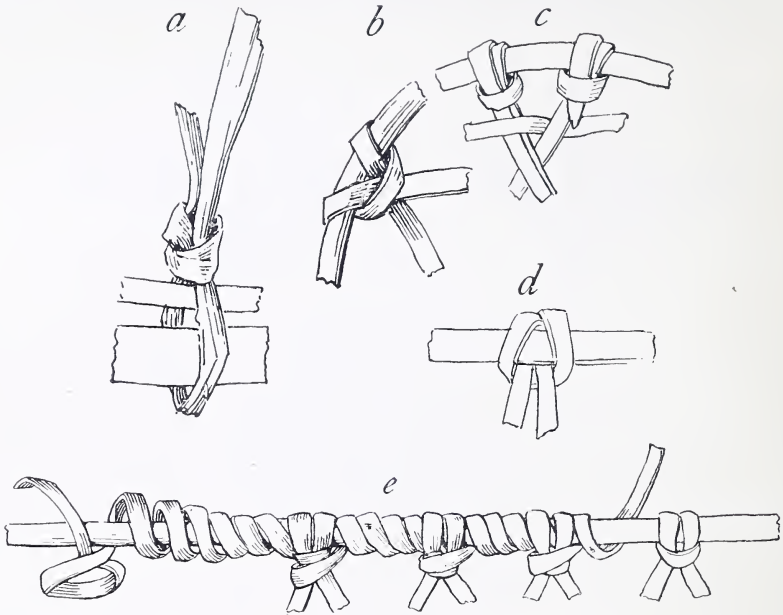


FIG. 23.—SINGLE KNOTS IN MALAYSIAN BASKETWORK.

ing (*a* and *b*). On the back, the binding passes horizontally (*c* and *d*).

Fig. 23, *a* (Cat. No. 221563, U.S.N.M.), illustrates how the single bowknot is often used in attaching the ends of the bark headband to the carrying parts of a burden basket; while *b*, *c*, and *d* illustrate

the appearance of the double half hitch on borders. In drawing *e* (Cat. No. 221504, U.S.N.M.) the loops in *d* are finished off by a single wrapping of the whole border with splits.

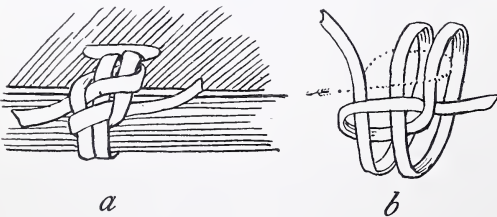


FIG. 24.—ROUND TURNS AND HALF HITCHES IN A WOODEN CRADLE.

Fig. 24, *a* (Cat. No. 221524, U.S.N.M.), is made up of two round turns and two half hitches, as the knot appears in joining the parts of a wooden cradle, the active part working toward the right. In *b* the knot is dissected.

Fig. 25, *a*, *b*, *c*, *d* (Cat. No. 221504, U.S.N.M.), illustrates the tying of far the most common knot in all Malaysia. Inasmuch as

industrial products there are usually made up and are scarcely ever in the whole piece, and, moreover, since nails, screws, and rivets and the like are not suitable to bamboo and rattan, the importance of this particular knot will be realized. Only the free end is needed in tying it. Usually it is found in sets or series, and in some cases four or five sets are woven into intricate and decorative effects. The first

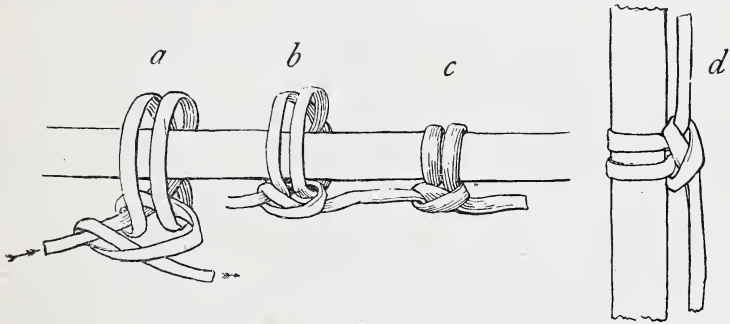


FIG. 25.—MALAY KNOTS—THE MOST COMMON IN BASKETRY OF MALAYSIA.

drawing (*a*) is the knot in the process of forming; in *b* the parts are drawn together; in *c* all is made fast, and in *d* a vertical example is shown, the active end of the split working downward.

Fig. 26, *a* and *d* (Cat. No. 237089, U.S.N.M.) and *b* and *c* (Cat. No. 237078, U.S.N.M.), illustrates a knotwork very common in the Abbott

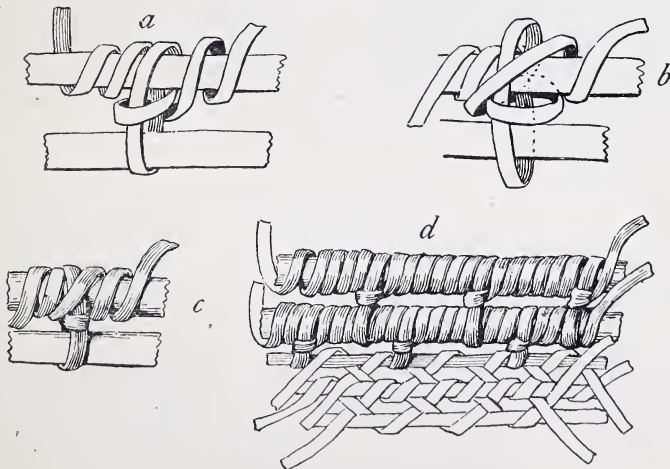


FIG. 26.—MOUSING KNOTS ON BORDERS.

Malaysian baskets, especially on borders. It is in the nature of what the sailors call "mousing," and reminds one of the script lower case "*f*." The process is susceptible of several varieties in the upright as well as in the horizontal portion of the knot. Lehmann's figs. 38, 39, and 44, Plate I, present three of these. In the drawings here shown the knots belong in a series of border wrappings, every seventh one

becoming a single mousing. In the drawings of fig. 26, *a* is the mousing knot in forming; *b* is another form; *c* shows the knot drawn tight, and *d* a section of the finished border of a basket in double lacing. (See *Borderwork, Lacing, and Mousing.*)

Fig. 27 (Cat. No. 237063, U.S.N.M.), *a* and *b* give two varieties of quite similar knotwork uniting two parts of a shield and to give ornament.

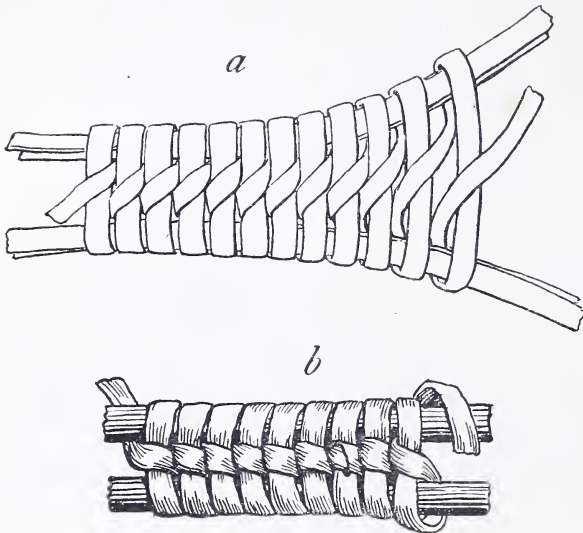


FIG. 27.—KNOTWORK ON MALAYSIAN SHIELDS.

It is scarcely knotwork, since, if the passive parts were slipped out, the active part would no longer be tied. In the drawing *a* the active split passes (1) behind the upper frame piece and forward, (2) downward in front of both, (3) around behind the lower frame piece leftward of (2), movement (4) is across (2) rightward and backward to the starting point. In drawing *b* the movements of (1) and (2) are the same, but in (3) the active part is moved rightward and then leftward around to starting point.

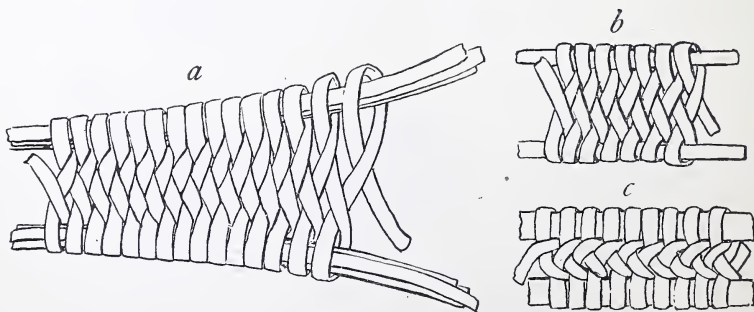


FIG. 28.—KNOTWORK AND BRAIDWORK UNITED.

Fig. 28, *a*, *b*, *c* are processes also on the shield (Cat. No. 237063, U.S.N.M.). The knotwork combines two movements, both half hitches, making pretty braid between. Drawing *a* should be compared with the same letter in fig. 27. The moving split makes a half hitch over the upper, then beneath the under warp, and moves up-

ward to repeat the process. Drawing *b* is the same over parallel warps and *c* is the same process over closely approaching warps.

Fig. 21 is the overhand knot in single strand, seen in wrapping kite strings on their sticks and the belaying of ropes on vessels. The simple form here shown will be seen in the slings that attach small bowlders to nets as weights. More complicated and ornate examples will be seen on the borders of burden baskets at the tops of the uprights which are a part of the framework.

Lacework.—The technic of both point and bobbin lace occurs in Eastern basketry. With a single element there may be two or more splits or stems moving side by side and these may at any moment become braidwork. The single-element type is found in cycloid work.

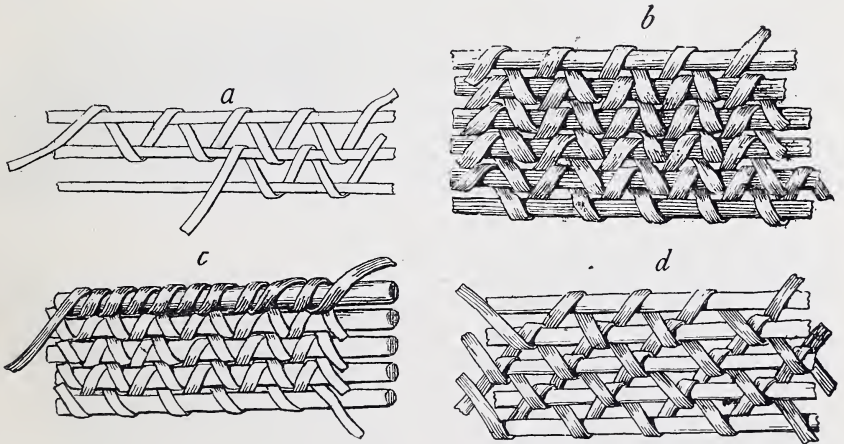


FIG. 29.—SINGLE LACING IN ENGANO BASKETWORK.

Lacing.—Coiled basketwork on the island of Engano imitates the technic often seen in the lining of hats throughout Malaysia. It is here called lacing, and may be single, as with one end of a shoe string, or double, as with both ends. In both cases the active part passes by a figure-of-8 movement. Fig. 29, *a, b, c, d* (Cat. Nos. 237079 and 237103, U.S.N.M.), show the single lacing. Drawing *a* gives the variety in which the zigzag movements of the active splits in adjoining rows are parallel; drawing *b* is the same finished; drawing *c* adds the wrapped border. In drawing *d* another variety of technic appears—the active split passes through the angles of the lacing below, the lacings from row to row interlocking at right angles.

Fig. 30, *a, b, c, d* (Cat. Nos. 237084, 237112, and 237081, U.S.N.M.), shows the double lacing. Drawing *a* gives the process, *b* is close double lacing, *c* is openwork with wrapped border, and *d* a closer example of the same. All of them give hexagonal effects in the meshes, the active parts going through the angles underneath.

Lattice.—Basketry technic in which the parts cross, but do not interlace. They are held in place by further treatment. The dextral and sinistral elements in hexagonal weaving may be latticed or interlaced. (See fig. 7.) Latticework may also be named from the ways of fastening it together, as twined lattice, wrapped lattice, etc.

Lay.—To cover by wrapping or winding. The sailor lays a rope with yarn. The Malay basket-maker often lays a grommet loop, handle, or border neatly with fine splits.

Leafwork.—Includes products made from the whole leaf or the spathe and those from pandanus and other long, textile leaves cut into strips. The former serve as handy improvised vessels; the latter are wrought into endless varieties of form and technic.

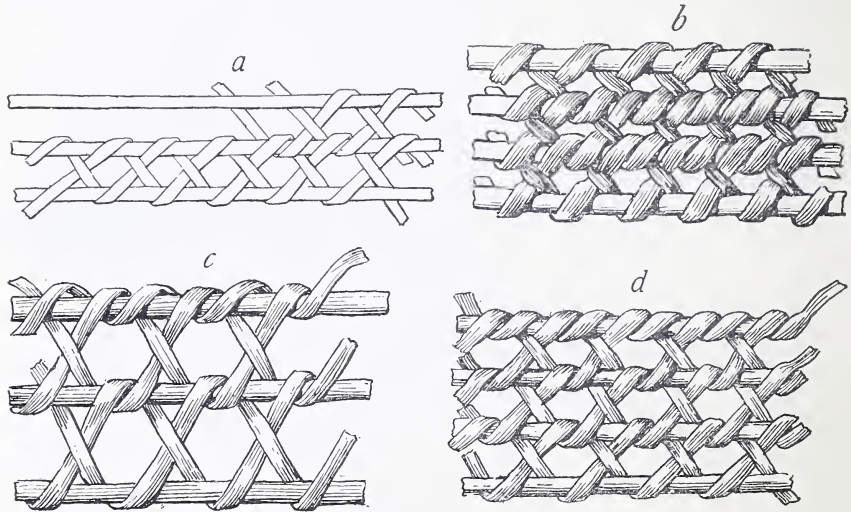


FIG. 30.—DOUBLE LACING IN ENGANO BASKETWORK.

Plate XI (upper figure) is a basket (Cat. No. 211801, U.S.N.M.) of the Shompen tribe, Pulo Kunyi, west coast of Great Nicobar Island. It is 8 inches square and 6 inches high.

A single long palm leaf is wrapped on itself three-fold, to form square sides. Two small vines are run in and out through the leaf to hold the parts together and to form handles. The ends, which are joined underneath, support a large deciduous leaf which serves for the bottom of the basket. This is a rude and most primitive form of receptacle.

The lower figure on Plate XI is a boat-bailer (Cat. No. 176038, U.S.N.M.), from Trong, Lower Siam, made from a spathe, or leaf sheath, by folding the ends together, as in wrapping a bundle, and rolling up another part of the leaf to form a handle. The parts are joined together, as seen in the example, by sewing with a split of rattan. Height, 9 inches. See also Plates IX, X, and XIV.

Left oblique.—Applied to textiles leaning toward the left hand from below upward. Seen in checker, twill, hexagon, octagon, and rhomb technic. Also called *Sinistral*.

Lengkar banon buoy.—Native name in Simalur of a basket for suspending a water vessel. (Cat. No. 216307, U.S.N.M.)

Loomless.—Name adopted for textile processes not carried on in looms. It includes awlwork, bark- and bastwork, basketwork, braidwork, featherwork, hoopwork, knitting, knotwork, lacework, leafwork, matwork, needlework, network, osierwork, quillwork, rattanwork, ropework, spathework, splitwork, stringwork, and threadwork.

The primitive hand, or loomless, textiles are at the foundation of artwork in several varieties, for example: Fingerwork, producing basketry and matting; stiletwork, producing embroidery; knotwork, producing netting; bobbinwork, producing pillow lace; crochetwork, producing hook fabrics; needlework, producing sewing, embroidery, and point lace; needles in sets, producing knitting; shuttlework leads to weaving on the loomwork series.

Luting.—The Malaysians lute their carved wooden buckets with gutta when they become cracked. The Jakuns employ also the wax from the honey of the wild bee.

Mad weave (Anyam gila).—A technic in strips of pandanus leaf worked in pairs, in three directions, so as to present the appearance of rhomb, cubes, and six-pointed stars in different lights. The work begins at the center of the bottom, proceeds outward to the border and upward to the rim, where the strips are turned back and worked under to the place of starting by means of a dull bodkin, called a pricker. Plate XII shows the bottom and the top of the mad weave—the rhomb decussations, the six-pointed stars, the cubic forms, the turning back at the borders for the double weave and figures made by curling are all shown. Some of the Sempang Malay mats appear to be thus woven; the prepared leaf strips are doubled over lengthwise and alternately inclose and go between the corresponding opposite double strip in the weave, instead of going first to one side and then the other—that is, in and out over the opposite strands.

Manila hemp.—(See *Poolay*.)

Mat.—A convenient name for basketwork not made into receptacles. From pandanus and like materials the Malaysian peoples make all sorts of things for household use. A mat acquires a multitude of names from its uses. (Kloss, Andamans and Nicobars, p. 48.)

Materials.—This term includes all the substances that enter into Malaysian basketwork in its most liberal acceptation—mineral, vegetal, and animal; raw and prepared; native and commercial; root, stem, and leaves; filaments, strips, splits, half stems; “cane pith,” spathes, and joints.

Miter.—To give angular forms to rattan hoops, they are kerfed at the proper places. More than that, though the people in their primitive state know not the use of the saw, still they manage to produce angular parts, even from hard woods, and cover ugly joints with knotwork. (See *Kerf*.)

Molding.—In the unfinished baskets sent by Doctor Abbott for study the body is being molded over a form. In the cylindrical pieces

this may be a coil of bark or a round stick of wood to the outside of which four sharp strips of bamboo are lashed for shaping the bottom and starting the round body. For two conical specimens from West Borneo the molds are old baskets with a number of bamboo sticks lashed about them.

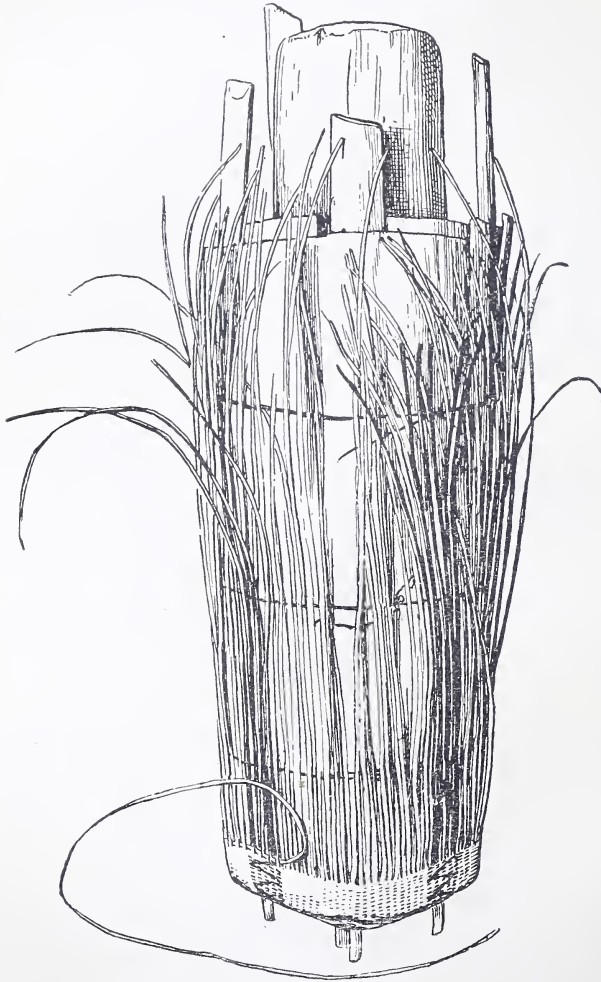


FIG. 31.—PROCESS OF MAKING A BASKET OVER A WOODEN MOLD.

wood, not necessarily perfect in form, since outer wrappings will remedy defects. At what are to be the angles of the bottom, strips of bamboo are set, the pointed ends being downward, and leaf or bast is tied about the outside. Before the mold is applied, the bottom is woven in checker or twill, from fine strips, all of which turn up for warps. The upsett is the connection between the square base and the

Fig. 31. (Cat. No. 244347, U.S. N.M.) shows the method of setting up the mold and beginning the work on a small, pretty siri basket from Lower Sakaiaim River, Borneo. The interior mold is a cylindrical block of

cylindrical mold. The body may be then completed in any style of technic.

Fig. 32. (Cat. No. 244354, U.S.N.M.) is a nearly completed siri basket in which the mold is based on a roll of very tough and rigid bark and the corners of the bottom are established on four strips of bamboo, the glossy sides outward. The elements of the bottom are turned up for warps and, in this specimen, the cylinder was but partly achieved, the corners only being rounded. The upsett is distinctly patterned and the process of figuring the body is shown. The plain weaving might be replaced by endless varieties of technic.

Mousing.—In coiled basketwork, a double wrapping of the active part, resembling the sailor acceptance of the term. In its simplest forms it looks like the script letter *f*. (See fig. 26 and Lehmann, figs. 38, 39, 44.)

Movements.—The active parts of a technical process of the Malaysians move in general from left toward the right, while the civilized woman works toward the left. In this general process toward the right the Malaysian woman

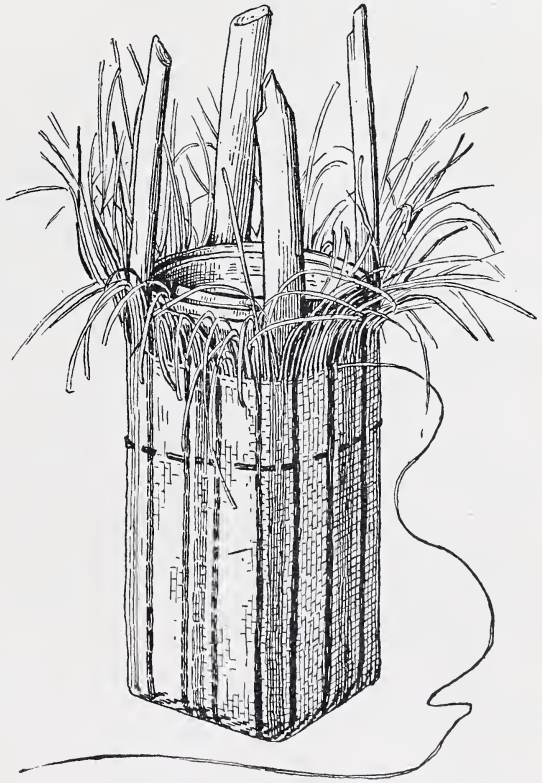


FIG. 32.—PROCESS OF MAKING A BASKET OVER A MOLD OF STIFF BARK.

makes subsidiary movements for each check or unit in the work. These may be spoken of as up or down, in or out (toward the worker or on the side away from the worker), inside or outside (referring to a receptacle), right side or wrong side (referring to the fabric); right or left, if horizontal, and right oblique or left oblique, if inclined; under, over, around, or through, to suit each case.

Needle.—The needle with an eye is not known in Malaysian basketwork, but needlework, or something resembling it, is very common and quite ornamental on basket borders. Holes are drilled through

the hoops and the sewing is done with fine filaments of rattan. (See *Drill*.)

Nibong.—A palm whose leaf sewed with rattan serves for a boat bailer. (Cat. No. 232680, U.S.N.M.)

Nipa.—A palm *Nypa fruticans* whose leaves are made by the Malays into coarse, strong "bikars," or sleeping mats.

Oblique technic.—A process that begins at one corner of a mat or other structure. In twills, hexagons, octagons, the elements that lean to the right are dextral, or right oblique; to the left, are sinistral, or left oblique.

Openwork.—Technics in which the parts are not close together. The results are slits, triangles, rectangles, rhombs, pentagons, octagons, and irregular open spaces.

Ornamentation.—Artistic effects in basketwork. It includes the choice and association of a great variety of materials; the adoption of correct shapes and colors in the things made and their parts; in the refinement of technical processes—checker, twine, coil; diamond and scroll patterns in twill and color; in knotwork and braiding; in carving, overlaying, and embroidery. The body is the foundation and background of ornamentation.

Overhand.—The knotwork at the tops of uprights on basket borders covering the rim stays are in sailor language called overhand weaving in single strand. The strand may be stem, split, strip, string, or filament.

Overlaying.—In American basketry the term is applied to the process of laying a pretty straw on a tough fiber; but the Eastern women hide unattractive features with a charming variety in knotwork, braidwork, and sewings. Overlaying in Malaysia occurs rarely in the American sense.

Packing, or padding.—The insertion of soft material between hard joinerwork and delicate textile, to equalize the strain.

Pandanus.—Of many uses in Malaysian basketry. (See Haeckel, *India and Ceylon*, N. Y., 1883, p. 99.)

The pandanus (*Pandanus odoratissimus*) belongs to the most singular character of plants of the Tropics. It is closely allied to the palms, and is also called screw-palm, or, more improperly, screw-pine. The low cylindrical stem, which grows from 20 to 40 feet high, is twisted, and branched like a candelabrum; at the extremity of every branch grows a thick tuft of large sword-shape leaves similar to those of the dracæna and the yucca. Some of the leaves are a light green, others a much darker hue; they are gracefully twisted, and their spiral arrangement around the stem gives it the appearance of a perfectly regular screw. From the base of every tuft hangs a cluster of white, deliciously fragrant flowers, or a large red fruit like the anona. But the plant's most remarkable feature is the slender adventitious roots, which give it the appearance of walking on stilts. A clump of pandanus trees offers a fantastic sight as the stems rise on their stilts above the lower shrubbery or stalk about over the rocks along the shore.

Parts of baskets.—Malaysian baskets are much more broken up into parts than American. In both areas there will be, in the plainest structures, such as mats, wallets, and checkerwork baskets, wrong side and right side, outside and inside, top, bottom, and sides. But the full-fledged carrying basket is a bewildering association of parts. A technic part or unit is the full movement of the active parts once. The result is one check, decussation, twill, stitch, twist, curl, bend, bight, hitch, coil, or knot. (See also under *Structural parts.*)

Pierced work.—Applied to all uses of the awl, or piercer, in basketwork. The abundant employment of wood brings sewing into this art, which is not done with the needle, but after the shoemaker's fashion, with a sharpened filament of rattan through holes pierced with metal tools. (See *Drill.*)

Piña.—Delicate texture from pineapple leaf, *Ananas ananas*.

Pinned work.—The joining of palm, pandanus, and other leaves by pinning them with splinters of rigid material run in and out through them. (See Plates IX, X, XI.)

Plaiting.—Folding leaves like the plaiting in garments. To be distinguished from braiding.

Plants.—The plants used in the Malaysian basketwork have not all been studied for native or scientific names. The best known are the bamboos, rattans, palms, and climbing ferns. (For Borneo, see Becari, pp. 507–636; for the Philippines, E. D. Merrill.)

Ply.—To be used in speaking of flat surfaces, as 2-ply, 3-ply, and so on. Work in pandanus leaf, palm leaf, bamboo skin, spathe, or bast may be thus made. Not to be confounded with *Strand*.

Poolay.—Filament of the pesang (*Musa textilis*). (Marsden's Sumatra, p. 146.) A tall perennial herb of the same genus as the banana. Manila hemp. When dressed it is of two qualities, finer for shawls, coarser for rope.

Pricker.—A tapering bone or piece of metal used in mad weave and other basketwork for inserting ends into the existing texture. (See Plate IV.)

Processes.—There are certain processes in basketwork that may be described, whose procedures are quite independent of the result. Among them are braiding, coiling, knotting, looming, matting, netting, omitting, sewing, spinning, twilling, and wrapping. These combine in all possible ways to their results.

Products.—The products of basketwork will be found under *Uses* of basketwork.

Rattan.—(See *Calamus.*)

Rhomboidal work.—Basketwork in pandanus leaf and other thin material in which the surface is made up of a series of rhombs or diamonds. Called also "*Mad weave*," which see.

Right oblique.—Same as *dextral*. Applied to the textile elements that lean to the right looking upward. Seen in twills, hexagonal, octagonal, and rhomb weaves.

Rim.—As distinguished from the added border, the rim of a basket is the upper edge of the special technic which constitutes the body. The ways in which the body elements are cut off, turned down and plicated, wrapped and fastened off give names to rims, their nature resulting from the work on the body—checker, twill, twine, etc.

Fig. 18 (Cat. No. 221521, U.S.N.M.) gives an idea of the way in which the long ends of oblique stems in hexagonal work are turned back and inwoven to give variety to the texture.

Rotan sega.—The toughest of all rattans for basketwork—borders, carrying parts, sewing, strengthening, supporting. Planted extensively by Dyaks.

Sago palm.—Midribs are stripped and bolted together for shields in Nias. (Cat. No. 237214.)

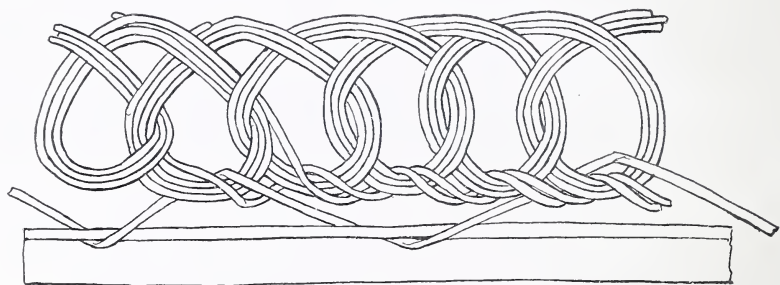


FIG. 33.—ACTIVE ELEMENTS IN SETS.

Sand paper.—Applied to various species of plants whose leaves have a siliceous surface and are used in polishing.

Sarong.—In Malaysia, a piece of woven stuff enveloping the body. Worn by both sexes.

Seizing.—The process or result of lashing the parts of basketwork together by turns of flexible material. To the sailor terms “round seizing,” “throat seizing,” and “racking seizing” the Abbott baskets add many other puzzling ways of joining the textile parts.

Sennit.—A convenient name to retain for flat braidwork, which may be used apart or worked into other technic. (See *Braidwork*.)

Serapang.—Trident fish spear, West Borneo. There are four sorts of “anyi” (weaving or braiding) on each serapang properly made and three kinds of rattan.

Sets.—The cycloid curling of a single element is very common in Malaysia; but this element may be two, three, or more stems, splits, etc., that lie parallel in the work. They should be spoken of as single, double, triple, quadruple. In knotwork double or triple

sets of elements may all be functioned alike, or the knotworks may be in sets, as about the border of a siri basket. (See fig. 33.)

Sewing.—A convenient name for technic in basketry in which holes are pierced and slender filaments of rattan are used singly or in series for joining and for ornament. Seen on shields as well as baskets. On the latter it serves to hold the foot, the uprights, the border hoops together and in place. Many examples in the Abbott collection, especially from Borneo.

Fig. 34 (Cat. No. 221625, U.S.N.M.) illustrates the double sewing associated with imitation of twined weaving done on Malaysian shields. In the drawing the dark split or stem is doubled in the middle and passed through the first hole in the shield. The two ends are then laced through the other holes, making a twine at each stitch. At the same time each end is twined a few times with another split that does not go through the holes in the shield excepting the first one.

Fig. 35 (Cat. No. 237061, U.S.N.M.) is of the same type, but two outside splits are twisted in, making a three-strand twine.

Shoulder.—The rim of a basket fitted to receive a close cover. (See *Cover*.)

Sides.—The English and American makers call the body of a basket "sides." The sides of a Malaysian basket may be quite distinct or all alike. The latter may be three-sided, four-sided, or many-sided, depending on the shape of the framework.

Single.—Term applied to that variety of technic in which there is no passive part or foundation, and one active, moving element or set of elements. Examples of such basketwork are to be seen in America, but they are not classed apart. (See figs. 42 and 100 of *Aboriginal American Basketry*.) In Malaysia the long, rigid, and elastic stems render it possible to make wider excursions of technic. The word "single" does not necessarily mean one stem, for there may be several side by side, as shown in the illustrations; but they are all doing active service and all performing the self-same motions, curving and interlocking. (See Plate XIII.)

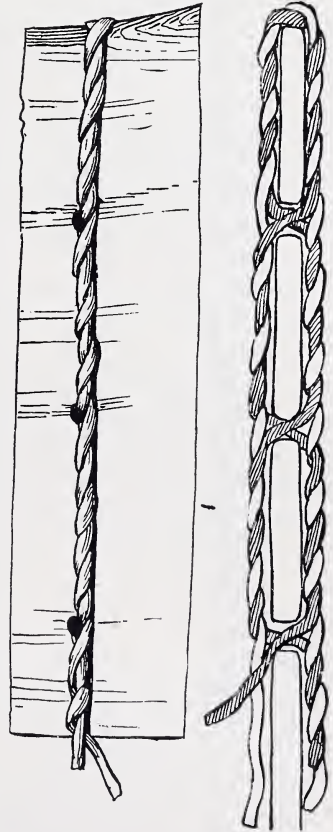


FIG. 34.—DOUBLE SEWING ON SHIELD.

Plate XIV (Cat. No. 221525, U.S.N.M.) is a good example of the interlocking cycloid, with three stems cooperating, the dropping out of a stem and another taking the place while the motive goes on. This plate shows the technic in position. It is a carrying basket from Sikakap Strait, Pagi Islands, west of Sumatra. The body is a single piece of spathe or inner bark rolled into the form of an inverted cone. On the top the technic shown in the drawing is in place. It was made independently of the basket and sewed on afterwards with

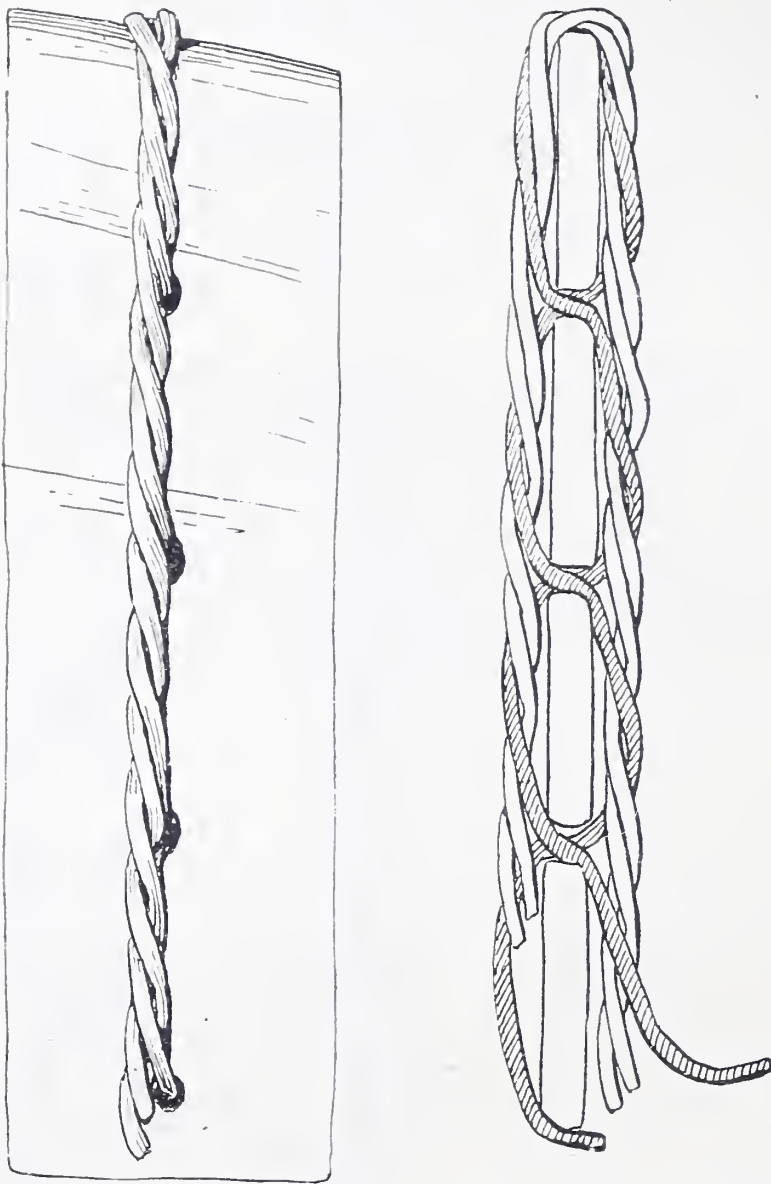


FIG. 35.—SEWING FORMING 3-STRAND TWINE.

a split of the same material. The bottom is of wood, set in. The hoops at the top and bottom are in pairs and are held in place by single rows of the Malay knotwork. The running of splits in and out and the knots tied on the edges of the bark are to be noted.

Cat. No. 247749, U.S.N.M., Plate XIII, may be called a burden crate, with bowed framework, back of bast and sides of rattan in single technic element, one-stem and two-stem, forming interlocking cycloids. The shape should be compared with that of California cradles.

Sinistral.—See (*Left oblique*.)

Skewer.—A strip of bamboo or hardwood sharpened at both ends and thrust into a texture to stiffen it.

Slath.—In English basketwork, two rods or splits used to hold together and in place the bottom sticks at the beginning of a round basket (Okey). Malaysian baskets start differently. (See *Bottomwork*.)

Spathework.—(See *Leafwork*.)

Spiral.—This term may be used in describing much Malaysian textile work, for ornamentation as well as for use. There may be flat, conical, or cylindrical spiral.

Splicework.—Methods employed in Malaysian basketwork for uniting the ends of two pieces of wood or the two ends of a hoop. Where applicable the usual names of splices given by mechanics may serve, as halving, lap splice, dovetail, scarfed joint, fished joint, ship lap. The hook splice of the barrel hoop does not appear; but, owing to the wonderful qualities of rattan, some new forms occur, as the hook-and-eye splice, loop splice, sewed splice, pinned splice.

Split.—One of the parts into which a rattan or other stem is divided for textile work after it has been gauged and shaved. Preferred to splint. Splitwork will be any kind of technic in which splits are the materials.

Stay.—In Malaysian basketwork, something on the inside of a basket, as a strip or split of rattan, to keep knotwork from pulling through the delicate textile, as bottom stay, upright stay, border or rim stay.

Stitches.—On fine borders, footing, and elsewhere, small holes are bored and delicate fibers of rattan and other plants are passed through and around, as in sewing. No needle is used, but in this way parts are “whipped” together. The separate rounds may be called stitches. (See also *Drill*.)

Strand.—One of the elements of thread, twine, rope, or braid. These are spoken of as 1-strand, 2-strand, etc., and may themselves become the elements of textile fabrics.

Strengthening parts.—Term applied to the framework and other parts of basketwork put in the right place to effect the purpose and add little to the weight. These natives are past masters in economic use of such structures. They are worked in or added on. Hoops, single or in pairs; additional wales in the weaving; splits wrapped about a structure; woodwork, braces, stays—all give strength, with the minimum of material.

Strip.—A ribbon-like section cut from a leaf or other thin substance and used in checker or other flat technic.

Structural parts.—The complete Malaysian burden basket (Plates II, III, V, VI, VII, VIII, XIII) has many structural parts, while the American Indian makes hers almost in one piece. There will be a little special treatment at the start, more about the border, but practically her work is a unit. The possible parts of a Malaysian basket are bottom, braces and stays, foot, upsett, body, border, cover, framework, carrying parts, ornaments, and accessories. Of these it is possible to note the presence or absence; the materials in their variety, preparation, and combinations; shape, technic, and quality of each part. In some Malaysian baskets the structural parts are all merged, as in the American. In others these parts have different methods of expression and degrees of independence. The many possible ways of effecting these combinations give unlimited scope to

the imagination of the artist. The term structural part as applied to materials includes stems, half stems, splits, strips, fibers, filaments, leaves, roots, and whatever other parts of a plant enters in. Cat. No. 221504, U.S.N.M., Plate III, is a graceful burden basket in hexagonal technic, six-sided, pointed at the bottom, with abundance of hoopwork at the carrying zone and on the border.

Symbolism.—Upon this word American and Malaysian basketwork part company. In America the spirit world lives and has its being on basketry and pottery; but Malaysian textiles of every sort, even the most adorned, are as mute on religion “as though that soul were dead.” Of a pictorial epoch or stage there are no survivals in the fictile or textile art. If one ever existed, hundreds of years under Buddhistic and then Mohammedan power have obliterated every trace.

Tapa.—Original clothing of the Sumatrans, still used among the Rejangs for their working dress. It is the inner bark of the “calawee,” a bastard breadfruit, beat out to the fineness required. (Marsden, p. 43.) It is sometimes dyed yellow, but usually remains the natural light brown color. Occurs practically all over the islands.

Technic (technique).—All the textile processes employed in basketwork and other handicrafts. It embraces the preparation of materials and all the methods of putting them together, as well as the results of those processes. Baskets and basketwork may be classified by the technic. This was done for the American ware (Aboriginal American Basketry, Report U. S. National Museum, 1902, p. 190), and is here attempted for the Malay-

sian. Many of the American processes will appear in Malaysia and will receive the same names; other processes and variants will require additional terms.

In the Abbott collections from his areas in Malacca, Sumatra, Borneo, and vicinity, one is struck with the numberless variations in each class of technic and with their combinations.

1. For example, from the single-element technic, which consists of the bending, winding, and interlocking of the most simply curved, sinuous, spiral figure-of-8 movement of a single rattan stem or other long element, the weaver multiplies her stems and proceeds to work with two or more laid side by side to create new artistic patterns.

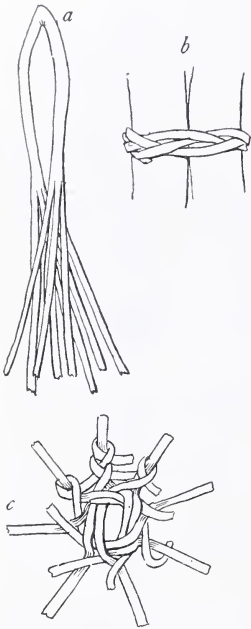


FIG. 36.—BEGINNING OF SINGLE-STEM BASKET.

Figs. 36-38 (Cat. No. 216305, U.S.N.M.) show a single-stem basket from Simalur Island, northwest of Sumatra. It is a wonder how a savage woman ever thought of so intricate a thing. The handle is a rod or stem of rattan doubled in the middle. After being clasped together with a ring of braidwork, each end is split into four parts, making eight warp stems, which are knotted at the bottom and from that point become wrapped weft. See drawings *a*, *b*, *c*, fig. 36, showing the doubled and split stem, the attachment of braidwork, the knotting of the warps at the bottom, and the commencement of the wrapped weaving. Each split makes a turn or half hitch around a warp, passes the next one, and continues to make a half hitch around every alternate warp until exhausted. About half way up, the ends of these are tied to additional splits of rattan, continuing the process of half hitches; but, the spaces between the warps being wider, the wefts form plaits. See drawings *d*, *e*, *f*, *g*, figs. 37, 38, for the finishing processes. At the rim the ends are fastened off by simply passing into the old knots.

2. Checkerwork, both close and open, erect and oblique, abounds in the Abbott Malaysian collections. If made in strips of soft material, like pandanus leaf, this technic lends itself ever for both useful and decorative

work—for matting, baskets, wallets, reticules, and so on. In more delicate fibers it leads up to the finest loomwork, while in rigid materials it gives itself most readily to the fabric of bottoms, the elements becoming spokes or warps of the body of the basket. (Figs. 1, 14.)

3. Twillwork, in which all elements are active and pass under and over different numbers of strands, two or more, or not the same strands from one course to another, is at home all over Malaysia,

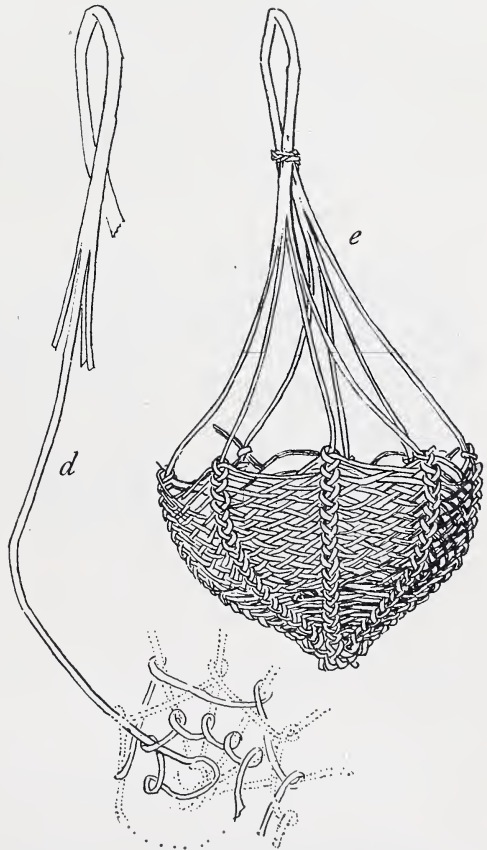


FIG. 37.—PROCESSES ON SINGLE-STEM BASKET.

owing to the abundance of materials everywhere for such technic. It may be divided into erect and oblique, plain and diagonal, and great differences are possible through varying thickness, width, color, and number in crossing. These in many examples produce artistic effects of great beauty. (See Plates V, VI, and fig. 1.)

4. Wicker is basket technic, in which rigid passive elements, or stakes, are crossed regularly, over and under, by active elements that are flexible. Rattan and like plants are specially adapted to wickerwork, which in its coarsest forms, such as game fences and fish weirs, must have furnished the earliest types of basketwork. Wicker, in its finest specimens, may be made ornate; it runs easily into twillwork and twinework. (See Plates I, XVI, and figs. 5, 8.)

5. Wrapped work includes all hand textiles in which the passive parts are held together by a flexible active part which at regular places is wrapped about them. I have elsewhere called this "bird-cage" technic, referring to the wire cages wherein the stiff wires cross at right angles and the intersections are wrapped about with fine wire. Many varieties of the wrappedwork exist in Malaysia, and they will be illustrated under special examples.

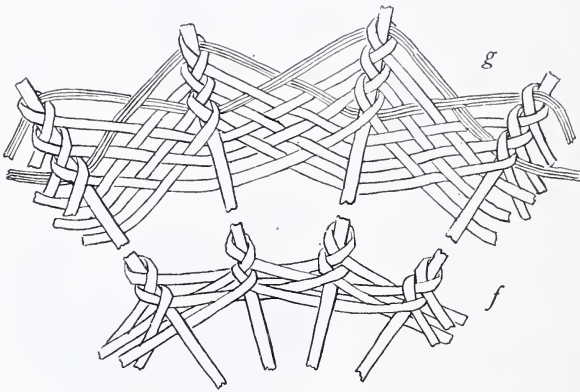


FIG. 38.—FINISHING PROCESSES ON SINGLE-STEM BASKET.

The passive parts are not always weft, but latticed foundations are encircled by the active running up and down, in and out, like clinging vines. (See figs. 40, 41.)

6. Twinedwork includes those hand textiles in which the passive parts, called "stakes" by English basket-makers, are held together and in place by twine of two or more strands. The technic is called 2-strand, 3-strand, and so on, according to the number of strands in the active part. Associated with twined work is braidwork, in which the active elements are braided in and out among the passive, but the appearance is quite the same.

Twinedwork may be wicker or twilled, open or close, fine or coarse, and by making one of its elements rigid it may be merged into wrappedwork. On a basket the twinedwork may be continuous in one direction from round to round, or the consecutive rounds may be boustrophic. An openwork effect is secured by including alternate pairs of stakes in going around.

7. Coiled technic in Malaysia covers a multitude of variations. The long, tough staples are favorable to its development. In all the so-called coiling processes the actives do not cross the passives, but go around them and around with them. There is no distinction of warp and weft. Coiled ware has been classified by the number and treatment of passive parts in the foundation and by the methods of working the active parts about them, singly or in pairs, as wrapping, half-hitching, twisting, mousing, and figure-of-8 work. The combining of two or more varieties of coiled work gives the basket-maker all the chance she asks for her versatility. (See *Aboriginal American Basketry*, p. 247.) In Malaysian coiled basketry the nine American varieties are not copied, but there are both similarities and differences. For example, in the Eastern ware the active split often pierces the foundation stem beneath, a thing not frequent in America.

8. Three or more series of textile elements moving in separate directions give rise to triangular, rhomboidal, hexagonal, and octagonal patterns of technic. The vertical, horizontal, right oblique, and left oblique elements may be all alike and active, or certain of them may differ from the rest in width, thickness, color, and pliability. The technic may be openwork or close and the varied methods of superposition create differences in the result. All over the Orient the polygonal styles of basketwork have had a wonderful development. The Japanese reach extraordinary results in their practice. (See Plates III, VII, XII, and figs. 18-20.)

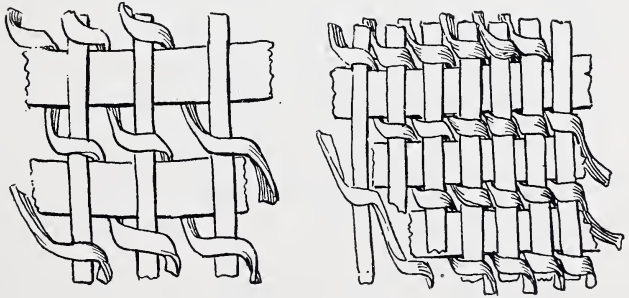


FIG. 39.—THREE-DIRECTIONS TECHNIC WITH VARYING ELEMENTS.

9. For basketwork, chainwork, sennit, knotwork, hoopwork, and other joinerwork, the separate words must be consulted. The combining and mixing of all the varieties mentioned constitutes the ever-present surprise in Malaysian basketwork. In describing a number of specimens it makes classification difficult, for each structural part seems to follow categories of its own.

Cat. No. 221534, U.S.N.M. (see Plate II and fig. 39), is a good example of the three-direction technic, the elements differing in width, rigidity, and treatment. The wide horizontal and the narrow vertical are latticed so as to make openwork below and closework near

the border. The left obliques are not merely laced among the others, but curl in passing so as to have the soft inside of the split against the other elements.

Lehmann^a has brought together the hand textiles of the world under the term *Geflechtsarten*, as distinguished from *Gewerbe*, which would include the machine textiles, or loomwork. There are 3 plates and 195 illustrations, and some of them cover two or more technics. His analysis of the *Geflechtsarten* is as follows:

(1) Elements run in two directions, both active. Includes open and close checker, upright and oblique twills, and ornamental work under the same definition. (Plate I, figs. 2-6.)

(2) Active parts unite a definite number of passive parts. Includes wicker-, twined-, wrapped-, and coiledwork of every kind. (Figs. 1, 7-10, 12-25, 27-31, 34-46.) This is by far the largest of Doctor Lehmann's groups.

(3) Passive parts running parallel are united with flexible parts running in two directions. Two oblique flexible sets are united by rigid horizontal elements. (Figs. 47-52.)

(4) Active textile elements in three or four directions, making A hexagonal weave, B octagonal or chair-bottom weave. (Figs. 53-58.)

(5) Technic in a single moving part or element, though it may consist of two or more stems side by side. There are three ground forms, the continuous coil (A); the sinuous movement (B); and the figure-of-8 (C). (Figs. 59-63.)

(6) Technic of two sets of passive elements lying parallel, the sets generally latticed at right angles and fastened together by means of elements interlaced in like particular direction. (Figs. 65-83.) It is latticework, fastened together by interlacing or wrapping. The bird-cage technic of the American ware. (Figs. 65-84.)

(7) Technic from two or more active elements bending in two or more directions. A, made by varying other technics (figs. 15, 32, 33, 23, 24); B (fig. 84), interlocking bights at right angles; C (fig. 90), interlocking sinuosities; D (fig. 85), interlocking half hitches. The courses of the single actives are given in figs. 154, 155, 157, 158, 159.

(8) False braiding, chain stitching, etc., of elements so far as not included in other methods.

(9) Technics not truly textile. Half textiles, A (fig. 91), strips bent hood-shape; B, horizontal seized close to the vertical, horizontals pierce the vertical; C, strips sewed or thatched together, as in hats, etc.; D, two sinuous elements bound together at their contacts (fig. 64).

Thatchwork.—On Nicobarese houses; generally of "lallang" grass; sometimes of palm leaf, fastened to vertical rafters of the midribs of

^a Abh. Anthropol.-Ethnol. Museums, Dresden, XI, 1907.

the coco palm, joined crossways by battens of areca wood, of which the grated floor is made. (Kloss, Andamans and Nicobars, p. 49.)

Throat seizing.—Lashing the crossed ends of basket elements. Used in loops for suspension and in carrying parts.

Tikars.—Sleeping mats. Malays make them from nipa palm.

Tingayl ("Kinggale").—A sort of bamboo, West Borneo, for baskets. Called also *Tingehl*, *Tinggayl*.

Tools.—The words "joinerwork" and "tools" must not awaken pictures of the great chests of our carpenters and cabinetmakers. The utensils employed on Malaysian basketwork are of very primitive kinds. The ever present parang, including a woman's variety (two top specimens, Plate XV); curved knives with their long, slender handles; awls with needle points; drills quite as delicate; prickers for inserting wefts; an old file or two; and siliceous leaves for sandpaper, are all.^a The chief reliance is on the cunning hands and trained eyes of the basket-maker. (See Plates IV, XV.)

On Plate XV are shown basket-makers' knives, "sinar" (Cat. Nos. 249038, 249043, U.S.N.M.), used as all-round tools in making baskets and mats by the Dyak women on Sempang River, West Borneo. They all belong to the same type, curved alike in blade and handle from end to end, the cutting parts quite similar, handles of wood or antler. The implement fits the hand perfectly and rests on the arm, enabling the woman to guide the finest motions and regulate the pressure. At the bottom of the plate the bast rolled up serves as a scabbard for the blade when not in use.

Cat. Nos. 249045 and 249046, U.S.N.M. (top of Plate XV), are woman's parangs, "parang bodong," from the Dyaks of Sempang River, West Borneo. Length 12 inches and 14 inches respectively. It is interesting to note on these small objects the razor-shape blade bent back at an angle with the long tang, the hook on the lower side where blade and tang come together for removing thorns from leaves and stems, and the grip of wood, perfectly plain. In the men's parangs the grips preserve a semblance of ancient symbolism; there is none here—just a simple survival of useful shapes.

Toung áp.—Native name for triangular pyramid in checkered basketry.

Tráp.—A species of *Artocarpus*, used by Dyaks and Sakais in making bark cloth. Other species are also used. The Dyaks also make cord of it and of other kinds of bark.

Twilledwork.—Fabric in basketwork in which the textile parts of one set of elements pass over and under more than one element of the other set. A great variety of patterns are produced in the Abbott baskets by different materials, surfaces, thickness, width, color, direction, and technic in the parts. (See Plates V, VI.)

^a Marsden, p. 144, says that the Sumatrans were ignorant of the use of the saw.

Twine.—"Calooee" is a species of nettle, of which excellent twine is made. It grows to the height of about 4 feet, without branches, the stem being imperfectly ligneous. It is cut down and beaten, after which the rind is stripped off and twisted as we do hemp. Twine is also made of the bark of a shrub called "*Endeeloo*." A twine is made in the Lamphoon district of the bark of the "bago" tree, beaten out like hemp, for the construction of large fishing nets. On the island of Nias they make a twine of the "baroo" tree, which they afterwards weave into coarse cloth for bags. A kind of thread for sewing is procured by stripping filaments from the midribs of the leaves and from the trunk of the "pesang" or plantain. (Marsden, pp. 75-76.)

Twined work.—A refined and varied technic, based on wattling, in which the active part consists of two or more strands that in passing make a part of a turn about one or more passive parts leaving one strand inside. The method of doing this gives rise to several varieties—plain, twilled, wrapped, latticed (or tee), three-strand, etc. The process is used very extensively, especially in openwork, and differs from the American in not ascending by a perfectly uniform spiral. (See Plates I, VIII, and figs. 7, 34, 35.) (See *Wrap*.)

Twist or twist work.—A number of filaments in a single strand twisted together. The rattan is a bundle of long fibers and can be readily changed from its hard, glossy appearance into a yarnlike texture, as in the turning down of warp ends.

Uprights.—The vertical elements in the framework of a basket.

Upsett (Upsetted, Upsetting).—A modern basket-maker's name for changing the bottom technic of a basket to the body technic. May be useful in describing Malaysian ware, though it must be remembered that a great deal of work on the latter is done afterwards about the foot.

Uses.—Armor, in fabric and ornament; bags of every sort; baskets; beaters for rice harvest; bird baskets, cages, and traps; canoe parts and furnishings; carrying devices of infinite variety in size, parts, functions, and qualities; chairs; clothing in every part, both useful and ornamental (belts, bindings, caps, fans, fringes, hats and other head coverings, pockets, sandals, shirts, shoes, stockings); coffins; cooking utensils, covers, cradles, crates, drinking vessels; drums; eating utensils; fences of many kinds; fishing gear; flask covers, holders, and servers; floors; furniture; grain vessels and utensils; handles; hangings; harvesting ware; houses and their parts, for use and decoration; knotwork for endless uses; lacing and lacework; lashings; lines; masks; matting and mats; milling; nets for land and water capture and network in general; nooses; ornaments for the body and for every useful thing; palisades; panels in upholstery; playthings; quivers; receptacles besides baskets; reels; sacks; scabbards; seats; sennit; sieves; slings; string in general; tableware;

thatch; thongs; tiles; tools, with cases; toys; traps (air, land, and water); wallets; walls; water-crafts; weapons (lacings and lashings); weirs; whips; winnowing apparatus.

Vertical.—Applied to elements in an upright position.

Vessels.—Of giant bamboo joints. Andamanese. (Kloss, Andamans and Nicobars, p. 33.) Mentioned here because they have basket functions, associate with them, and basketry technic abounds on them.

Warp.—The elements on which woven baskets are built up. In Malaysian ware the bottom splits become warps of the body. Warps may be parallel, spreading, decussated, latticed, radiated, zigzag.

Water bottles.—Cocoanut shells joined in pairs by a short rattan handle, used by the Nicobarese to hold drinking water. (Kloss, Andamans and Nicobars, p. 49.) Water is carried from the spring in bamboos, cut 5 to 6 feet in length, and borne over the shoulder, or in a number of single joints that are put together in a basket. It is drunk

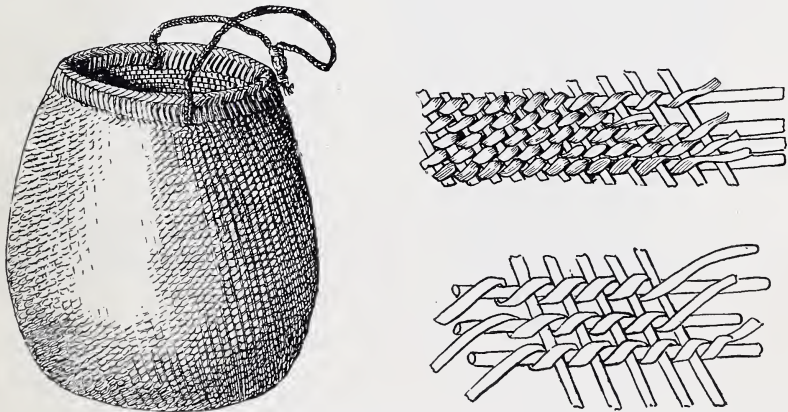


FIG. 40.—WRAPPED TWINEDWORK.

out of a fruit called "laboo," resembling the calabash, a hole being made in the side of the neck, and another at the top, for vent. In drinking, they hold the vessel at a distance above their mouths and catch the stream as it descends. (Marsden, Sumatra, p. 55.)

Wattling.—Coarse fence or fish weir in wicker or twined work. Used in many ways both for traps and accessories.

Weaving.—A term that should be saved for loomwork and used here only for basketwork in which the passive and active elements form distinct warp and weft. The active, or weft element, has many varieties both in form and in process. Even fabrics, like flat sennit, may be woven into baskets. In passing warps, the weft may be checker, wicker, twill, wrapping, half hitched, knot, belaying, figure-of-8, etc.

Weft.—The active parts of basketwork founded on warps or "stakes."

Whipped, whipping.—Joined with an overcast movement, as in coiled basketry.

Wicker.—Basketwork in which the passive parts are rigid and the active are flexible, passing in and out among the former. (See Plates I, XVI.)

Widening.—A great deal of Malaysian basketry is wider at the top. In openwork this is accomplished by simply increasing the distances between the warps in ascending. Another way is to insert new

warps above the corners of the footing.



Wind (wound).—To pass spirally around a fixed core or axis. A useful word for the very common technic of passing a thin split spirally about a stem or a number of splits, to make them one. In American basketry a bunch of splits are wound and at the same time caught to the coil below; but the Malays do more of this winding, because they have much longer and more uniform material.

Woodwork.—(See *Joinerwork*.)

Work.—The termination “work” may be applied in describing basketry, to the materials, the processes, or the products of the industry. There may be spathework, barkwork, bastwork, woodwork, leafwork, stemwork, and rootwork, either in the rough or prepared. There

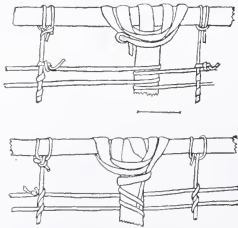


FIG. 41.—SINGLE-WRAPPED WEFT.

will be knotwork, braidwork, checkerwork, twillwork, twinework, coilwork, wrapwork, and combinations of these. Each of these processes may also be employed elsewhere, giving rise to roofwork, wallwork, floorwork, matwork, hoopwork, and joinerwork. The plant world will for a long time be in the way throughout Malaysia, offering superabundance of material to the textile art.

Wrap.—To pass around, as where a flexible element is passed about one or more rigid ones. There is a wrapped technic, found in Southern California, in the mounds of the Mississippi Valley, and

among the Andamanese, in which a weft makes one turn about each warp in passing; another form in Oregon and the Andamans, in which one strand of a twine goes straight and the other wraps about it. Wrapped lattice is another name for it. (See Plate XVII and figs. 40, 41.)

There are specimens of this single-wrapped weft in the Abbott collections. Fig. 41 and Plate XVII show the general appearance of the wrapped weft on whole rattan stems united with alternate finer vertical warps on which the wrappings are also upright and suggest the American Makah, or bird-cage technic. The half hitching and the overhand wrapping with the cutaway warps at the rim must not be overlooked. The ten warp stems are bent V-shape and cross on the bottoms.

Cat. No. 221538, U.S.N.M., shown in fig. 40, is a genuine surprise, an example of wrapped twinedwork from Simalur Island. The three elements are present, as in the Makah work of the Vancouver Island baskets, only the wrapping is done with stiffer material. (See Aboriginal American Basketry, pp. 235, 236.)

Yarn.—Fibers loosely twisted together in 2-strand twine.

Zigzag.—A broken line of equal angular portions, applied to structure or decoration. Dr. Edgar A. Mearns gave a carrying basket from Mindanao having an open checker bottom. About the outer row of checkers, in order to hold the parts firm for the upsett, is a zigzag wrap in rattan, a turn and a half about each square. The lacing doubles alternately on the back and on the front.

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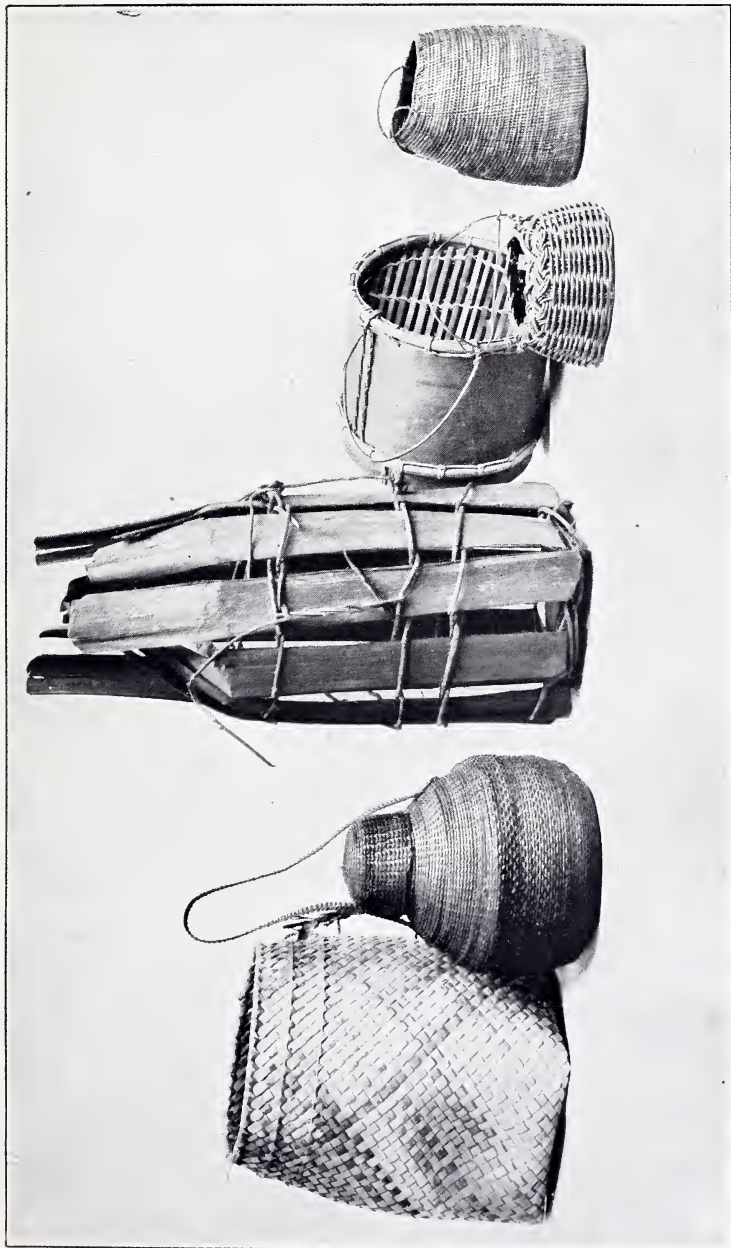
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TYPES OF MALAYSIAN BASKETWORK.

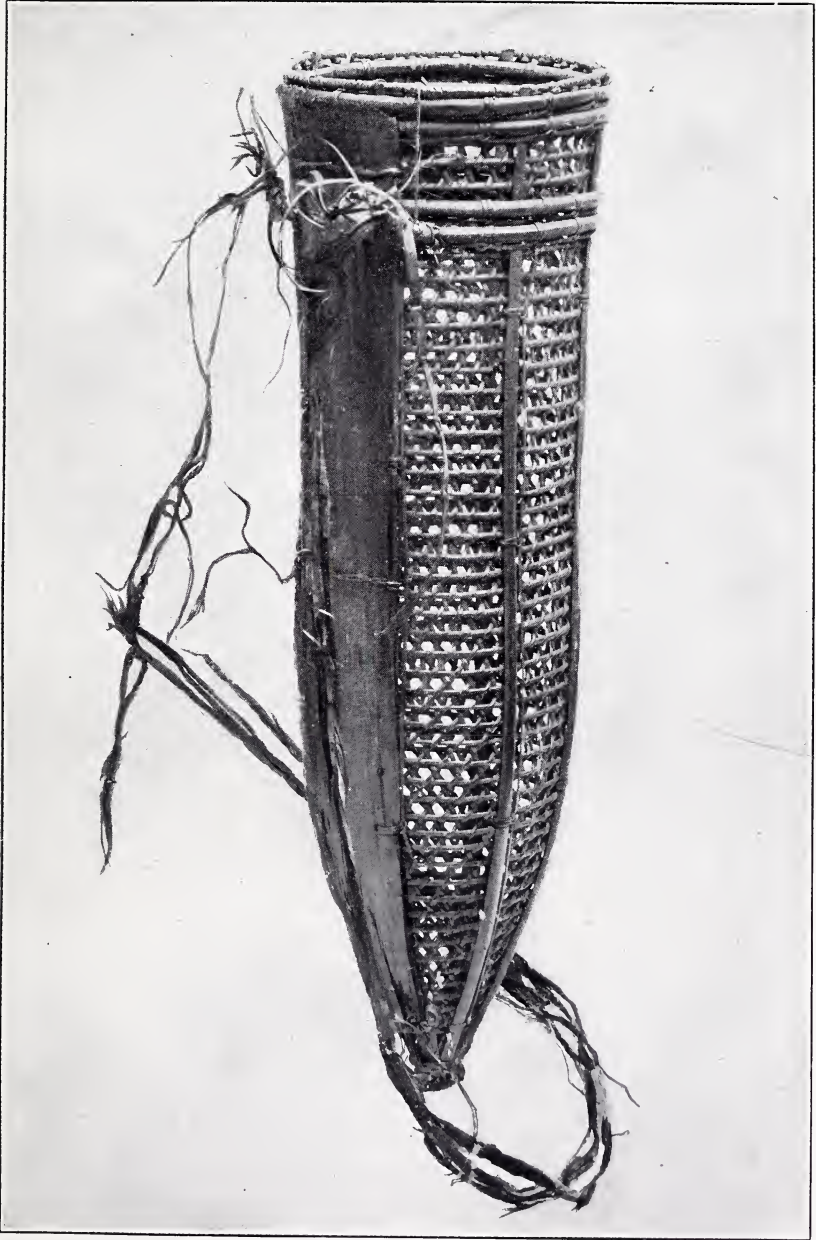
FOR EXPLANATION OF PLATE SEE PAGES 1, 2.





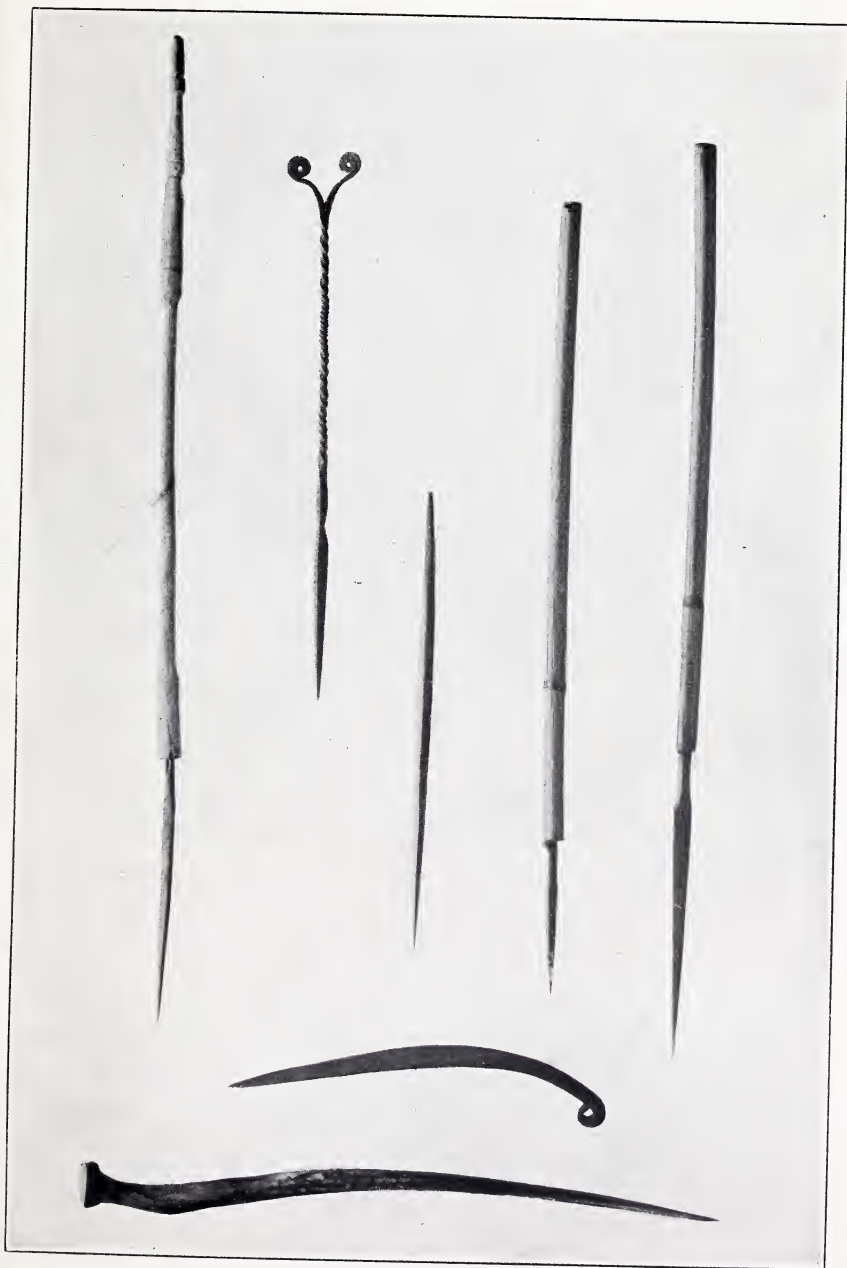
BURDEN BASKET FROM SIABA BAY.

FOR EXPLANATION OF PLATE SEE PAGE 7.



SIX-SIDED BURDEN BASKET, PAGI ISLANDS.

FOR EXPLANATION OF PLATE SEE PAGE 15.



DRILLS AND PRICKERS FOR BASKET-MAKING.

FOR EXPLANATION OF PLATE SEE PAGE 18.



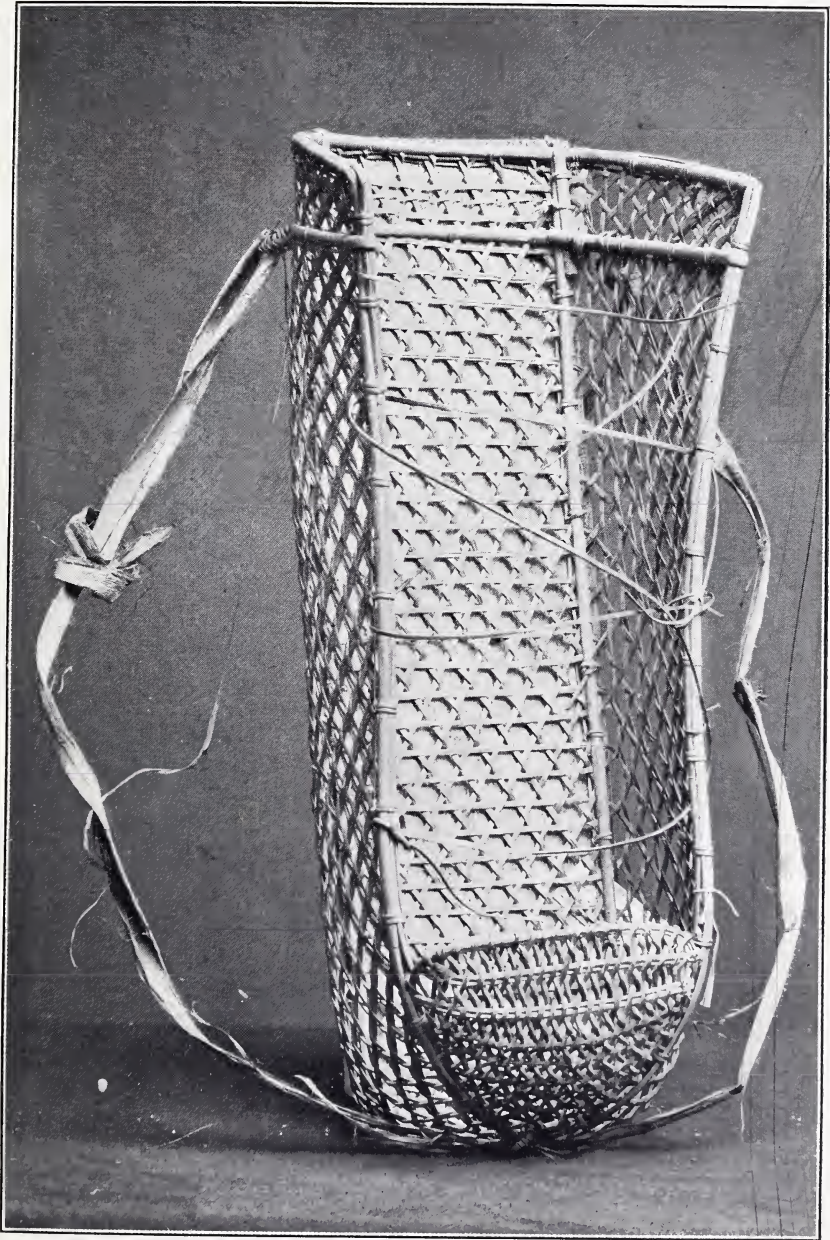
TWILLED BASKET FROM WEST BORNEO.

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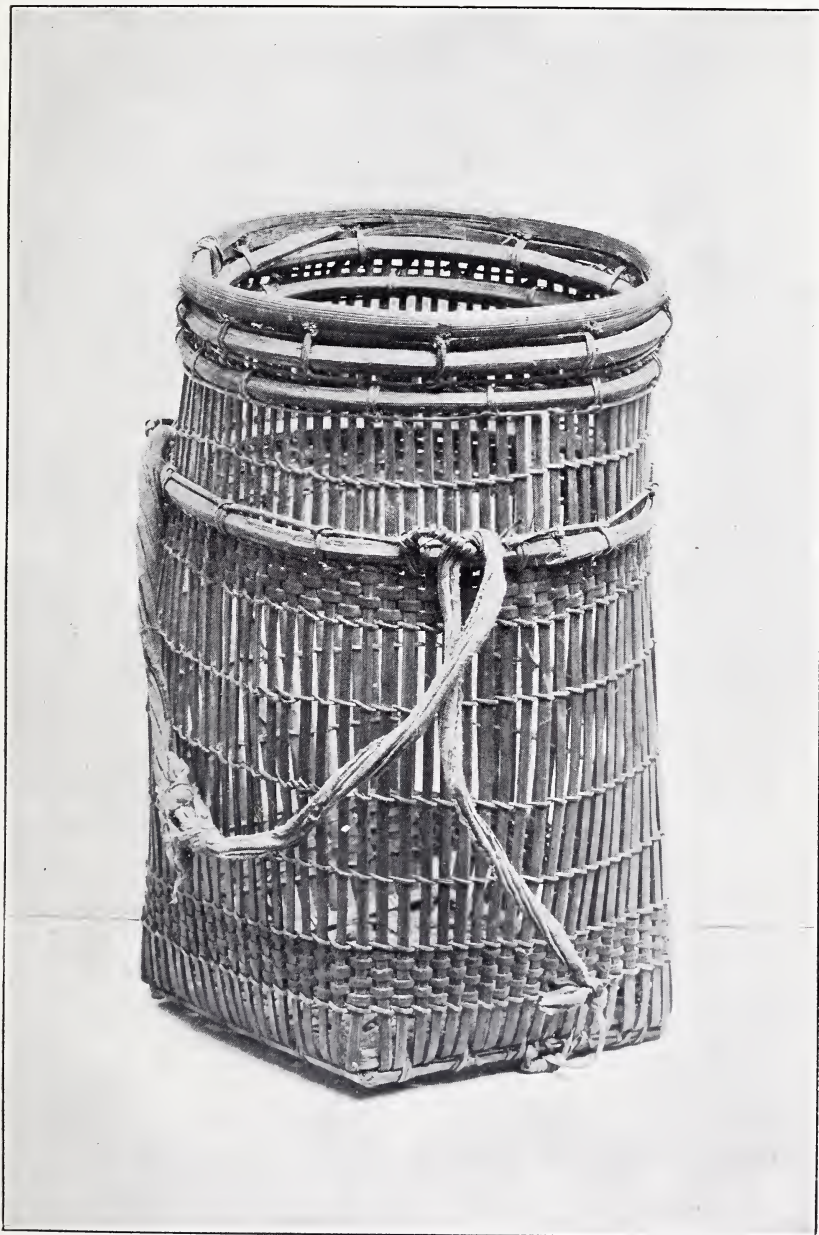
COVERED BURDEN BASKET.

FOR EXPLANATION OF PLATE SEE PAGE 20.



BURDEN CRATE IN HEXAGONAL WORK.

FOR EXPLANATION OF PLATE SEE PAGE 22.



BURDEN BASKET, SHOWING HOOPWORK.

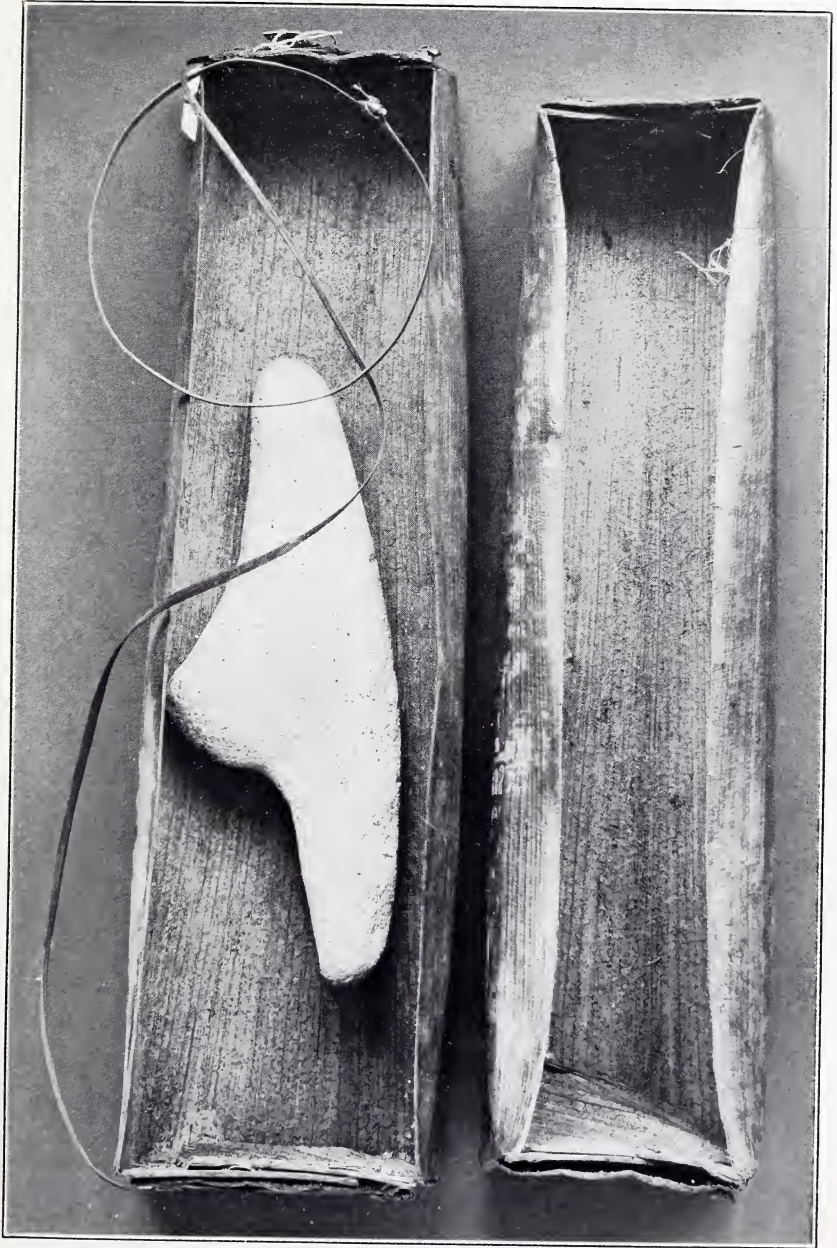
FOR EXPLANATION OF PLATE SEE PAGE 23.



COARSE LEAFWORK BASKET.

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COARSE SPATHEWORK BASKETS.

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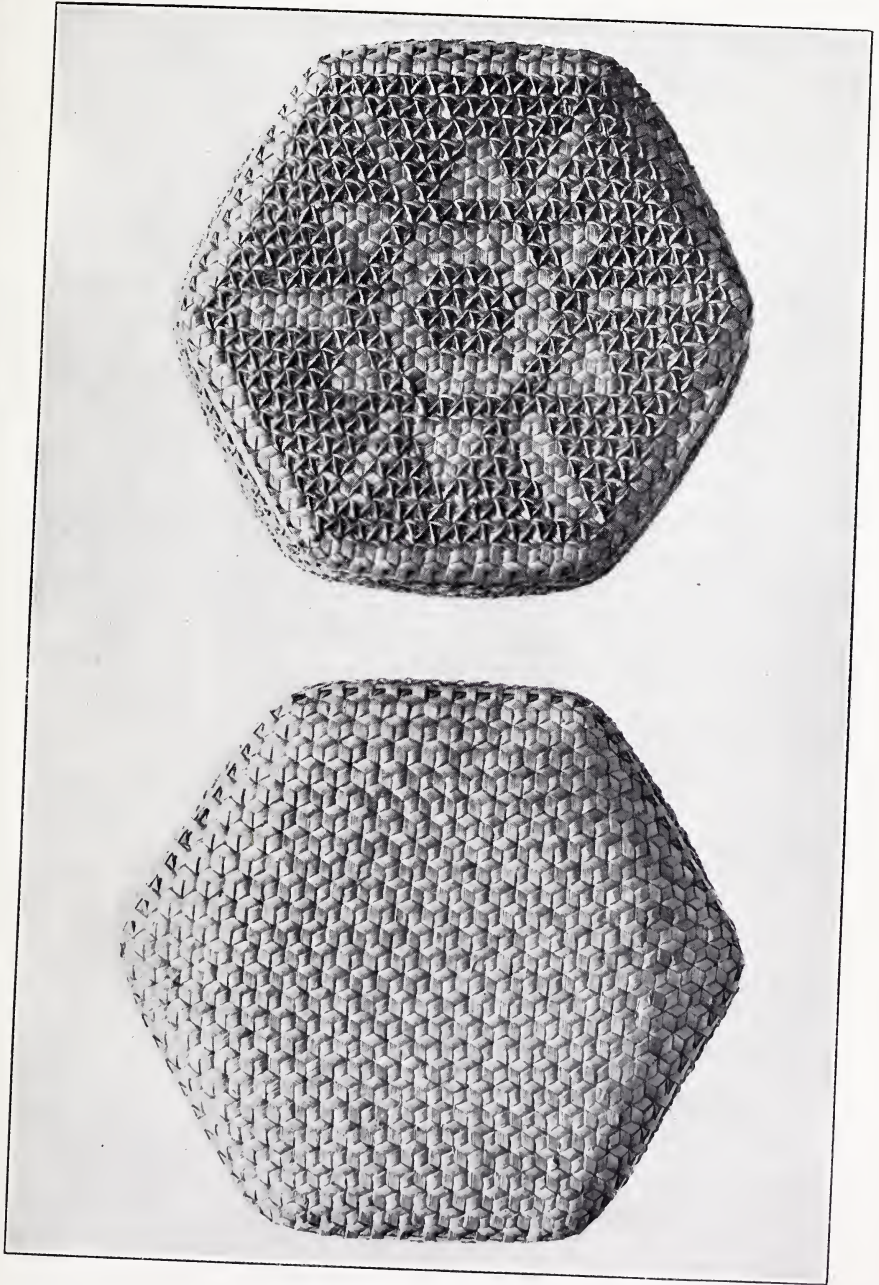




PRIMITIVE BASKET FORMS.

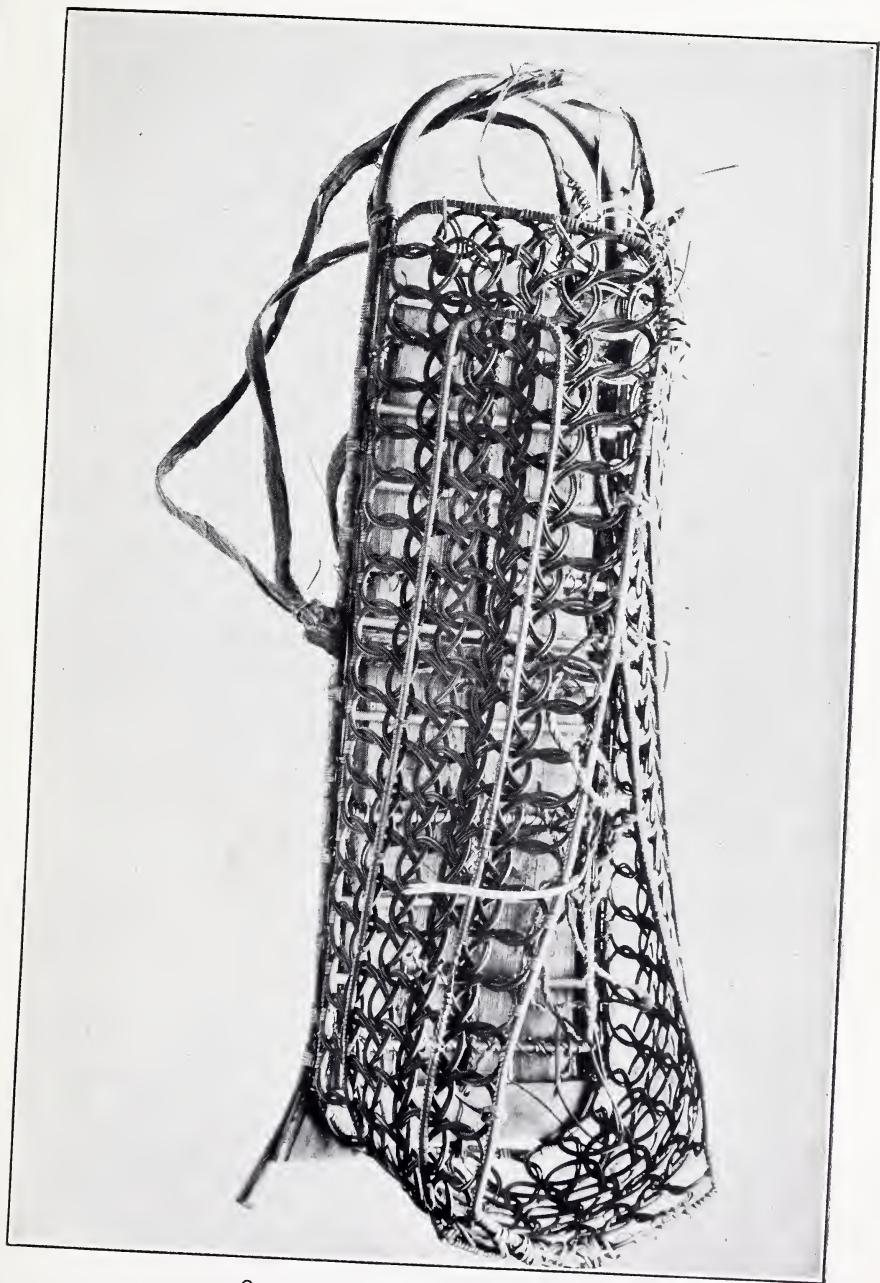
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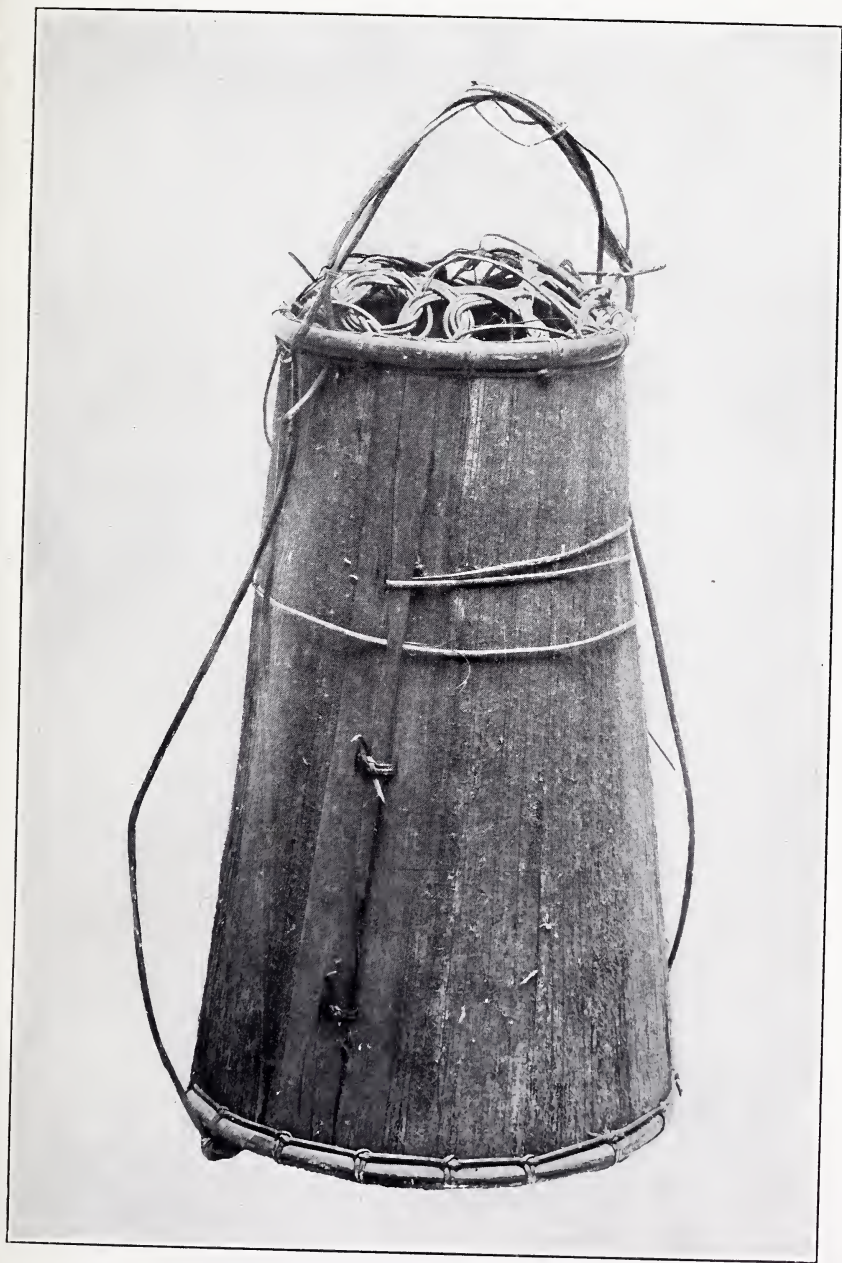
BASKET SHOWING MAD WEAVE.

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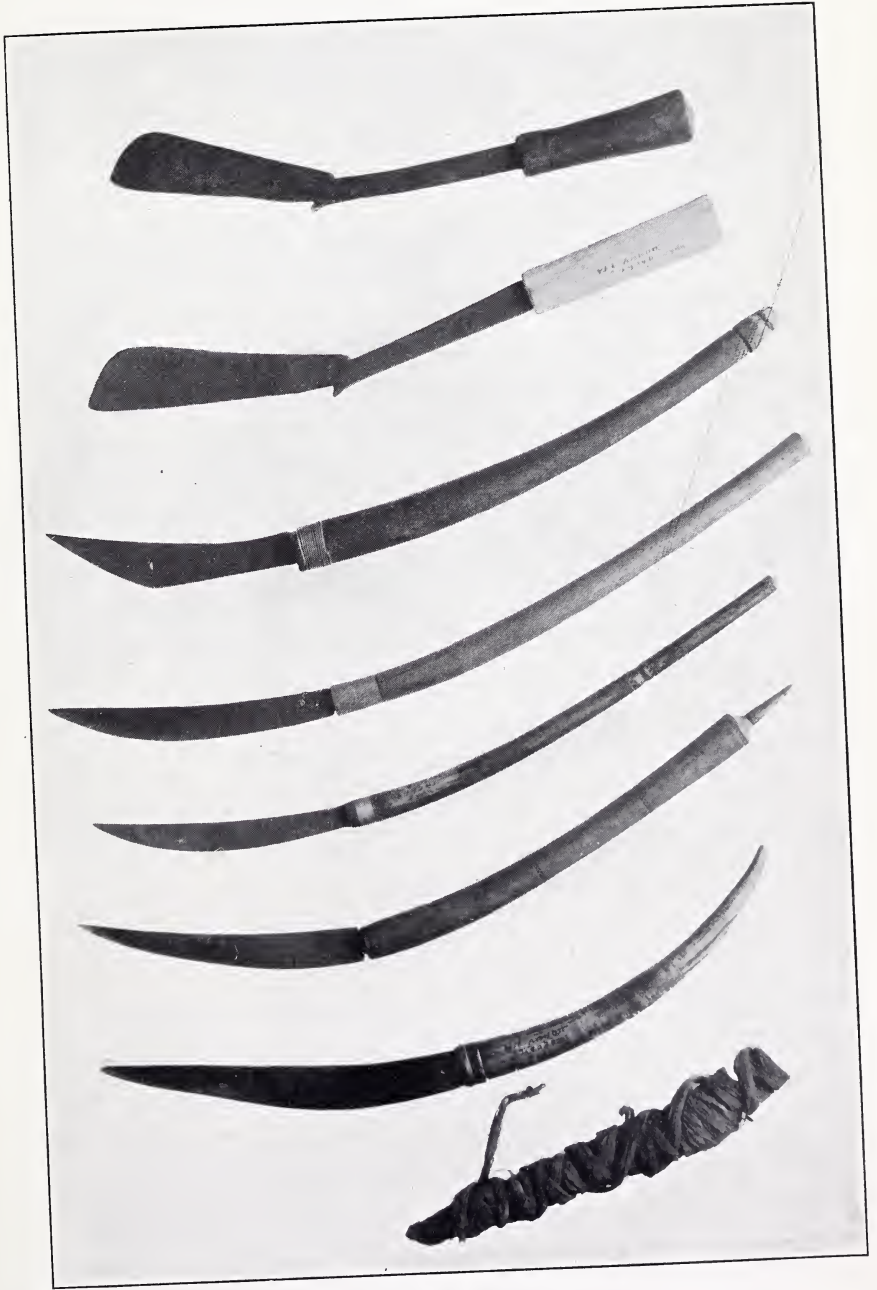
CARRYING FRAME IN SINGLE ELEMENT.

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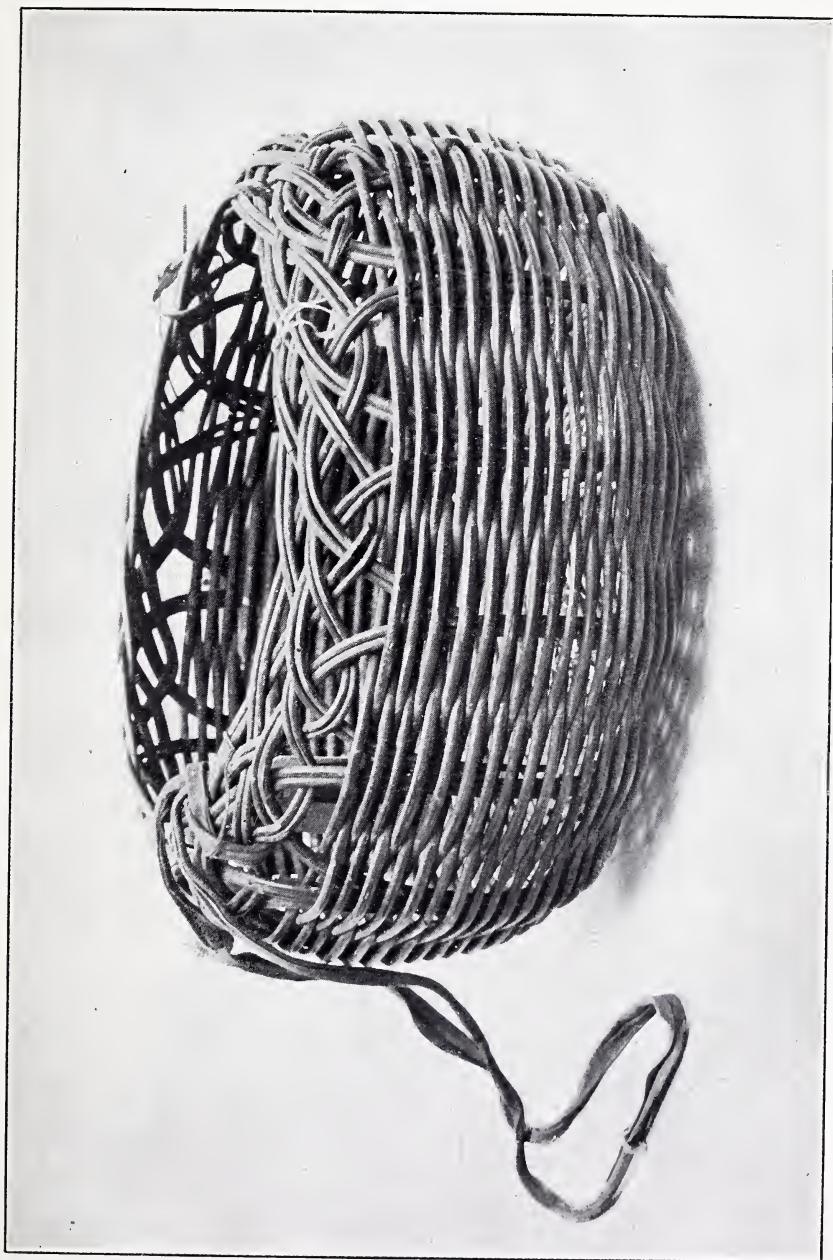
BASKET OF SPATHEWORK, WITH CYCLOID COVER.

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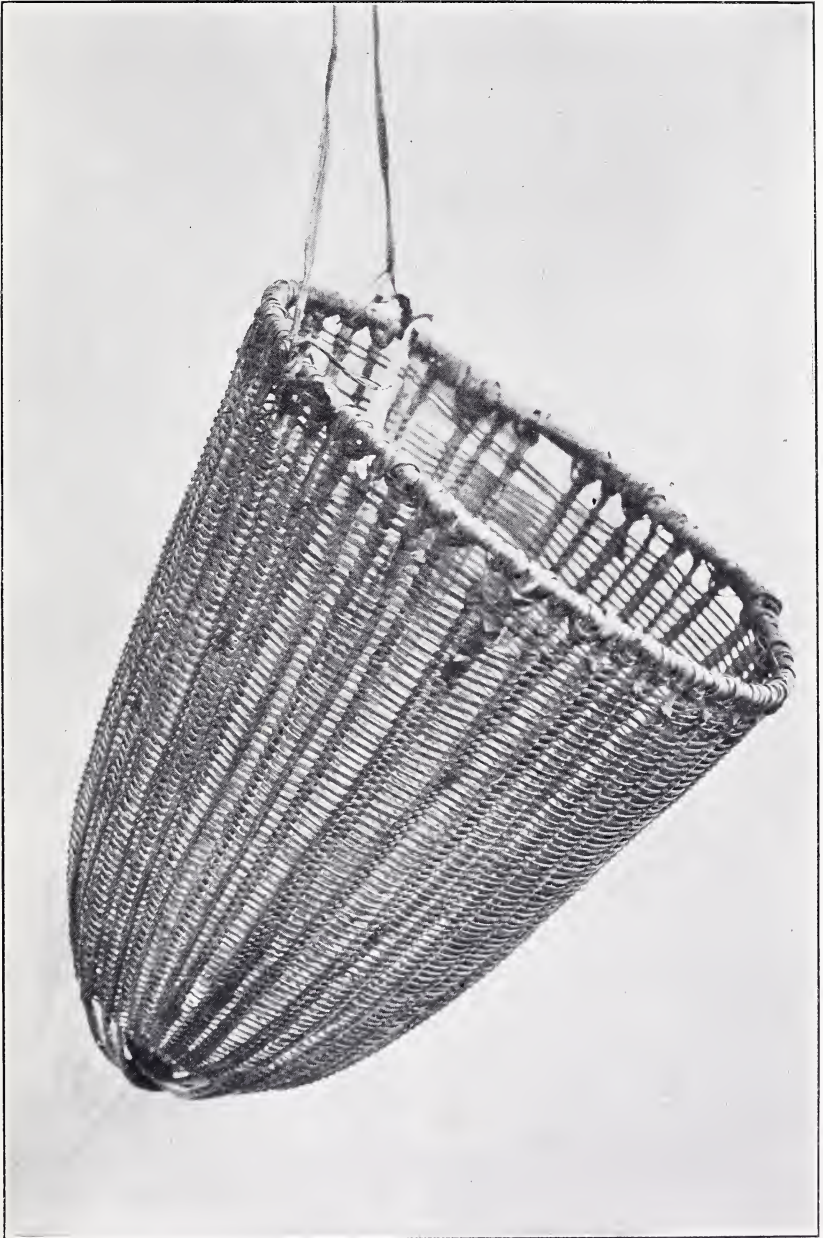
MALAYSIAN BASKETRY TOOLS.

FOR EXPLANATION OF PLATE SEE PAGE 45.



BASKET SHOWING WICKERWORK.

FOR EXPLANATION OF PLATE SEE PAGE 48.



BURDEN BASKET IN SINGLE-WRAPPED WEFT.

FOR EXPLANATION OF PLATE SEE PAGE 49.

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Since 1902 the volumes of the series known as "Contributions from the National Herbarium," and containing papers relating to the botanical collections of the Museum, have been published as Bulletins.

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FEBRUARY 20, 1909.

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