

ANTHROPOLOGICAL PAPERS
OF THE
American Museum of Natural
History.

Vol. II, Part III.

NOTES CONCERNING NEW COLLECTIONS.

EDITED BY
CLARK WISSLER.

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PUBLICATIONS IN ANTHROPOLOGY.

The results of research conducted by the Anthropological staff of the Museum, unless otherwise provided for, are published in a series of octavo volumes of about 350 pages each, issued in parts at irregular intervals, entitled Anthropological Papers of the American Museum of Natural History. This series of publication aims to give the results of field-work conducted by the above department, supplemented by the study of collections in the Museum.

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INTRODUCTION.

The following publication has been prepared in response to many calls for information concerning new anthropological collections received at the Museum. The plan was to enumerate what seemed to be important features of acquisitions not resulting from field-work carried on under the direct supervision of the anthropological staff, but from the generosity of the many donors whose support has contributed in a large way to the increase of our general collections. The results of field-work together with notes on donated collections pertaining to related areas will appear under special titles in the series of which this publication is a part. While the intent was to treat especially such acquisitions for 1908, it seemed best to mention some of those received during the two or three preceding years. Since the field work of the staff is practically confined to the North American continent, relatively more space has to be given to the collections from other continents. In passing, it may be stated that during the period 1906-1908, inclusive, fourteen field parties were sent out in North America under the direction of the staff, all of which returned collections and data for future publications. In addition some collections were donated from areas not visited by these field parties. Such of these as seemed to add new data have received notice in the following pages.

From foreign countries the acquisitions have been considerable. Previous to 1906, there were in the Museum practically no representative collections from Africa nor many of the Islands of the Pacific Ocean. Since that time something over six thousand catalogue numbers have been added for Africa, while the Islands of the Pacific have greatly increased representation for Polynesia and Melanesia. Also where there were but a few scattered specimens from the Philippine Islands, there is now a large collection. Finally, mention may be made of a fairly complete collection from the Andaman Islands and important collections from the South American Indians. As the great general gain in these foreign collections has been made possible by the direct and indirect donations of many patrons, the credit for this gratifying progress belongs to them.

In preparing the following notes, no attempt has been made to discuss all of the important features of the various collections, but to select such as

seemed of special interest to the work of the anthropological staff and to current discussion. To Dr. Robert H. Lowie, are to be credited the notes on African collections; to Mr. George H. Pepper, those on the Central American states; to Miss Mary Lois Kissell, the notes on basketry and textiles; to Mr. Charles W. Mead, the notes on South America and New Zealand; to Mr. Alanson Skinner, notes on many of the archæological collections; to Mr. William Orchard, many of the photographs and plates; to Miss Ruth B. Howe, the drawings; to Miss Grace E. Taft, the technical arrangement of the manuscript for the press; and to Mr. William A. Sabine, assistance in selecting the materials to be described.

THE EDITOR.

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NORTH AMERICA.

During the interval (1906-08) the Museum acquired, as the results of field-work, collections from the Eskimo, Cree, Assiniboiné, Déné, Sarcee, Nez Percé, Blackfoot, Crow, Shoshone, Dakota, Hidatsa and Iroquois; also archæological collections from Wyoming, Idaho and New York. These collections will receive special attention in future publications based upon the results of the several investigations now under way. The following notes, therefore, refer to collections, acquired by gift or otherwise, from regions or peoples not at present the subjects of investigation by the anthropological staff.

The Lewisohn Tlingit Collection. Mr. Adolph Lewisohn presented an important collection from the Tlingit Indians of Alaska, collected by Mr. Louis Levy. Among the ceremonial objects may be mentioned a shaman's

box, or the chest containing a shaman's outfit, evidently taken from a grave after several years of exposure by which the contents were somewhat damaged. In the box were a few carved rattles, ivory necklaces, a head-dress of carved goat-horns, a bunch of the shaman's hair, and a number of small bundles. These latter are from a subjective point of view the most important, consisting of the skins of small animals and birds wrapped up with sticks, pieces of cloth and other small objects. In treating the sick, the shaman holds these little bundles in his hand, waving them over the patient, while singing songs and uttering prayers. In the bottom of the box was found the most important of all, a small package containing a number of vegetable compounds the uses of which were known only to the shaman himself. Of some interest also is a series of one hundred decorated baskets for which Mr. Levy secured pattern names. Making due allowance for differences in translation, the names for the various figures agree fairly well with those recorded by Lieutenant G. T. Emmons.¹

The Eskimo of Prince Albert Land. In 1907 a small collection was received from Captain S. F. Cottle to whom it was given by the commander of a whaling vessel that touched at Minto Inlet, at which point he met the Eskimo from whom the specimens here mentioned were said to have been received. So far as our observation goes no specimens from this coast have been described. The bow (Plate II) is of wood, rather heavy, with the double curve sometimes seen in Alaskan bows. The belly is of one piece but the ends are built up by splicing in the same manner as the arrows to be described later. The greater curve at one end is due to a break under the lashing. The back is not trussed by a cable, but by a layer of sinew cords, held in place on the belly of the bow by a single cord running in a spiral. The only lashing is at the bend where the cord is laced somewhat like Alaskan bows. Another feature found also on some Alaskan bows is a backing of rawhide underneath the sinew strands, extending the entire length and hooked over the notched ends. Again under the lashing at the bends and at the grip, the bow is reinforced by plates of bone, as in some Alaskan bows. Curiously enough a piece of sheet iron, probably part of a tin, has been laid over one of these plates. The quiver is simple, but seemingly different in shape from those of other tribes. There is no bow-case. The carrying strap is a curious band of braided sinew.

There are seven arrows with copper points and three with bone. The former are provided with fore-shafts of bone which with one exception are barbed upon one side. The copper points are of three types: a leaf-shaped point with a tang driven into the fore-shaft, a triangular point set in a notch

¹ Memoirs, American Museum of Natural History, Vol. III, Part II, pp. 229-277.

and held by a copper rivet, and a triangular point bearing at one side of the base a barb similar to those on bone fore-shafts. One of the bone points is of the same form as last mentioned. The remaining bone points are of the familiar long one-side-barbed type (Plate II).

The arrows range in length from 82 to 87 cm. Three of them have three feathers, the others but two. In a few cases the upper end of one feather is forced into an incision on the shaft instead of passing under the sinew wrapping. The shafts have been built up from several pieces of wood neatly fitted in v-shaped splices and apparently arranged so as to prevent warping. The fore-shafts are inserted, the shafts being reinforced at that place by sinew wrapping.

There is also a copper-bladed woman's knife (Fig. 1) with a two-part bone handle and what appears to be a bone dagger with a wrapped grip suggesting Athapascan influence (Plate II).

A woman's coat has a long narrow tapering tail resembling most those of Cumberland Sound. The hoods are pointed in the extreme. A cap cut to fit the head closely and surmounted by the beak of a bird is of unusual interest. The assumption is that this cap was worn inside the hood, whose tip rested on the spike-like beak at the top. It is formed by piecing narrow strips of caribou skin, those with the hair and those dressed alternating. The dressed bands are painted red and black. The same kind of technique is found on the knee-bands of a pair of trousers and the facing of a coat. Assuming that the hair-covered strip simply divides the painted bands, the color scheme is two red, one black, etc., with a variation for the front of the cap. A long scattering fringe hangs from its top.

From a comparative point of view, this small collection is of some interest. We find similarities to Alaskan Eskimo culture on the one hand and to Central Eskimo on the other. Thus while many features of the bow are Alaskan, the use of many strands and the form of the wrapping suggest the Central culture. The arrows also show some western characteristics, but in the form of some points duplicate specimens from the east.¹ The woman's knife has the form of modern examples from the west coast of Hudson Bay. The cut of the garments also resembles those from Hudson Bay, but the technique of decoration suggests Alaskan or even Siberian influence.

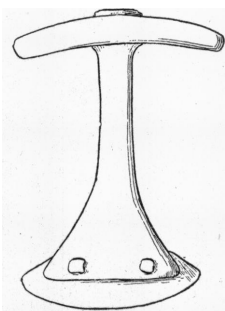


Fig. 1 (60-5856). Copper-bladed Knife from Prince Albert Land. Length, 8 cm.

¹ See Bulletin, American Museum of Natural History, Vol. XV, p. 83.

The Eskimo of Mackenzie River. By purchase a small number of specimens from the mouth of the Mackenzie River were secured. There are models of kayaks, the well-known Eskimoan hand drum, snow probes, bone needles, horn spoons, a set of wooden gambling sticks, and a bow with quiver full of arrows. The arrows are two-feathered. Of bird arrows there are three types: (a) a blunt cylindrical point; (b) a blunt point ending in three radiating wings; and (c) one ending in four such wings at right angles. Curiously enough while the most of these are of bone, there are two with iron points worked out as in type *c*. The barbed arrows are longer and heavier than the preceding, bearing long iron points variously barbed.

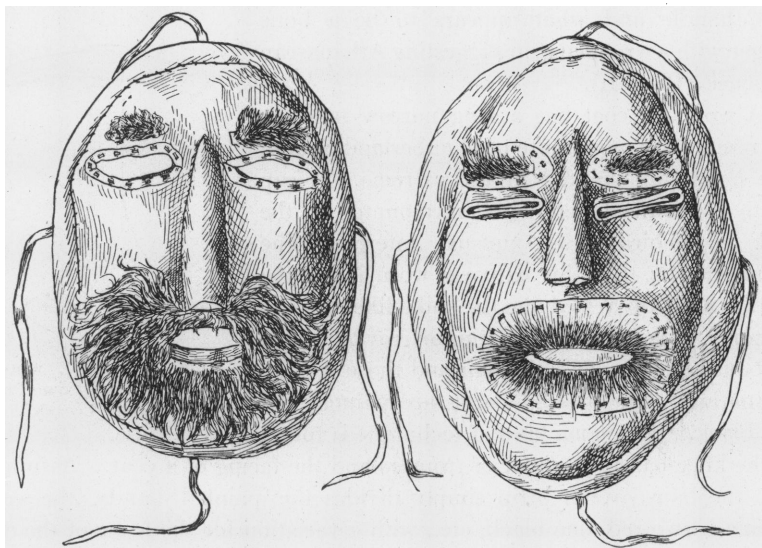


Fig. 2 (60-5877,8). Leather Masks from near Pond's Bay. Lengths, 23 cm.

The decorations upon these shafts and points are various combinations of parallel lines either transverse or spiral. The bow is of wood in single curve, backed with two sinew cables, lashed near each end and slightly at the grip. The quiver is ornamented by pairs of parallel oblique red lines and on its back is a small pocket containing sinew, presumably for mending arrows.¹

Eskimo near Pond's Bay. During the year a collection was received from the Eskimo residing in the vicinity of Pond's Bay and Eclipse Sound, northeast of Baffin Land. Most of the specimens have the general characteristics of Central Eskimoan culture quite fully described in recent

¹ This collection by gift from Mrs. Morris K. Jesup.

publications from this Museum.¹ Further, it may be said that they show many of the minor details peculiar to Cumberland Sound collections. We may mention, however, four leather masks, since with one or two exceptions such masks have not been found in previous collections from this area. Two of them are similar to the one described by Professor Boas as having been collected near Cumberland Sound.² The mouths and eyes are bordered by strips of white sealskin while the faces of the masks are black. Both have the curiously curved bands on the forehead, the lines radiating from the nostrils and chin, and heavy eyebrows of fur. The remaining two want the radiating lines and have in addition hairy lips. One has peculiar squinting eyes (Fig. 2).

Since the distribution of stone pipes among the Central Eskimo has frequently been a matter of discussion, it may be of interest to note that eight are found in this collection. Most of these are brass-bound and identical in form with those described as from the west coast of Hudson Bay.³ According to Professor Boas, the tribes west of Hudson Bay made these stone pipes, whence it seems probable that they are also made at Pond's Bay.

A gracefully fashioned throwing board has the curved head and is otherwise identical in detail with a specimen illustrated in a previous publication.⁴

The number of slate blades and points is unusual for Central Eskimo collections. The knife blades are of two forms, the usual triangular woman's knife blade with one or two perforations and a long narrow straight-backed blade resembling Alaskan knives. It seems, however, that the blades of the triangular form are peculiar in that the cutting edges are straight instead of curved. There are also a large number of triangular slate points with one and two perforations. Finally there is a complete harpoon head fashioned from a single piece of slate.

A rectangular needle case, apparently an old specimen picked up on a camp site, is shown in Fig. 3. In cross-section, it is very like a Netchillik case,⁵ which Professor Boas considered exceptional, though paralleled by a single specimen from King William Land. On the other hand, the decoration of this needle case is produced by dots instead of lines, though its general arrangement is somewhat like the two just mentioned.

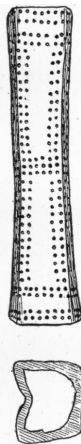


Fig. 3 (60-6019).
Bone Needle Case.
Length, 8 cm.

¹ Franz Boas, *Bulletin, American Museum of Natural History*, Vol. XV, 1907.

² *Bulletin*, Vol. XV, op. cit., p. 140, fig. 169.

³ *Bulletin*, Vol. XV, op. cit., p. 110, fig. 160.

⁴ *Bulletin*, Vol. XV, op. cit., p. 16.

⁵ *Bulletin*, Vol. XV, op. cit., p. 459.

Perhaps of greater interest is a small curved piece of ivory resembling the bow of a drill upon the sides of which are small delicate pictographs. Unfortunately the specimen is old and much weathered so that its entire restoration is impossible (Fig. 4). However, what we have bears a closer analogy to Alaskan art than anything so far brought to our notice among the collections from the Central Eskimo.

Finally, mention should be made of a peculiar ornament bearing four rows of caribou teeth, in series, arranged on a rectangular mat of two colors. The whole is backed by a piece of membrane, apparently seal intestine. The only similar specimen we have seen is from St. Lawrence Island, Alaska, collected by Lieut. G. T. Emmons (0-346). This is a long girdle bearing a

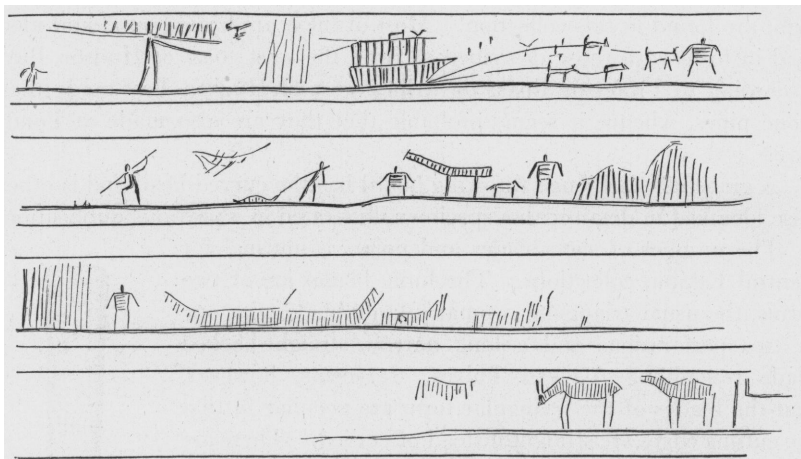


Fig. 4 (60-5944). Pictographs on Ivory. Length, 23 cm.

single row of such teeth; but arranged and attached in precisely the same manner as on the Pond's Bay piece.

Thus there are several peculiar resemblances to Alaskan culture presented by this collection from Pond's Bay, one of the extreme eastern out-posts of the Central Eskimo.

The Norton Collection. An interesting series of specimens from Holstensborg and Discoe Islands off the southwest shore of Greenland was presented to the Department by G. Frederic Norton. The series from Holstensborg consists of a complete kayak outfit of the Greenland type. While there is nothing strictly new or suggestive in this collection, some of its characteristics may be given, since no American writer seems to have described Greenland specimens from this point of view. There is the characteristic harpoon and lance, each with a throwing board. As shown in Fig. 5, the throwing

board is held in position by two ivory pegs. In throwing the slanting peg fits into the eye of the board which is shaped so as not to bind when the throw is made. For details as to manipulation as well as illustrations of parts, see Fridtjof Hansen's *Eskimoliv*.¹ The two throwing boards collected by Mr. Norton differ in the form of the grip, one having a series of notches for the fingers instead of a single groove.

Perhaps the most characteristic general feature of Greenland specimens

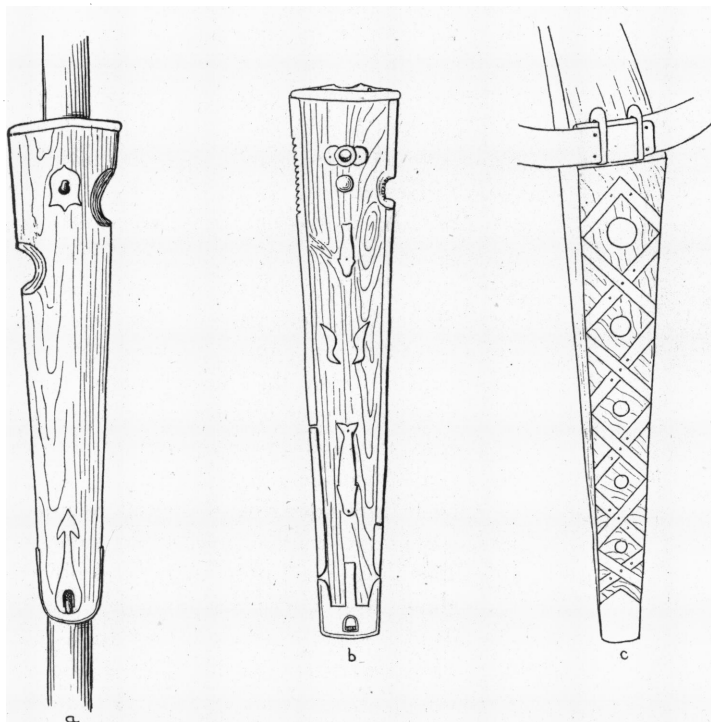


Fig. 5 *a* (60-6199), *b* (60-6193 B), *c* (60-6192 B). Throwing boards and Line Rack, Ivory inlaid. Length of *a*, 27 cm.; *b* 44 cm.; *c*, 44 cm.

is the inlaying and trimming with bone and ivory. Kayak paddles are tipped and edged with bone, the support of the line rack (Fig. 5c) is inlaid with disks and crossbars of ivory similar to the inlaying and trimmings of the two throwing boards shown in the illustration. The fore-shafts of the harpoons and lances are decorated with incised designs and relief work, while one harpoon shaft is topped by an ivory ball with a carved pedestal. While it may well be, as has been suggested, that this technique is the result

¹ Also F. Krause, *Smithsonian Report for 1904*, pp. 619-638.

of long contact with Europeans, the illustrations in many books treating of Greenland indicate considerable permanence of motive as well as detail in all such decoration.

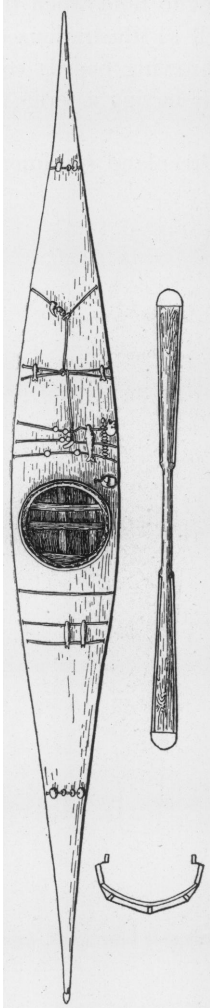


Fig. 6 a, b (60-6190,1).
Kayak from Greenland
and Ponds Bay. Length,
225 cm.

The kayak seems to be of the typical Greenland type, and is well-furnished with carved ivory supports, toggles and buttons. Fig. 6 shows the deck with its trimmings and the outline in longitudinal section. In this connection the reader may be referred to an illustration showing all the accessories such as float, lance, harpoon, line, etc., in place for the hunt, from which an idea of the use of these various toggles can be had.¹ A kayak collected in the vicinity of Pond's Bay bears some striking resemblances to the Greenland type, the paddles being almost identical (Fig. 7).

The Booth Collection from New York State. A notable accession, during the past year, was the Henry M. Booth collection of archæological specimens from New York State. The collection which numbers 1154 catalogued specimens was gathered almost entirely from the Hudson River Valley in and between Westchester County and Albany, and well represents the prehistoric culture of the Algonkin Indians of that region.

One feature deserving of special mention is the unusually large number of banner stones. While these finely made and little understood objects occur throughout New York State, and the New England and Middle States in general, they are as a rule far from abundant in any locality. From the comparatively small area covered by this collection, however, come about twenty specimens, both whole and fragmentary. They are of several types, notably the plain, notched and perforated forms. The latter showing considerable range of design and recalling the archæology of Ohio, Indiana and the middle west generally. The perfectly plain, unnotched type is quite infrequent, though not unknown along the New York seaboard, and the one shown in Fig. 13,

Plate III, is a decided rarity; whereas, from other collections examined by

¹ Hansen, Eskimoliv, p. 37.

the writer, it might be supposed that the notched form, Fig. 16, would be well represented. Another shown in Fig. 4 was in process of manufacture, the shaping being completed, and drilling, evidently with a stone drill, begun. This latter fact is rather unusual as the unfinished specimens in other collections usually show a core, suggesting the use of a hollow reed and sand drill. Fig. 3 shows a broken specimen, the fractured surfaces of which have been smoothed over and the object apparently still kept for some purpose.

Several "bird" amulets, a number of gorgets, and one or two stone tubes are also in the collection, as are a number of semilunar knives and one rubbed slate arrow or knife point. The celt is more frequent than the grooved axe, several types of each occurring. The gouge, adze, and long pestle, so typical of New England are very well represented. The number of long stone pestles is truly astonishing. Several very deep stone mortars and a large grooved stone of the type usually considered as having been used to shape arrow shafts may be mentioned.

Pottery is rather poorly represented, and is in the main Algonkian though some Iroquoian types occur. Steatite seems nearly as common for the area in question. No pipes of either clay or stone are among the specimens. There is, however, what appears to be the stem of a broken steatite pipe, worked over for a bead or other ornament.

The bulk of the collection is made up of flints, arrow points, knives, drills, chips, rejects, etc., hammerstones, sinkers, grooved and notched. There are several notched axes, and one or two pitted stones of the so-called "lap stone" type. There are several trade articles and articles of Indian make inspired by European contact, the most interesting being a steatite bullet mould and an earring of brass or copper wire upon which are strung several shell beads.

Judging the prehistoric culture of the Hudson River Valley above Manhattan Island by the material at hand; the number of long pestles, gouges, and adzes; the scarcity of pottery in contrast to the comparative abundance of steatite; the presence

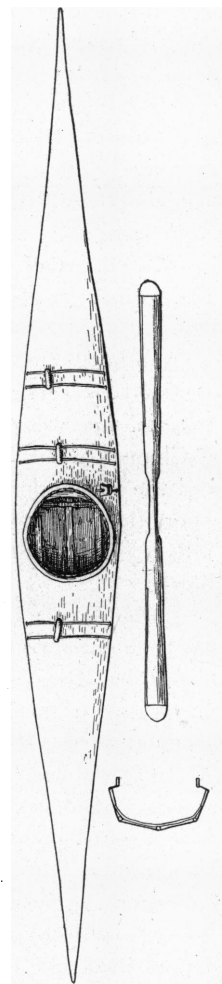


Fig. 7 a, b (60-6167, 6172) Kayak from Greenland and Ponds Bay Length 216 cm.

of the rubbed slate semilunar knives, etc.; one is inclined to class it with the culture of New England, especially that of the Connecticut River Valley. It may be well to note that the Mahican, who within historic times held the Hudson River Valley — at least on the east bank, from whence this collection was largely derived,— were the immediate ancestors and near relations of the Mohegans of the lower Connecticut River valley, who separated from them about the period of European contact. (A. S.)

West Indies. Dr. S. T. Armstrong presented a collection of five stone axes from the Island of Cuba, collected in 1898 in the Department of Puerto Principe. They are particularly interesting in view of the fact that archaeological material from this Island is hard to obtain.

A large stone axe and a rubbing stone from St. Vincent were presented by Mr. T. MacGregor MacDonald of Wallilabo, St. Vincent, B. W. I. The former was found at Chateau Belair and the latter came from Wallilabo.

Another collection of typical stone implements from St. Vincent was obtained by exchange. The predominating implement is the axe. The material was collected by Rev. Thomas Huckerby, a missionary who lived at Chateau Belair. Many of the specimens were found by this gentleman, and the remainder were obtained by purchase from natives in the villages where they were found. The major part of the material came from Stubbs Village, Barronallie, Layon, Fitzhughes, Troumacca Valley and Petit Bordel.

Costa Rica. During the past year, the Anthropological Department has been enriched by the addition of a collection of pottery and stone objects from Costa Rica. Many of the specimens are new forms which help to fill in the gaps in the Museum material from this culture area, and there is one group from the southern part of the country that may be new to science. The material was bought in Costa Rica by Mr. E. O. Schernikow of this city, and presented to the Museum. The material as presented was a combination of four lots, one of which was known as the Weiss collection, this being the largest. The other three were the La Croix, Gruinter and Underwood collections. The only one of the four that was properly catalogued was the one made by Weiss. According to Mr. Schernikow, Mr. Weiss is an experienced collector who can be trusted, inasmuch as he is careful to ascertain the exact location of the "finds" that come into his hands. This collection comprises specimens from the following places:— Nicoya, Buenos Aires, Province of Terraba; San Isidro de Arenilla, at the foot of the volcano of Irazu; Cartago; and Santo Domingo de Heredia.

The Costa Rican fictile productions of the prehistoric period are well-known through the researches of Hartman and others. The great pre-

ponderance of fictile productions in the Isthmian region has been pointed out by Professor Holmes in his memoir on the Chiriqui.¹ He states that the graves had "yielded to a single explorer upwards of 10,000 pieces of pottery, and this chiefly from an area perhaps not more than fifty miles square." The same author also states that pottery vessels constitute at least ninety percent of the known art of the people. The percentage in Costa Rica would be somewhat lower, as the art of stone carving was developed to a much greater degree especially in the northern part of the region; but pottery was the greatest of the non-perishable objects that were made by the old Costa Ricans. A number of different wares are represented from the various parts of the country; but the most ornate, both in symmetry and in decoration, is from the Nicoya Peninsula. The Museum has a collection from this region which shows in a fairly representative way the types and decorations. An exchange with the Carnegie Museum of Pittsburgh added a few new forms and furnished a rather complete series of small stone objects, especially amulets, beads of jadeite and other stones. Although most of the typical forms were in evidence, the Museum collection was not large enough to furnish material for comparative studies. The collection under consideration will, however, add materially to this series, especially that showing the large, elaborately decorated jars from Nicoya.

A series of the Nicoya jars may be seen in Plate iv. There were eleven large jars of this form and several smaller ones, each with a flaring annular base and with decorations of painted or raised designs. Fig. 8 is of the globular form with the upper half maintaining a gentle taper from the median line to the rim. The annular base is missing; but, at the point where it was fastened to the lower part of the vessel, there is a scarified area made no doubt to facilitate the joining of the two independently made parts. The vessel is 20.5 cm. in height and 16.5 cm. in width at the central part. The body color is dark cream and the painted ornamentation is in black and red. The decorative devices are a combination of painted and relief elements. The head of a tiger is modeled in the round, and placed at the base of the painted band that surrounds the rim. The main physical features are accentuated by means of rather broad bands of black and red. On the opposite side of the jar there is a painted design evidently made to represent the tail of the animal. On the other two sides there are large painted zoomorphic figures the bodies of which are red. They are outlined with black and special features such as the eyes are of the same color. Directly above the figures and encircling the rim are several narrow bands and one broad one with interlocking terrace-shaped figures, possibly conventionalized animal forms.

¹ Ancient Art of the Province of Chiriqui, William Henry Holmes, 6th Annual Report, American Bureau of Ethnology.

Fig. 7 has a flaring neck, a raised band encircling the body at the widest part, and a high annular base. The lower part of the stand was flaring, but the major part of it is missing. The painted decorations are in black and red, confined to three broad bands which encircle the neck, central part and base. The color work extends also to an animal head and fore-legs which are modeled in the round and attached to the upper part of the jar. The head is shown with open mouth, protruding tongue and with the paws resting against the lower jaw. The teeth are represented by painted lines and the other features are heightened by the application of red paint and black line work. This jar is 27.5 cm. high and 19.5 cm. in diameter at the broadest part.

One of the most elaborately decorated vessels that has been noted from Costa Rica is shown in Plate v. Unlike many vessels of this character, it has been a tripod jar, all of the others in this collection having annular bases. The hind legs and tail have been lost, but otherwise the jar is practically perfect. The body color is of rich maroon. Over this a light cream slip has been placed, forming the background for an elaborate color scheme. The whole represents, in a most convincing way, the body of an armadillo, the physical features brought out by painting and modeling, and the whole treatment furnishing one of the most striking evidences of realism so far noted in the fictile productions of the Isthmian region.

The armadillo is an animal well-known in most parts of tropical America, extending from Mexico through Central America to South America where it has a wide range. It is peculiarly marked and presents an admirable motive for pottery decoration, being especially adapted to relief and incised techniques. The Chiriqui area is noted for its vessels which show the armadillo figure or conventionalized adaptations of its form. This feature has been developed by Dr. MacCurdy;¹ but in the large collection brought together by Professor O. C. Marsh, now in the Yale University Museum, there seems to be no evidence of an attempt to represent this animal in as elaborate a way as in the specimen under consideration. Dr. Carl Hartman in his extended researches in Costa Rica did not find, or at least has made no mention of, such a high development of zoomorphic delineation as applied to the armadillo. The armor-like carapace of the armadillo is the most characteristic feature of its anatomy. Its protective qualities would naturally appeal to a primitive people who were given to the reproduction of animal forms in their art products. This then would be the distinctive feature when conventionalism was resorted to, and it is only natural that it should be accentuated in a semi-realistic jar adaptation. Referring to Plate v, a

¹ Congrès International des Americanistes, Tome II, Quebec, 1907, pp. 147-163.

broad decorated band may be seen encircling the jar, with the exception of an area directly below and including a strip that is defined by the space between the fore-legs. This band represents the carapace of the armadillo, and the open space the belly of the animal which is covered with hair instead of dermal plates.

The common armadillo of this region is the *Tatu novemcinctum*, and in comparing the decoration of this jar with the animal this species will be used. This, as the name implies, is the nine-banded armadillo. These transverse dermal plates are so arranged that, in the living animal, they overlap. They have the appearance of rows of narrow incisor teeth placed side by side, the upper shaded area and the intervening space forming a saw-tooth band that extends the entire length of each plate. In applying this design to the vessel, the artist has modeled seven slightly depressed bands; then by means of black paint the ridges that separate the bands were accentuated; after which, with the same color, a saw-tooth strip, similar to that on the animal, was painted on each band. The intervening spaces,—that is, between the teeth,—were left unpainted and, as these were the dull cream slip of the jar, they caused a perfect representation of the natural rows of tooth-like divisions as already described.

In considering the other physical features of the jar, we find that the head, legs and tail have been modeled in relief. The hind legs and tail are missing, but these three parts formed the tripod upon which the vessel rested. The hind legs were evidently cylindrical in form, whereas the tail was semicircular. The fore-legs are modeled in low relief from the shoulders to the paws. The paws have been modeled in the round; but, owing to the fact that they are missing, it is impossible to determine their shape. The arms are outlined with broad bands of red. The head is perfect with the exception of the end of the nose. Unlike most animal heads, this one is solid in construction, the form being concavo-convex, causing the under part of the head to be hollow. The head shows the characteristic pointed nose. The ears, very large in the living animal, are modeled in relief and accentuated with red bands. The major part of the head has been painted black, and there are designs in white in the form of dots and scrolls which give an effect similar to that shown in the lost color ware of Chiriqui. The nose itself is salmon red in color, and there is a pointed design on its upper part. This design is formed by black and cream lines, surrounding a wedge-shaped figure of dark red. Above this, there are three red dots on the cream slip which was not covered by the black band on which the scrolls and dots were traced. At the base of the head there is a salmon red band and below this there is a scroll design in black encircling the neck. On the breast, which is painted a salmon red and outlined with dark red,

there is a triangular design of black surrounded by lines of cream, black, and a broad band of red. On the outer edge of the last-named band, there is a series of black dots. Directly below this design there is another of circular form, the central part being black. This is surrounded by a band of cream and this in turn by a band of black and another broad band of red. What these designs typify, cannot be stated, but they form a striking finish to this part of the vessel.

At either end of the dermal plate band there is an area painted black. This extends from the upper part of the hind-legs to the shoulders. Over this area a series of lines and dots have been traced, the appearance being that of the lost color designs of the Chiriqui pottery and similar to that on the head of this jar. The space above and below the dermal plates was decorated with bands and scroll designs of a salmon red color. Below this, on the base of the vessel, there is a narrow band of the cream-colored slip; then a band of black, and below this a broad band of red. These three bands begin at the base of one of the black areas mentioned, pass below the dermal plate area, around the tail, and back to the corresponding black area opposite. The remaining portion forming the base of the vessel is covered with the cream slip.

The designs on this vessel are fairly well preserved on one side but, on the opposite side, at least one-half of the surface has been denuded not only of the decorations but also of the cream-colored slip. In its present condition, without the legs it measures 20.5 cm. in height, and 16.5 cm. in width at the widest part.

Regarding the other vessels shown in Plate IV, little need be said. They are all of the annular base type, but in the case of one of them the base is missing. The series serves to show the variations in form and, although in most of them the designs are partly obliterated, enough remains to indicate the similarity of treatment in this type of jars.

The bowls from the Nicoya peninsula are of various forms, some having tripod bases, others annular bases, and a third form is the simple type in which no base appears. A series of these bowls is shown in Plate VI. They have a dull red or cream background, upon which is developed a series of designs of geometrical or zoomorphic character. The designs are all painted and usually a combination of red and black colors is used in the delineation.

In Plate IV, Figs. 9-11, a series of three of the smaller jars with annular bases is shown. As they are similar to the large ones that have been described, and as they are devoid of raised figures, no special description is necessary. Suffice it to say, that the painted designs, which are so well preserved that the decorative scheme may be readily seen in the illustration, are composed of figures in black and red. The smallest jar of this series

has a polished surface, the ware being much better than that generally employed in this region in making this type of vessel. There are many other interesting forms from the Nicoya peninsula that might be described in detail; but, owing to the fact that similar specimens have been described or figured by other writers, these need not be mentioned.

A rather interesting specimen of red ware which is shown in Plate VI, Fig. 2, was found at San Isidro de Arenilla at the foot of the volcano of Irazu. This is a cylindrical vessel of red ware having flaring ends. There are two raised bands encircling the body at either end, and two bands of similar form spanning the central part. Between these bands there is a series of raised lines which have been applied in a slanting position. These bands are in series of three, each series being separated by two bands forming an acute angle. This object is devoid of painted decoration other than the red slip which covers the entire surface. Both ends of the cylinder are open and, from its appearance, it would seem that the vessel has probably been a drum; for in many respects it is similar to specimens found in the Chiriqui region. These drums had a piece of skin stretched over the end, and the raised bands facilitated the fastening of the skin to the pottery. There is a raised surface of a similar nature on the drums figured by Professor Holmes in his "Ancient Art of the Province of Chiriqui." The ends of this object are open. It is possible that these cylinders were used as jar rests or for some similar purpose, but their form and general treatment would seem to indicate that they had been drums.

In the collection there are a number of pottery vessels collected by a priest, Rev. José Nieborowski at San José, Terraba. This material was especially noticeable, owing to its similarity to certain Chiriquian forms. It was, therefore, deemed advisable to make a comparative study of the specimens from the two regions in an endeavor to determine whether these specimens had actually been found in the Terraba region, or whether they had come from the Chiriquian culture area. In buying collections of this nature from men who do not realize the importance of scientific data, there is always a chance of the material having been found at a distant point and shipped to the place where it is obtained. As the Terraba region is quite near the Chiriqui boundary line, such a proceeding might be possible. On the other hand, it is also possible that the Chiriquian culture extends to the region of the Terrabas. However, the points of similarity seem to indicate that the specimens might well have come from the region as represented.

Señor de Peralta, President of the Commission from Costa Rica to the exposition in Madrid in 1892-93, prepared a resumé of the existing knowledge concerning the tribes of Costa Rica. He has the following to say concerning the Terraba region:

"Southeast of the Chorotega and the heights of Herradura and south of the Guetares, extending to the Pacific Ocean between the rivers Pirris and Grande of Terraba was the province of the Quepo, of which the Spanish Government formed the district of Quepos, the extreme limit toward the southeast was the old Chiriqui River. According to the most probable conjectures the Quepos belonged to the family of the Guetares and lived, by preference, on the coasts. They were also enemies of the Mangues and the Cotos and Borucas and in consequence of their wars with them and with the whites, and with the burden of labor laid upon them by the latter, their towns disappeared in the middle of the 18th century without leaving any positive traces which will enlighten us upon their origin. Adjoining the Quepos, the Cotos or Cotoes occupied the upper valley of the river Terraba, formerly known as the Coto. They are not known in Costa Rica by this name; but there is no doubt that the Borucas are their descendants. These Borucas occupied the region about Golfo Dulce, formerly the gulf of Osa, east of the River Terraba. The Terrabas, who have given their name to the river formerly called the Coto, do not belong to the tribes of the Pacific slope. They were brought to the location there, which they now occupy, in Aldea or Terraba, partly by the persuasion of the missionaries, partly by force, having been obliged to abandon the rough mountains to the north about the head waters of the Tilorio or Rio de la Estrella, the Yurquin and the Rovalo about the year 1697. They have been variously called the Terbis, Terrebis, Terrabas and Tirribis, but there are no differences of dialect between them and their relatives to the north, other than would necessarily take place in any tongue from a separation of this length."

This writer mentions the fact that at the time of the Conquest, the Terrabas with several other tribes occupied the territory of Costa Rica and, continuing, says:

"As to the Guaimias, Terrabas, Changuenes and Borucas, their affinities to the tribes to the east of them are well marked and it would not be surprising if they were also closely related to the natives between Paria and Darien, and even with the Chibchas of Colombia; as has been maintained by Brinton."

The first objects to excite special interest in the material from the Terraba region was a series of small vessels of a type that corresponds to the "alligator group of ware" of the province of Chiriqui. This name, as applied by Professor Holmes, includes vessels which have the alligator designs in a highly conventionalized state, as well as those showing painted or modeled representations of the animal. The vessels of this type from Terraba show both painted and raised conventional designs and raised animal figures, but none of the latter would be recognized as alligator features. These vessels, as shown in Plate VI, are decorated with painted designs in black and red, the background being either a light or dark cream color. They are all quite small, the largest being only 9 cm. in diameter.

One of the most common objects of this ware in Chiriqui is a whistle in the form of an animal or bird. One of the animal forms is represented

in this collection (Plate VI, Fig. 6). This is a small object and from its general appearance it might well have come from the Chiriquian area. Another specimen of this ware is shown in Fig. 5. It is that of an animal with the head, tail, and legs modeled in relief. This specimen, although similar to some found in the Chiriqui region, does not have the finish that is noticeable in the typical Chiriquian ware. This may be due to a lack of polish or perhaps the application of the slip.

Another type that is quite common in the Chiriqui region is that with four nodes on the shoulder of the vessel. There were three of this type in the Museum collection from Terraba and two of them have painted designs on the nodes which is one of the main characteristics of the specimens of this group from Chiriqui.

Another vessel, shown in Plate VI, Fig. 1, is that of a pottery drum. Professor Holmes figures two of these interesting objects from the Chiriqui region, and although they are not exactly the same in form, the main characteristics are the same. The specimen from Terraba is 17 cm. in height and 8 cm. in diameter at the top. This specimen has an indented and flaring rim, a characteristic shown in both of the specimens above-mentioned. This feature was not intended to be ornamental, but it made possible the fastening of the skin drumhead in a manner much more secure than would be possible on an even surface. From the rim, the vessel tapers gently to a cylindrical stand which has four raised bands in the way of ornament. The base of the vessel is annular in form. This specimen is of dull red ware and has been covered with a black paint which originally had a high polish. The base of the vessel is open and a hole has been made at the base of the upper part at the point where it joins the cylindrical stand. Professor Holmes in describing this type of vessel states that the use of clay drums in Chiriqui was probably exceptional. There is but one specimen in the Yale University Museum Collection; therefore, as compared with other pottery forms, this type must have been quite rare even in the Chiriqui area where small pottery whistles in the form of the clay drums are not uncommon.

There are other forms from Terraba which are slightly dissimilar in some particulars from those found in Costa Rica. One is a large jar of the so-called "biscuit ware," that is so common in Chiriqui collections, and there are several tripod vessels which might be of Chiriquian make; but the points of similarity are not great enough to warrant a comparison at this time. It is to be regretted that more data are not available; but, in view of the fact that Dr. Lehman of the Berlin Museum is now working in this region, this suggestion of a possible connection between the two culture areas may suffice. Should Dr. Lehman's researches show that specimens of the nature herein described are found in sufficient numbers to show that they were

made in those parts, it will be the means of extending the Chiriquian culture over a hundred miles to the north. (G. H. P.)

SOUTH AMERICA.

The Schmidt and Weiss Collection. The Museum has had the good fortune to secure the entire collection made by Messrs. Hermann Schmidt and Louis Weiss, in the years 1905-06, among the little-known Indians on the upper waters of the Rio Caiarý-Uaupés, the most important tributary of the Rio Negro, in the State of Amazonas, Brazil (Fig. 8). Mr. Schmidt



Fig. 8. Map of Northwestern South America and the Region Occupied by the Tukáno Indians.

the ethnologist of the expedition, was forced, by the loss of his boat, to live eight months alone with the Indians, being finally rescued by a party under Mr. Weiss. During his exile, he had ample opportunities to learn the customs of the Indians, and to acquire a very fair knowledge of their language. The results of this expedition consist of five hundred ethnological specimens, an extensive vocabulary of the language, drawings of the painted figures to be found on the rocks at the numerous waterfalls along the river, and a number of folk-tales. Of this collection, about three hundred specimens are pieces of feather-work, consisting of a great variety of head-dresses,

waist-bands, ornaments for the legs and arms, and plumes to be carried in the hands. They are never worn except on ceremonial occasions and then only by the men; the women wearing little or no clothing, and but few ornaments. Some other notable objects are spears, shields, bows, arrows, blow-guns with their poisoned arrows, fish traps of basketry, and a variety of baskets and pottery vessels. Among the musical instruments are drums, rattles in many forms, pan-pipes and whistles made of deer and jaguar bones.

Great additional scientific value has been given to this collection by the fact that Mr. Schmidt was present in the Museum when it was received, and by the aid of a model illustrated the uses of the different specimens. Many photographs were made during the progress of this work; one of which is shown in Plate VII. This represents a headman or chief in ceremonial dress. He carries a ceremonial spear, and a shield of basket-work, and wears on the back of the head the long, decorated comb peculiar to this region. From his neck hangs the perforated cylindrical stone, the insignia of a chief, and four jaguar teeth.

A series of curious specimens illustrates the method of smoking the native tobacco. A cigar from ten to fifteen inches long and about an inch in diameter is made by rolling the tobacco in a wrapper of bark and is fastened between the prongs of a wooden cigar-holder. The holder, which is about two feet long, exactly resembles a tuning-fork in shape, except that the handle is longer and is sharpened to a point. After lighting the cigar, the Indian sticks the sharp end of the holder into the ground and lies at ease in his hammock, reaching out from time to time to draw in a whiff of smoke from the big cigar.

In the collection are a number of blow-guns with their poisoned arrows. Along the Upper Caiarý-Uaupés blow-guns are made from the stems of a variety of palm (*Iriarteia setigera* Martius). These palm stems have often been described as canes on account of their having rings of scars of the fallen leaves which closely resemble the joints of canes or bamboos. The Indian selects two stems of such sizes that the smaller will exactly fit within the larger. After these stems have been carefully dried and the pith cleared out with a long rod, the bore is made smooth by drawing back and forth through it a little bunch of tree-fern roots. The smaller stem is then inserted in the larger, so that one will serve to correct any crookedness that may exist in the other. The wooden mouth-piece is then fitted to one end, and, about three and one-half feet from it, a boar's tooth is fastened on the gun by some gummy substance, for a sight. Over the outside the maker winds spirally a strip of the dark shiny bark of a creeper which gives it an ornamental finish, and his blow-gun is complete.

In some localities instead of the two canes a single piece of palm wood is

used, which is split into two equal parts throughout its length, each piece hollowed out, and the two divisions afterward cemented together like the divisions of a cedar-wood pencil.

The arrows are from ten to fourteen inches long, and of the thickness of an ordinary lucifer match. Those of the Indians of the Caiarý-Uaupés are made from the midrib of a palm leaf or of the spinous processes of the Patawá (*Enocarpus Batarwa*) sharpened to a point at one end and wound near the other with a delicate sort of wild cotton which grows in a pod upon a large tree (*Bombax ceiba*). This mass of cotton is just big enough to fill the tube when the arrow is gently pressed into it. The point is dipped into poison; allowed to dry, and redipped until well coated. The exact composition of this poison is unknown, and probably varies in different localities; but it would seem that the chief ingredient is always the juice of a *Strychnos* plant. It is known among different tribes by many names; such as Curari, Ourari, Urari and Woorali. Poisoned arrows are dangerous things to handle, and they are always carried in a quiver which has been partly filled with cotton or some other soft vegetable material into which the poisoned ends of the arrows are thrust for protection. The blow-gun is called "Sara-batana" on the Upper Caiarý-Uaupés, and by many tribes in the Amazon region it is known as the "Pucuna." The Portuguese of the River District call it "Gravatana."

The blow-gun in the hands of an Indian is a very effective weapon, and a skilled marksman will kill a small bird at thirty or forty paces. It is particularly deadly when used against birds or monkeys in the tops of trees, as in shooting in a direction nearly vertical the hunter can take the surest aim. The poison acts very quickly, seldom requiring more than two minutes to do its work, but the length of time depends much on the size of the game and the condition of the poison used.

Painted Capa from Punta Arenas. The guanaco skin capa shown in Plate VIII comes to the Museum as a gift from C. H. Townsend, Esq., who obtained it at Punta Arenas, Strait of Magellan. It measures fifty-seven by sixty-nine inches, and contains the skins of twelve very young animals, probably not over two weeks old. The hair of the adult guanaco is coarse, and never used for this purpose. The skins are so trimmed that when turned in opposite directions and placed side by side they fit exactly together; the sewing is done with the sinew of the ostrich (*Rhea dawini*). The surface of the skin side, with the exception of a border two inches wide around the edges, is colored a dull yellow. Upon this ground has been painted the narrow line in red and the two broader ones in blue to be seen in the photograph. The decoration of the border, which is but indistinctly shown, consists of simple v-shaped or zigzag lines in red and blue, between a band

of red on the outside and one of yellow on the inside. The two transverse bands dividing the decorated field are formed by a band-and-dot design. The two upper corners are painted red. (C. W. M.)

Cauca Valley Black Pottery. From Mr. Frederick F. Sharpless, a mining engineer, the Museum acquired something over one hundred and fifty pieces of curious black ware from the Cauca valley, Colombia. Previously a few pieces of the same type had been received as the gift of Francis C. Nicholas. Mr. Sharpless states that his collection was secured from graves between the towns of Quinchia and Papyal, where many ancient burial sites have been sluiced away for the gold ornaments they contained. Upon its arrival at the Museum, this collection was examined by a number of anthropologists some of whom denounced the pieces as fraudulent. Since that time, however, a number of very large private collections have come to notice and a number of reputable travelers, to whom the Museum collection was shown, pronounced it identical with the type worked out by miners in that region. Also the late H. A. Ward brought from Colombia a small lot of the same pottery with a certification to its antiquity by Leocadio Ma Arango. Thus, taking everything into consideration, there seems little ground for doubting the reality of this collection.

The objects range from curious platters to effigy and animal-shaped vessels all presenting a striking size uniformity. They are rather crudely modeled, uniformly black throughout, presenting an outer surface of deep black with a suggestion of polish. At the brims the true vessels usually bear curious frog and lizard-like figures in relief. The other decorations are chiefly incised, consisting of parallel lines, rows of dots and dashes, or rows of rectangles enclosing dots. The animal forms are various; but the snake, lizard and frog are the most common. The human-like figures are very much distorted, the feet usually suggesting a quadruped, the nose long and hooked, and the face triangular. In most cases, the eyes are represented by a slit. As a rule the ears are perforated or represented as wearing plugs and the noses are pierced. In one case, a twisted cord is represented as having been thrust through the septum (Plate ix).

Terra-cotta Stamps. A portion of a very large terra-cotta stamp obtained in Apulpo, Peru, and said to have been found in that vicinity, is chiefly remarkable for its size: having measured, when entire, $6\frac{7}{8}$ by $4\frac{1}{8}$ inches (Fig. 9). Small stamps made in this form have been found in the coast region of Peru, which were undoubtedly used to decorate pottery vessels; but the great size of this stamp would seem to preclude its use for such a purpose.

That it could have been designed for use in the decoration of Peruvian textile fabrics is improbable, as a careful examination of many pieces of

cotton cloth from their ancient graves, bearing the so-called stamped designs, has failed to show the employment of any kind of printing device; they invariably prove to have been hand-painted.

It is probable that this specimen may originally have come from Colombia where the printing of designs on cloth with both flat and cylindrical stamps seems to have been a common practice. Fig. 10 shows the designs on fifteen terra-cotta stamps from Colombia. Fourteen of these stamps are cylindrical; the other, like the one shown in Fig. 9, is flat and has a handle projecting from the upper surface. They were collected by Mr. Francis C. Nicholas in the region of Santa Marta and Barranquilla. The

drawings were made from "rub-bings," and are correct representations of the relief figures on their surfaces.

(C. W. M.)

Mummified Body from Chile.

The naturally mummified body shown in Plate x was found in a copper mine at Chuquicamata, province of Antofagasta, Chile. The condition of the body shows that the unfortunate miner, probably a man, was caught by a cave-in of the roof and partly crushed. The mummification seems to have been produced in part by the action of copper salts and not to have been merely a

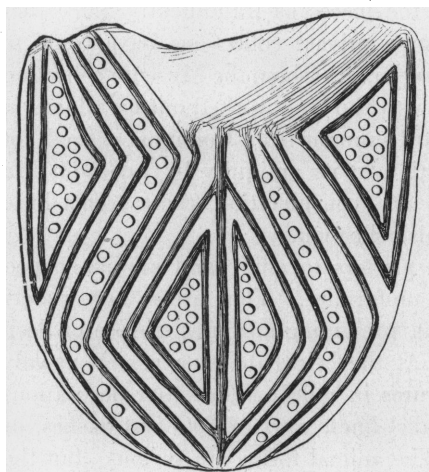


Fig. 9. Design from a Terra Cotta Stamp.

desiccation due to the dryness of the region. The skin has not collapsed on the bones, as in the mummies found usually in the region, but the body and limbs preserve nearly their natural size and proportions, except for the crushing already mentioned. No analysis has yet been made of the tissues, so that it is too early to hazard any supposition as to the chemical changes which have been undergone. The mine has been worked for an unknown length of time upon a peculiar deposit of atacamite, a hydrous chloride of copper, which is much prized on account of its easy reduction. The age of the mummy is unknown, but it is supposed to be pre-Columbian.

(C. W. M.)

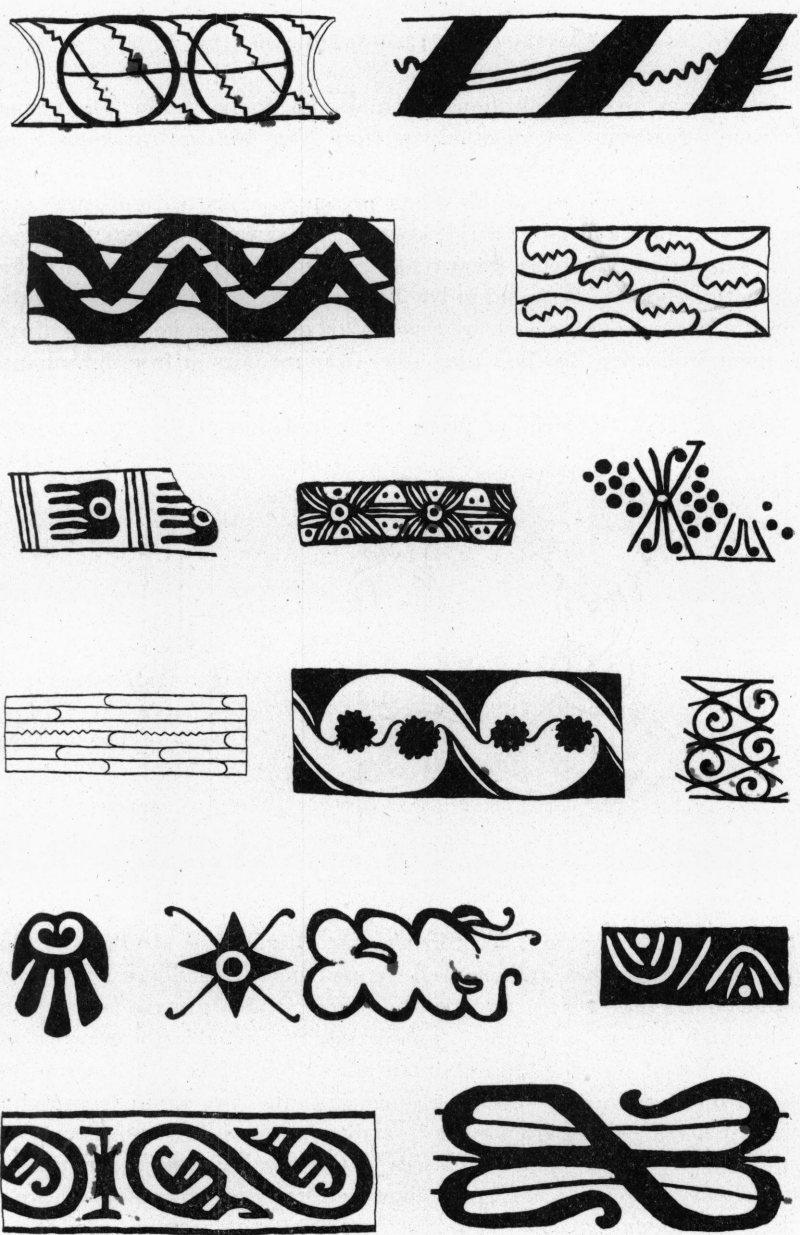


Fig. 10. *a* (40-589), *b* (40-593), *c* (40-584), *d* (40-592), *e* (40-594) *f* (40-469), *g* (40-595), *h* (40-590), *i* (40-588), *j* (40-596), *k* (40-806), *l* (40-587), *m*, (40-591), *n* (40-585), *o* (40-586). Designs on Terra Cotta Stamps from Colombia.

ISLANDS OF THE PACIFIC OCEAN.

In addition to the collections given special notice herein, many small lots were received by gift or otherwise from New Guinea, Australia, many islands of Melanesia, Micronesia and Polynesia.

Hawaii. Mr. George S. Bowdoin presented a feather war-cape, once the property of Kamehameha III, king of the Hawaiian Islands, who gave it to Commodore Lawrence Kearny, U. S. N., in 1843 (Plate XI). A brief note on this cape will be found in Dr. Brigham's paper on Hawaiian Feather Work.¹ However, the sketch by this author does not quite agree with the specimen, indicating that he wrote either from memory or from information at second hand.

Like all Hawaiian feather pieces the foundation of this cape is a net

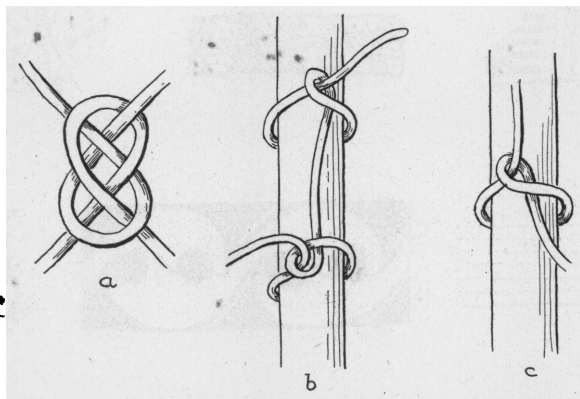


Fig 11. Knots in Feather Cape.

(Plate XII). This netting, according to Dr. Brigham, is of Olona, a fibre grown in deep ravines and on well-watered mountain slopes. By much soaking and scraping it is made ready to spin, which process is by rolling on the thigh without a spindle. The netting is formed with a needle and is a variation of the well-known square knot (Fig. 11a). The meshes are one-quarter of an inch, although on some capes they are one-sixteenth of an inch. Strips of netting from eight to eighteen inches in width are woven, then cut and joined to suit the pattern of the circular cape just as modern cloth would be treated; the strips, however, running horizontally as seen in Fig. 12. Some one has made the statement that a small cape is first

¹ Memoirs of Bernice Pauahi Bishop Museum, Vol. I.

woven, and then enlarged from time to time by adding net and feathers at the edge. The pattern of the foundation of this cape and others which have been examined give no evidence of this practice.

Bright feathers from the breast of the Iiwi cover the body of the cape; while the feathers from the yellow wing-tufts of the black Oo furnish a pattern of two large spherical triangles in the center of the cape, and four semi-crescents at the sides and edges of a border at the base. In preparing the feather for ornamentation, the shaft was first knotted, usually two or more times, half an inch from its end which was then doubled over and knotted down one or more times over the first binding knots. This cluster of threads and knots formed a firm point on which to place the knots which secure the feathers to the netting. Contrary to the custom of the Peruvians, who first made the feathers fast to a cord and then knotted this cord to the cloth,¹ the Hawaiians attached the feathers separately to the netting. On some capes, the feathers are joined to the netting by two knots (Fig. 11b); but, on the cape in question, each feather is secured by three knots (Fig. 11c), all alike, and in fact similar to those which first join the shaft. Parallel overlapping rows of these knotted feathers usually run parallel to the lower edge of the cape.

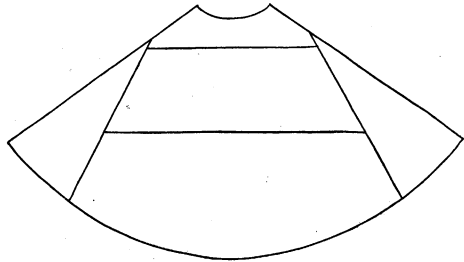


Fig. 12. Foundation Pattern for a Feather Cape.

While feather-work of some kind is practised by most peoples, the art reached a high development among the Hawaiians, ancient Peruvians, Maori and Pomo Indians. It so happens, however, that these four peoples have in each case introduced the mosaic on an entirely different technique — the Pomo on coiled basketry, the Maori on twined basketry, the Peruvians on plain cloth and the Hawaiians on netting; and further, that, while the Pomo and Maori have introduced the feathers during the process of weaving the foundation, in Peru and Hawaii the feathers are knotted to a foundation, previously prepared, thus suggesting the probable independence of development in each case. (M. L. K.)

New Caledonia. The Engler Melanesian collection² was made among the Islands of the New Hebrides and New Caledonia groups. It contains something over a hundred specimens, such as bows, arrows for war and

¹ Technique of some South American Feather-work, by Chas. W. Mead. Anthropological Papers, American Museum of Natural History, Vol. I, Part I.

² Gift of Mrs. Morris K. Jesup.

hunting, spears of many forms, decorated lances, clubs, model of a boat, paddles, baskets, cloth, gourd vessels, pottery, wooden dishes, shell and other ornaments, flutes, etc. Taken as a whole it is a fairly representative collection. Deserving special mention are two flat wooden dishes from the New Hebrides of graceful outline and high finish. The one shown (Fig. 13a) seems to be a fish form with notched edges. On the bottom are eight small projections suggesting legs, analogous to the great kava bowls of Samoa and other island groups. The other specimen has the peculiar fish-tail and the perforated head with the conical tip, or hat; but lacks the legs and

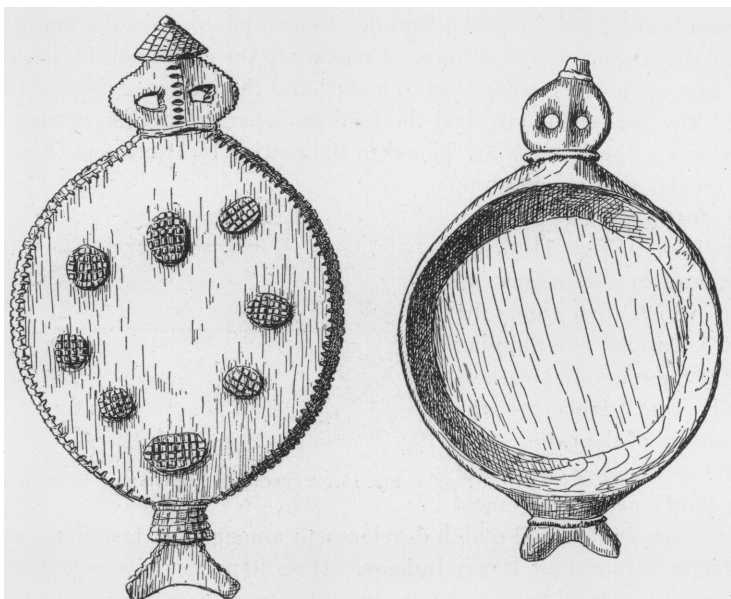


Fig. 13. (80.0-729, 80.0-728). Wooden Vessels from the New Hebrides. Lengths, 80 cm., 70 cm.

incised decorations. A similar bowl is figured in James Edge-Partington's Album, though the fish-tail is wanting, a second perforated head taking its place. The form of this specimen suggests that the more conventional form of dish handle is the double perforated type and that we have in the figured specimens another example of inter-play between the conventional and the representative motive in art.

With this collection was a small bowl from Marquesas with deeply incised designs, the handles to which are double birds' heads. The peculiar central design on this bowl is found also upon some turtle shell ornaments from the same locality (Fig. 14).

Among the specimens from New Caledonia may be mentioned a peculiar wooden bird figure said to be a rain charm (80.0-698), and a short looped cord about 18 cm. long said to be a spear thrower (80.0-764). Some interesting examples of the textile art are found in netted gourd vessels, four to six strands being manipulated to give broad bands of interlaced work. This type is well shown in an illustration by Ratzel.¹ While the general practice of netting gourds is found in many parts of the world, the specific type here mentioned seems almost peculiar to Melanesia. Of baskets proper there are several examples. A scoop-shaped tray is practically identical in form with the well-known winnowing trays of western North



Fig. 14 (80.0-727). Designs on a Bowl from Marquesas. Length, 23 cm.

America. On the other hand the weave is wicker instead of twine, and the material a delicate stem instead of the coarse twigs found in North American trays. In the specimen under consideration the warps are groups of seven stems, laid flat. At the start four of the warps are placed and as the work progresses others are added in such manner as to appear as branches of the other warps. The edge is finished by turning the warps to one side and closing in a braid, held down by a buttonhole stitch. Slight ornamentation is produced by very narrow transverse black bands.

A small bag containing eleven double-pointed sling-stones is in technique

¹ History of Mankind, Vol. I, p. 212.

a buttonhole coil (Mason) in which the loops of fibre, or string of which it is made, catch into the loops of the previous row of weaving and at the same time enclose a single string foundation. Variants of this technique are too widely distributed to be of special ethnographical significance.

There are two odd cone-shaped pendant ornaments said to have been used by men as well as women. They are formed by rolling up in spiral fashion a long fringe similar to that used as aprons and skirts in many parts of the world. Strands of cocoanut fibres are twined together in a simple manner. Each turn of the two-twined wefts encloses three threads of one strand and an equal number of the succeeding, a very common technique for skirts and aprons the world over. In Africa, aprons of like construction are, when not in use, rolled into a similar cone, and a comparative view of the case suggests the probability that this ornament developed from the simple rolled apron. This is supported by the fact that among some South American collections, we find feather bunches of the same form produced by rolling up the strings of pendant feathers used as girdles and head-bands. That these rolls from New Caledonia are not garments rolled up is suggested by the fact that the fringe is continuous and in one specimen reached the length of eight meters.

A small plaited bag from New Hebrides presents a type of technique widely distributed throughout the Pacific area. The bag or basket is begun at the edge or top. Two midribs of the cocoanut palm are used, each leaf made being split into twelve weaving elements. In weaving six of these pass obliquely to the right and an equal number to the left, thus giving a twill effect (Plate XII).

New Zealand. The Robley collection of New Zealand heads was presented to the Museum by Mr. Jesup. Major-General G. Robley of the British Army, who made the collection, took an active part in the Maori campaign of 1864-66 and spent several subsequent years in the country. Gen. Robley was an enthusiastic collector, and was especially interested in everything that related to the old-time method of tattooing. He succeeded in bringing together thirty-three very fine examples of the tattooed heads, with the implements, pigments, funnel and all other accessories used during the process; making this the largest and most complete collection in existence illustrating the ancient art of "Moco" or Maori tattooing.

The incisions were made with a narrow comb-shaped blade, made of the wing-bone of a sea-bird, attached to a little wooden handle. This was driven by tapping with a mallet quite through the skin. Then the tattooer rubbed into the wound a pigment made from the powdered charred resin of the "Kauri" or "Rimu" tree. This process left deep blue-black grooves with raised borders, and is entirely different from the method common in

most parts of the world, in which needles are used and the skin left smooth. The carved wooden funnel was used for feeding a man while his face was swollen by the wounds due to the tattooing.

According to General Robley, only the heads of prominent men were preserved after death. The principal object was to keep alive the memory of the dead, either of great friends or powerful enemies, and the "moko mokai," as these tattooed heads were called, supplied the place of statues and monumental records. In the case of a departed chieftain, his preserved head was a visible sign that in some mysterious way his spirit was still present among his people.

The old embalming consisted in the removal of all the interior of the head and drying in smoke after a careful steaming or even baking. The form and features were well kept, and the identity of the deceased was easily recognized, for the tattooing kept its place exactly on the face.

In General Robley's exhaustive work, "Moko or Maori Tattooing," will be found a complete history of this art from its first discovery by the great navigator Captain Cook to the present day. It contains numerous illustrations, many of the drawings having been made from specimens in the collection now in the Museum.¹

Maori wood carving is represented in this collection by two large wooden images (Teko-Teko, from old council houses, one from Rotorti, the other from Tologo Bay; also by two beautifully carved prows of war canoes and a large piece from the gable board of a council house.

Besides the above, the collection contains a chief's war belt, a bark-beater of wood, a "patu" or club of whalebone, and eight of the peculiar shawl-like garments of the chiefs, characteristically ornamented with feathers and fringes of cord.

During the year the collection of Maori robes was increased by the addition of seven garments, making this series of eighteen robes a somewhat representative one, containing many of the numerous types found among this people. The Maori costume consists of rectangular mats varying in size from shoulder capes and waist mats to those enveloping the whole figure; but variance in size does not compare with the variety in kind which ranges from beautiful, fine, silky robes and feathered cloaks to coarse and fantastically fashioned garments of rattling cylinders of flax leaf. Their value is estimated according to the fineness of material of which they are composed, the number and kind of ornaments introduced and the amount of labor expended, for even the common garments require eighteen months to complete, while the more elaborate ones take twice that time.² Strange

¹ See also *Journal, American Museum of Natural History*, 1908, Vol. VIII, p. 73.

² Wood, *Civilized Races of the World*, p. 808.

to say, these garments in most cases are of one material and the makers have expended much patience and ingenuity in the different treatments to produce a variety of effects. For materials, the long fibres of the leaf of the flax plant were called into service. These leaves, sometimes five and six feet long, have the epidermis scraped from both sides and the remainder beaten until soft. We read that for cloaks of people of rank certain varieties of flax are cultivated and prepared with great care until the substance resembles silk, which is often kept for years to improve color and texture.¹ To add greater beauty to these garments, feathers of the red parrot, white pigeon, albatross, tui and kawi, dog hair, sealskin and gay colored worsteds are all made to contribute to the ornamental effect.

The simplest loom of two sticks to support the work is used for making these fabrics, while women's fingers do the weaving. It is like the loom of the Indians of the Northwest Coast for making cedar bark garments, but lacks the cross bar on which to suspend the warps. A fibre thread is stretched from stick to stick instead, on which the untwisted parallel warps or "io" are hung. At first sight, one might mistake the process of weaving in the two localities as identical; but on closer examination one finds that the weaving has not two rows of two-ply twine, but that four wefts of thread are woven at one time in twine weaving. In other words, it is a four-ply twine with the appearance of two rows of two-ply twine woven in opposite directions (Fig. 15a). The "aho" or weft of four threads ends in a knot at the close of each row of twining, the rows spaced from one-quarter to one inch apart. It is interesting to note that this technique occurs on basket edges in Borneo and the adjoining islands.

Hamilton speaks of the older garments as unseamed, stating that seaming to fit the figure is a modern innovation. Some robes in this collection appear very old, yet all are seamed with the exception of a very narrow thirteen-inch cape and in all but two there are two places for seaming on each side of the cloak, one near the neck and the other toward the bottom.

The most beautiful robes, those which no plebeian would be allowed to wear, are the fine dress mats or "Kakahu" with close "taniko" or ornamental colored borders, of which the Museum has no example. These borders are usually woven after the body of the mat is finished and compare favorably in fineness of technique with old Peruvian weaving. Hamilton tells us that one artist, a man, received an equivalent to £ 7 for each border that he made, and also adds that the Maori excel all other Polynesians in their mat and garment making. Another finely woven mat, a woman's garment, is the "Korowai," a mat with its surface more or less thickly cov-

¹ A. Hamilton, *Maori Art*, 1896, Dunedin, N. Z., p. 272.

ered with shreds of twisted fibre. These shreds are introduced while the weaving is in process and are held by the weft thread which passes over the shreds at the middle point from which they hang (Fig. 15b). They vary in length and also in their distribution on the mat, for they may be arranged in vertical or horizontal stripes, in groups, or scattered evenly all over this surface. The art of the Maori shows itself, in the placing of the shreds or

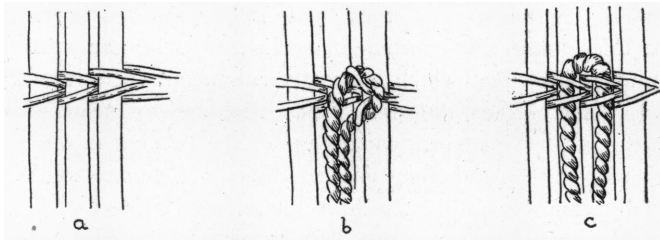


Fig. 15. Technique of Maori Capes.

fringes, which are usually black, and in the introduction of spots of color, either of feathers or of wool among these shreds. Borders of tufted wool and of feathers usually edge the sides and the bottom while an accompanying row of fringe completes the mat. This style of mat and in fact many of the types are woven upside down; that is, the fibre supporting the warps

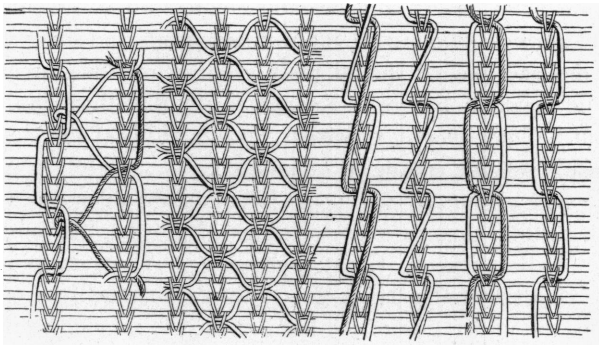


Fig. 16. Technique of Overlay in Maori Garments.

is to be the lower edge of the cloak when completed. After the last row of twining, the warp ends which have been purposely left long are rolled into a soft rope finish for the neck.

One artistic old garment in the Museum collection has an interesting overlay in brown and black wools. This style of decoration is found on mats not otherwise decorated and also on some of the "Korowai" type where

the fringes are placed at some distance apart, the isolated rectangular figures in the flat overlay taking the place of the tufted spots of color previously mentioned. This method of overlay is the simple catching of the wool thread under the twining as the garment is woven, the thread then passing over a number of warps before again entering the weave, as illustrated in Figs. 16 a-d. Through this simple technique, the Maori have developed a great variety of pleasing effects, only a few of the more common ones being here illustrated. A fine tracery of line patterns on the flax fabric results, which as the lines double and combine mass themselves in more solid figures, giving a dainty, lacy effect which is greatly enhanced when several colors combine. In place of lines, the overlay may ornament by means of dots, in which case the wool threads are caught under the twining in one of three ways (Figs. 15 b-c, 16) and then clipped short a distance from the weft threads. The same method of attaching bits of wool as in Fig. 15c is also used by the Aleutian Islanders in decorating their fine twined grass baskets. A third slight variation of this technique is where, by doubling and tripling the wool threads under each twine of the weft, close tufted fringe and knot effects are produced which, in contrast to the flat overlay, stand out from the surface of the mat. Much artistic feeling is expressed in this decoration, in combining of shapes and colors to produce patterns either of isolated circular and rectangular figures or in borders of lines, broken lines, zigzag and triangular shapes. Both styles of design are in the flat and tufted overlay and are of black, brown and brighter colored wools. Connected with the process of garment-making are interesting legends and superstitions with certain evil omens attached should these superstitions be disregarded, but this cannot be touched on here.¹ Enough to say that the "aho" must not fall short, but be long enough to weave the full width of the cloak, neither must its threads become entangled or knotted.

A unique type of mat is seen in the kilts and shoulder capes which are covered with rattling thrums made of strips of the flax leaf and called by the natives "Kanekeke." Great ingenuity is shown in preparing the ornamental cylinders of the flax leaf. With a short shell the epidermis is removed from the under side of the leaf; then it is scraped at intervals on the upper side, exposing the fibres at those points, and put into the dye. The dye attacks the exposed fibres while those covered with the yellow epidermis remain uncolored, giving stripes of brown or black with yellow.² After rolling these black and yellow strips into cylinders, they are woven on the mat, making what the Maori consider a very delightful garment for they enjoy the rattling sound, every movement of the wearer causing the

¹ Hamilton, op. cit., pp. 276-280.

² Hamilton, op. cit., p. 275.

thrums to clatter against each other. Of the five examples of "Kanekekeke," two have foundation warps of black, two of brown and one of uncolored flax, while all have yellow wefts which can be seen between the moving thrums. These ornamental thrums display great variety in their black and yellow stripings, making most effective garments.

Of exceedingly coarse make are the "Manaeko" or rough capes of undressed flax used as shelter and rain coats. Strips of the undressed flax leaves are woven to overlap each other so that the rain may run off. The Museum cape is of dyed material with an occasional group of undyed flax leaves for ornament. The foundation warps of dressed flax are bound by alternate rows of two-ply and four-ply twine, the leaf strips catching under the four-ply only. Another strong serviceable cloak of the same type is a large shaggy garment covered with partly dressed material and has the appearance of having been a sleeping mat.

A highly prized garment and one which is most tedious and difficult to make is the "Kahu-kuri" or chief's fighting mat. This war cloak is spear-proof and thickly covered with dog's hair. Strips of dog's skin or dog's tails are caught under the twining on a stiff foundation of closely woven flax and then to render it a sure defence and perfectly impervious to spear thrusts, it is soaked in water.¹ These are of white, black and reddish brown dog's hair of which the Museum has no example. Among a number of Indian tribes of western North America, rabbit's skin robes are made on a twined foundation; but in America no case has come to our notice where strips of dog's skin were used, although long white dog's hair was mixed with wool of the mountain goat and duck down for spinning and weaving blankets among the Lkungen Indians,² and those of the Lower Frazer River.³

Color is the dominant note in the feather cloaks or "Kahu" of the Maori, for he fashions this garment of the gorgeous plumage of many birds. The wing of the Kake parrot furnishes crimson; the neck of the native pigeon, peacock green; the albatross, the pheasant and the breast of the pigeon, pure white; and the tui, blue black. These he twines on his flax mat, as illustrated in Fig. 15c, placing one, two or three feathers under one turn of the twine, in accordance with his desire for a thickly or thinly covered surface. The shaft of the feather is turned to the side and twined down under the next turn of the weft. Alternate rows of twining only have feathers and usually there is one turn of twine between the feathers. (M. L. K.)

Samoa. The Zimmermann collection contains, besides numerous

¹ Hamilton, op. cit., pp. 286, 328.

² Boas, 6th Report, Northwest Tribes of Canada. Report, British Association for the Advancement of Science, 1890, p. 566.

³ Teit, The Lillooet Indians. Memoirs, American Museum of Natural History, Vol. IV, Part V, p. 210.

weapons and carvings, a complete tapa-maker's outfit, a "tuiga" head-dress, and other chief's regalia, two fine-mats, and a kava bowl with all accessories for preparing the drink.

For the preparation of tapa cloth, the Samoan women peel off the bark of the paper-mulberry, and separate the outer layer from the inner bark, which alone is used to make the bark-cloth. This bast is soaked in fresh water, thinned with a shell scraper, and pounded with a mallet on a wooden board or log. The separate strips of pounded bark are spread out, dried in the sun, and united with arrowroot paste to form a piece of suitable size. The cloth is then ready for ornamentation, which consists of applying colored patterns, sometimes painted free-hand, but more commonly printed from stamps. Stamps are wooden or Pandanus palm-leaf plaques; on the former, the designs are carved; to the leaves, they are sewed. The undecorated tapa is stretched out on the stencil, and the dye, consisting of a soft brick-red clay or the soot of burnt candlenuts, is rubbed in with a rag until the patterns appear. Finally, the principal lines are accentuated with a brown varnish, which acts as a preservative against weathering.

The "tuiga" is the ceremonial head-dress of the Samoan nobility. It consists of three upright stems with shells or mirrors, a girl's hair oiled and dyed with lime, and the breast feathers of a parrot. The frontlet of Nautilus shells and the whale-tooth necklace in the collection were customary concomitants of this gala head-dress.

While ordinary mats served as garments and blankets for the wealthy classes, the fine-mats, collected by Mr. Zimmermann, formed the principal medium of exchange. They were used to fee the professional classes, such as shipwrights, tattooers, and architects, and constituted the princesses' dowries.

Kava is the national beverage of Samoans. It is made of the roots of a pepper-plant, which are chewed by the unmarried villagers, placed in the bowl, and mixed with water, pounded, and strained by the chief's daughter. Kava is drunk at all festivities, councils and ceremonial occasions. The most conspicuous object in a Kava outfit is the bowl with many legs, one in this collection having as many as fourteen and the whole carved from a tree trunk. (R. H. L.)

Bismarck Archipelago. A valuable collection from various islands in the Bismarck Archipelago, brought together by Professor Eugene Schröder, for many years a resident of the locality, came to the Museum during the year 1907. Among others, mention may be made of a series of characteristic wood carvings, some of which appear in Plate XIII, which, like most carvings from this part of the world, while characterized by open detail, are in reality fashioned from a single piece of wood and not pieced. Such figures

are supposed to reside in ghost, or "taboo," houses, for which see reproduction of Professor Schröder's photograph, Plate xiv. A general account of the collection will be found in the *Museum Journal*;¹ but mention may be made of a good series of hafted obsidian knives. There are a number of arrows with curious heart-shaped barbed wooden points. A rather unique series is the complete outfit for making shell arm-rings and other ornaments, with samples of worked shell. The grinding stones resemble scythe whetstones mounted in the hollows of bamboo stems, the projecting ends of which serve for handles. Finally there are double pointed spears with obsidian heads, with perforations like the phallic openings in iron spear heads from the Congo and other parts of Africa. Some other spears have four-pointed wooden heads. Shell objects abound, such as trumpets, edge tools and ornaments. There are some interesting drums, including the so-called "death-drum," reported to have been sounded at the death of an important personage. Curiously enough the sounds seem to have been produced by rubbing instead of beating.

(C. W. M.)

AFRICA.

Before the period covered by this paper, the Museum was poorly equipped for the illustration of African native life; but since that time collections have been acquired sufficient for the equipment of a special exhibition hall. The material from the Congo was secured through the kindness of King Leopold and the officers of the Congo Free State; other collections are due to the interest of Messrs. Percy R. Pyne, Cleveland H. Dodge, Arthur Curtiss James, George S. Bowdoin, Archer M. Huntington and Mr. and Mrs. Morris K. Jesup.

The Congo. The special collections from the Congo are unusually well-equipped with specimens of native ironwork, spears and knives being especially abundant. While it has not yet proved feasible to study the types peculiar to each cultural district and to determine the range of diffusion of certain common forms, the illustrations of knife-forms, swords and axes in Fig. 17 may convey some idea of the character of Congo ironwork. Fig. 17d, represents a three-branched throwing-knife of the Asande (Niam-Niam) in the northern section of the Congo State. Schweinfurth, who pictures sample specimens from this people, calls attention to the occurrence of similar forms among the Fan of the Ogowe country in western Africa.²

¹ Vol. VIII, No. 3, March, 1908.

² *Artes Africanæ*, Plate XII.

According to Frobenius,¹ this highly characteristic weapon has, within recent times, traveled up the Lomami and reached the Bassongo-Mino of the Sankurru district by way of the Lukenye. It has obviously been influenced by the Sudanese type of throwing-knife. A sabre manufactured by the Asande is shown in Fig. 17j. The Mangbettu (Monbattu) employ, among other forms, a perforated falcate blade with a grip expanding at the base into a cylindrical butt (Fig. 17i). With the exception of the Egyptians,

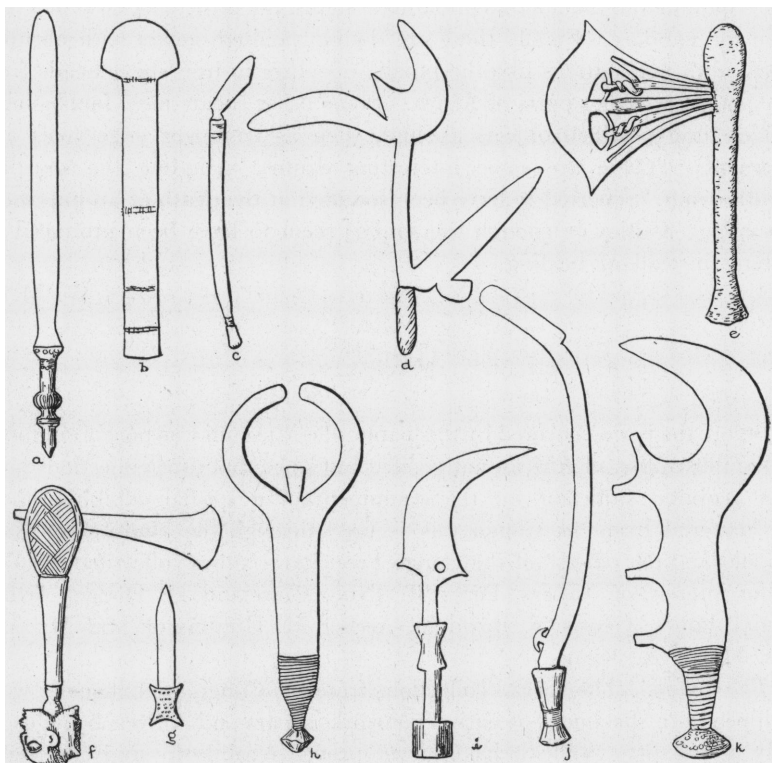


Fig. 17. *a b* (90.0-3679*a*), *c* (90.0-2820), *d* (90.0-2903), *e* (90.0-4092), *f* (90.0-5053), *g* (90.0-2797*a*), *h* (90.0-4070), *i* (90.0-2742) *j* (90.0-4122) *k* (90.0-4072). Forms of Weapons from the Congo. Length of *a*, 64 cm.; *b*, 51 cm.; *c*, 44 cm.; *d*, 49 cm.; *e*, 40 cm.; *f*, 33 cm.; *g*, 19 cm.; *h*, 51 cm.; *i*, 40 cm.; *j*, 58 cm.; *k*, 55 cm.

they are the only African people to employ, in European fashion, a one-edged knife (Fig. 17*c*), of which the blunt side is supported by the index-finger.² Fig. 17*a* shows an excessively long and narrow Bayaka knife; the

¹ *Zeitschrift für Ethnologie*, 1907, p. 323.

² Schweinfurth, l. c., Plate XVIII.

scabbard terminates in a curious semi-circular expansion. Fig. 17k represents a Bangala execution-knife; a possibly ornamental knife of steelyard type (Fig. 17h) from the same tribe also deserves mention. A small knife from the Uele region is illustrated in Fig. 17g; the ivory handle is decorated with a characteristic series of circular designs enclosing dots. Both the blade and the decoration have been found in a Benin specimen. In Fig. 17f there is a "parade-hatchet" from Urua; the handle is carved into a human head. Fig. 17e pictures an openwork axe from the Kasai, presumably from the Zappozapp country. The handles of several of the axes in the collection are wrapped with snake-skin.

Woodwork has attained a high grade of development in some sections of the Congo State. The most artistic specimens of native craftsmanship are the neatly carved and decorated cups and goblets of the Bakuba, of which a representative series is shown in Plate xv. The top is frequently carved into a human head (Fig. 4). Less tastefully finished, but equally interesting, is a box from the Uele consisting of a bark cylinder surmounted by a wooden cover shaped into a crude head and resting on a wooden pedestal (Fig. 8). The distribution of these bark receptacles seems to be confined to the northern tribes of the Congo. Neck-rests have been regarded as foreign to the West African culture area, though even there they occur sporadically.¹ In the Museum there are several rests from the Kasai, Bangala, and Equator regions, as well as from the Ubangi and northeastern districts. This fact, of course, does not militate against the supposition of a relatively recent importation. A rather interesting type of openwork carving deserves mention (Fig. 10). Sometimes the slab of the head-stool is supported by a human figure. A stool of rather elaborate make with a crescent-shaped perforation may serve as an example of woodwork from the Eastern Province (Fig. 9).

Many articles of religious significance fall, from a technological point of view, under the category of wood-carvings. The Congo collection embraces a considerable number of objects illustrating the beliefs and observances of the aborigines, notably fetiches and masks. Modern investigation does not support the popular conception of fetiches, nor does it confirm Tylor's classical definition of fetichism as "the doctrine of spirits embodied in, or attached to, or conveying influences through, certain material objects."² Fetiches are in no way connected with spirits, except in so far

¹ Ankermann, *Kulturkreise und Kulturschichten in Afrika*, pp. 69-70, *Zeitschrift für Ethnologie*, 1905, pp. 54-84.

² *Primitive Culture*, II, 144. The following statements on fetichism are based on,— Notes Analytiques sur les Collections Ethnographiques du Musée du Congo, Tome I, Fascicule II: La Religion (Pages 145-316), and Pechuël-Loesche, *Die Loango-Expedition* (Dritte Abteilung, Zweite Hälfte; Stuttgart, 1907), pp. 347-472.

as they are employed to counteract the activities of malicious supernatural beings. Any object, or artifact, invested with "manitou" power by appropriate incantations, ritualistic performances, and a coating of magical substance, becomes, when properly used, a fetich. As such, it is not necessarily either worshipped or abused, but may be abandoned as soon as its inefficacy has been demonstrated. Fetiches are charms, serving some specific purpose, such as protection in battle or success in trading. As their power is due exclusively to the application or enclosure of the magical substances, fetiches destined for the same end assume various forms; and, on the other hand, the most elaborate carvings are powerless before contact with the "medicinal" ingredients. Representations of animal and human forms are especially common in the Kasai and Kwango districts, the Lower and Middle Congo area, and the Eastern Province, while they are very rare in the remaining divisions of the Congo. It has been plausibly argued that the high development of carving in some of the districts mentioned has effected this difference.¹ Pechuël-Loesche suggests that the images brought in by Catholic missionaries at the time of the great Portuguese voyages of exploration greatly promoted the development of human carvings. In support of this view, he points to the rarity of human figures both in the sections of Africa influenced by iconoclastic Islamism and in the south and southwest where Protestant missionaries have labored during the last century. That precisely those Bantu tribes subject to Catholic influence have developed such an abundance of human fetiches seems to him a significant coincidence. At the same time, he does not deny the possibility that such figures originated prior to contact with Europeans, whose influence may have been restricted to fostering an already existing art.² In the artistic representation of human fetiches, certain sectional differences of style become manifest. In the maritime and lower Congo regions, as well as in Loango, perhaps the most peculiar characteristic is a trough, a circular or a box-like excrescence extending sometimes from the chest to the umbilical region, and intended for the reception of the magical substance.³ This peculiarity is strongly marked in Fig. 2, Plate XVI. In Fig. 7, the excavation is less prominent and overshadowed by other peculiarities: the crested headgear, quadrangular chin-beard, series of parallel vertical lines on both cheeks, and extraordinarily thin arms. The up-turned nose, developing at times into a grotesque proboscis, is highly characteristic of Kwango figures (Fig. 6); the jutting ears are likewise remarkable. Sexual characteristics are strongly emphasized in some specimens (Fig. 8) from the Kasai. Several fetiches

¹ Notes Analytiques, op. cit., p. 212.

² Pechuël-Loesche, l. c., pp. 397-399.

³ Ibid., p. 246; Pechuël-Loesche, p. 364.

are of clearly phallic character. In many of the human figures, the disproportionate shortness of the legs is noticeable. Animal fetiches are relatively rare; a specimen from the Kasai is shown in Fig. 5.

Masks are employed in war, by ordinary dancers and by shamans. In Fig. 4, Plate xvi, there is pictured a remarkable Bakuba war-dance mask, with a long fringe at the base. There are no eye-slits, each eye being closed by a conical projection. The cones are divided into a number of triangular surfaces alternately painted black and white. The wearer was able to peep through a number of small circular openings. A Bakuba shaman's mask is remarkable for the narrow eye-slits, pyramidal nose, and the decorative incisions on forehead and cheeks (Fig. 3). Fig. 1 represents a mask with fringe and a lofty crest flanked by two lower crests of similar curvature; the eyes are represented by cowries, with which the entire specimen is also profusely dotted, and beads are added for the ornamentation of the facial portion.¹

The well-developed musical sense of the Congo negroes is attested by the number of their musical instruments, some of which are represented in Plate xvii. The wicker-work rattles made from split canes deserve special attention; the insertion of a wicker globe enclosing small shells or seeds at both ends of the handle results in the characteristic dumb-bell type (Fig. 9). The simple wicker rattles are distributed over the whole of equatorial Africa. Among the Mangbettu, they were used as royal sceptres and batons in public councils and choral chants.² Among many other Congo tribes, they are employed in shamanistic practices. Tomtoms (Fig. 7) are hollowed-out blocks of wood with one or two longitudinal slits at the top; the walls are of unequal thickness, so that sounds of different pitch result from striking them with a drumstick. By varying the succession and length of the beats, some of the negro tribes have developed a definite long-distance signal code, which is used to summon tribesmen to the chase, council, war-expeditions, or other tribal undertakings. The tomtom is distributed over the entire Congo region and along the coast from the Congo River to Kamerun; the signaling code, however, seems to be restricted to the lower Lomami, Lulongo and Juapa rivers, and to the northern Congo State generally. The Bakongo of the maritime region and the Baluba in the south have tomtoms, but do not use them for signaling.³ The drums are of two principal types: those of elongated cylindrical shape with drum-heads stretched by means of leather cords (Fig. 10); and vase-shaped forms with but a single skin-

¹ Though almost the exact counterpart of the specimen is pictured in *Notes Analytiques* Tome I, Fascicule II, it is deemed advisable to illustrate the mask for the benefit of the American reader.

² Schweinfurth, l. c., Plate xvi.

³ Sir Harry Johnston, *George Grenfell and the Congo*, London, 1908, pp. 721-722.

cover nailed to the wooden resonator, which terminates in a circular stand (Fig. 8). The *sansa*,¹ consisting of a wooden key-board with wooden or iron keys of varying size (Fig. 2), is of very wide distribution in Africa; a marimba with gourd resonators is shown in Fig. 5. The principle of the musical bow is shown in an instrument formed essentially of five curved sticks constituting with corresponding strings so many bows, and all joined to the same sounding-board (Fig. 1). The attachment of several strings, one above the other, to the same bow, united with a resonator, results in a kind of harp-guitar akin to that of the ancient Egyptians (Fig. 4). A zither with curved bark resonator is pictured in Fig. 3, and a trumpet partly of ivory and partly of wood in Fig. 6.

As the basketry and woven fabrics from the Congo will receive detailed treatment in a later Museum publication, it is merely desirable at present to call attention to a series of beautiful samples of Bakuba "plush" fabric (Plates XVIII and XIX). The cloth is woven of raphia fibres by the men, and the women subsequently sew on the "plush" patterns. The Bapindi living near the mouth of the Kwango are also skilled in the pile-cloth industry,² and similar fabrics are reported from the natives of Lake Ntomba (Natumba);³ in course of trade, it seems to have traveled rather far north from its area of manufacture.⁴ One of the most interesting of the design-elements illustrated is the combination within a rectangle of four right-angled triangles with touching apices,—the Samoan "whirligig" pattern (Plate XIX, Fig. 1).

Benin. The accessions from Benin include a number of bronze figurines, ornaments and tusk-stands, and several carved tusks. Four large tusks, two of which are figured in Plate XX, are of special interest. The pieces illustrated are covered with realistic carvings in low relief, but lack the lozenge-pattern band usually found at the bottom of this class of objects. On both there are the characteristic human figures with peaked headgear, bearing staves, wands or leaf-shaped swords, nude men with legs curved upward and outward, and sigma-shaped designs, which on one of the specimens enclose eye-ornaments, and a tail-like appendage, and seem to correspond to the "cat-fish" pattern of British ethnographers. The sigma-patterns are juxtaposed, one above the other, the upper being the symmetrical counterpart of the lower. One piece shows in addition a

¹ Called marimba in Notes Analytiques sur les Collections Ethnographiques du Musée du Congo, Tome I, Fascicule I, while the instrument commonly called marimba is there designated as xylophone. The term is used with varying significance by the natives.

² Torday and Joyce. *Journal of the Anthropological Institute of Great Britain and Ireland*, 1907, Vol. XXXVII, p. 143.

³ Johnson, l. c., p. 175.

⁴ *Ibid.*, p. 758.

horseman wearing a brimmed helmet with pendant, and a pleated skirt. With one hand he reins the horse, in the other he holds a dart. The same specimen also exhibits the characteristically Benin group of a dignitary supported on either side by an attendant. Besides the larger antiques, the collection includes a number of small tusks and tusk-tips divided by a descending spiral line into a series of bands ornamented with realistic carvings. The totality of relief figures on any one piece seems to represent a procession. There are representations of hand-to-hand encounters, European headgear, umbrellas, a wheeled vehicle, a European house, fish, birds, and quadruped forms. The provenience of only one of these smaller tusks

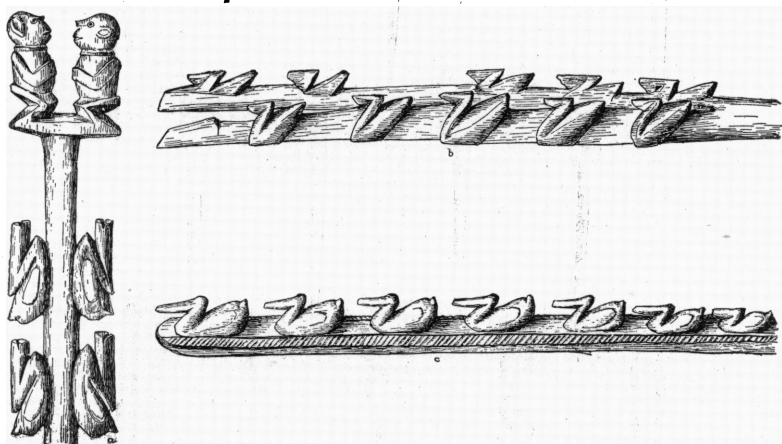


Fig. 18. *a* (90.0-912), *b* (90.0-914), *c* (90.0-920). Carved Spoon Handles. Length of *a*, 53 cm.; *b*, 45 cm.; *c*, 53 cm.

is definitely known, but, as all the pieces are essentially similar, they may be regarded as coming from the Loango coast.

British South Africa. The Douglas collection embraces a large number of specimens illustrating the technology of Mashonaland, the Barotse, Bechuana, and neighboring tribes. A considerable part of the collection consists of baskets, detailed treatment of which, together with those of the Congo tribes, is reserved for a future paper. A group of specimens of aboriginal manufacture from the Barotse and their neighbors is presented in Plate XXI. The decorated gourds are noteworthy; they show a combination of geometrical motives, such as checker, rows of triangles, columns of lozenges or triangles with realistic representations of human figures, birds and beasts. A point of some interest is the fact that some of the earthen pot-forms are exactly duplicated among the wooden vessels, which are frequently decorated with bands of shaded triangles or diamonds. The somewhat

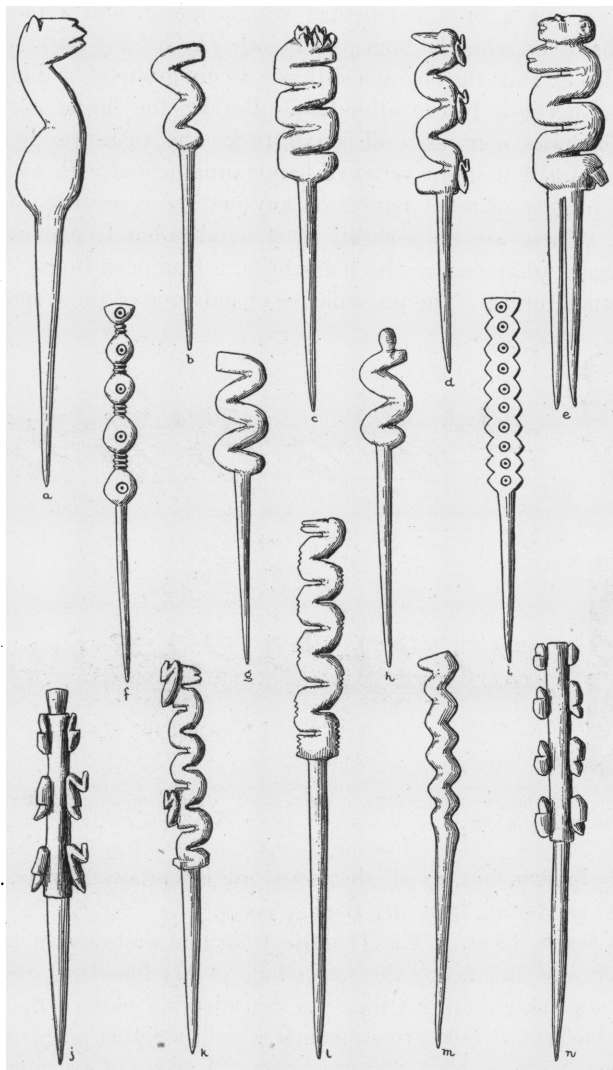


Fig. 19. *a* (90.0-858), *b* (90.0-852), *c* (90.0-849), *d* (90.0-850), *e* (90.0-855), *f* (90.0-837), *g* (90.0-853), *h* (90.0-856), *i* (90.0-830), *j* (90.0-846), *k* (90.0-857), *l* (90.0-851), *m* (90.0-854), *n* (90.0-842). Ivory Pins. Length of *a*, 15 cm.; *b*, 10 cm.; *c*, 13 cm.; *d*, 11 cm.; *e*, 13 cm.; *f*, 13 cm.; *g*, 10 cm.; *h*, 11 cm.; *i*, 12 cm.; *j*, 12 cm.; *k*, 13 cm.; *l*, 18½ cm.; *m*, 13.5 cm.; *n*, 14 cm.

crudely shaped spoons (Fig. 18) have their handles decorated with realistic carvings, among which the figure of a swimming bird predominates; this motive shows a tendency to conventionalization. Possibly the opposite

tendency is to be recognized in a series of carvings on ivory pins (Fig. 19). In a number of these specimens, the handle assumes a serpentine form of varying degrees of sinuosity. As a few of the pins actually culminate in a clearly recognizable snake-head, it might be speciously argued that in this case also a process of conventionalization has taken place. As, however, the snake-head is frequently replaced by the heads of other animals, several times by that of a bird, once by that of a monkey, it is quite conceivable that the serpentine handle was originally a decorative motive, in some cases surmounted by an animal head; that occasionally the form of the customary decorative unit suggested to the artist the idea of a snake, and that the complete snake figure is thus a later product due to the inherent congruity of the geometrical unit and the realistic form. Both the serpentine and straight pin-handles are decorated with the swimming-bird motive common in Barotse woodwork (Fig. 19, j, n). Other ivory pins present the circle-

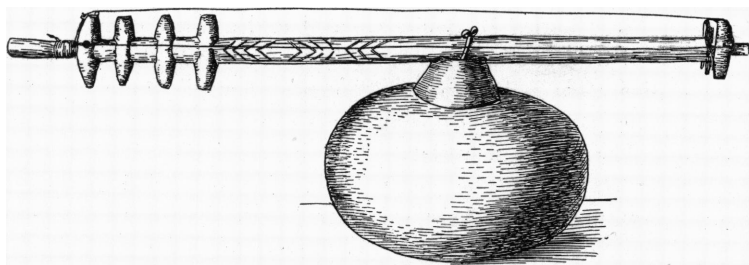


Fig. 20 (90.0-1256). A Musical Bow. Length 63 cm.

dot pattern noted above as occurring on ivory carvings from the Congo (Fig. 19, f, i), and possibly due to Arabian influence. A modification of the musical bow from Mashonaland is shown in Fig. 20. The two strings are attached to a straight carved stick with several pegs, two pieces of gourd forming a resonator. Specimens of this type occur sporadically in the Congo State,¹ but they are more common in the east, where they have been found, among others, in the Wayao tribe.²

(R. H. L.)

Archæology. From Mediterranean Africa, the Museum has long possessed a representative series of flaked material, secured by Andrew E. Douglass through the kindness of M. Jacques De Morgan, whose name must ever be associated with the problems of old world archæology. In addition there are a few stone implements from Somali Land, presented by H. W. Seton-Karr. Recently this nucleus has been augmented by a series of prehistoric flints from ancient village sites in the Fayum Desert,

¹ Johnston (l. c., p. 716) reports them from the Aruwimi.

Fülleborn. Das deutsche Njassa-und Ruwuma-Gebiet (Berlin, 1906), p. 238.

Africa, apparently belonging to a later period, probably the Neolithic. A number of types are shown, all differing, some large, stemless and very deeply-barbed; others having the ends of the barbs squared like some European types. A large number are very diminutive. Several semilunar flint knives among quite a series of various blades are of interest, and some scrapers and drills are in the collection.¹

ASIA.

From the living peoples of Asia and the Malayan area, a number of collections were received during the interval. Field-work was carried on in Korea under the direction of Dr. C. C. Vinton, the results of which, with notes on the collections made, will be treated in a special publication at some future time. Among the gifts may be mentioned a number of Tibetan scrolls from the Lamasery at Batug, due to the interest of Mr. Mason Mitchell; from Mr. Charles H. Senff, a shield and a series of weapons from India, collected by Captain Hagadorn; from Mr. M. F. Savage, two imperial token coins, what is said to be a "judge's sceptre" from Pekin, China, collected by the artist Mueller during the late Boxer War, and an iron pipe inlaid with gold from Manchuria.

Philippine Islands. The Jesup Philippine collection represents in general four cultures: the Christianized tribes, the Pagan tribes, the Moro tribes, and the Negrito tribes. For the former three, cultural features are quite fully represented; the rice industries, the textile arts and the hemp industry. The former is of considerable ethnographical interest, because of its distribution on the Asiatic continent and the indications that the Malayan groups acquired it from some southern Asiatic culture center. The investigation of this problem and the distribution of wheat and allied cereals in Mediterranean countries would doubtless throw some light on the general anthropological problems of the Old World. It would seem that many of the textile arts can also be traced to an Asiatic center and, while far less specialized than the rice culture, may in turn prove an important aid in the same connection.

As a matter of general interest, we may call attention to one unique feature of the rice culture. The peculiar rice mill shown in Plate XXII is constructed almost entirely of bamboo, though seemingly in strict imitation of the Old World stone mill. While the whole collection is rich in objects illustrating bamboo culture, this example seems one of the most unusual and unexpected adaptations of such material.

¹ See, Report of the U. S. National Museum for 1904, pp. 745-751.

Transportation both by water and land is fully represented, the series of models of boats being unusually complete and is supplemented by a number of real boats with complete fittings. Types of habitations are also well represented by models as well as a typical Igorot store house and Negrito hut.

The Jesup Collection has been augmented by a fairly representative series from the Bontoc Igorot of northern Luzon, including costumes, coiled and twilled baskets, wooden shields, spears, a drum, gongs, beaten vessels of copper, large wooden dishes, ladles, carved spoons, tobacco-pipes, etc. There are a few curiously shaped boxes carved from blocks of wood apparently in imitation of plaited basket tobacco-pouches (Figs. 1 and 3, Plate XXII) as shown in Fig. 2. That the wooden ones are imitations is suggested by the wide distribution of the basket type and the fact that Fig. 1 is hollowed out underneath, giving the appearance of the peculiar ridged bottom found on the former. The wooden bowls all bear notched edges as shown in Fig. 4. Some are provided with one small side bowl instead of two as in this case. Wood carving is further represented by a monkey-headed staff, a large hat, surmounted by a human head, carved from a black wood, and spoons with the human figure for handles similar to one described by Ratzel.¹ Pipes of wood, clay and brass present the types described by Jenks.² One of the brass pipes is of unusual form, the bowl resting on the back of a quadruped. A girdle to which are fastened thirty-four Spanish coins ranging in date from 1723 to 1825 may be mentioned, and a curious ornament composed of eleven perforated ivory disks held together by plaited links. The fact that these disks are arranged in order of size suggests that this may have been a pendant rather than a girdle, though in another collection such an object forms the belt for a knife scabbard. There are also armlets of boar's teeth joined by plaited bands, almost identical with specimens found in collections from Melanesia.

On a decorated bamboo lime box, we find the characteristic zigzag and hour-glass patterns found in various parts of the Malay area, but in addition some attempts at realism (Fig. 21, a). Among the Jesup collection, there are many similarly decorated lime boxes, on only one of which there are a few animal figures, indicating that such realistic decorations are exceptional. Taking Philippine lime boxes as a whole, we find one general type of decoration consisting of zigzag, stepped and angular patterns which differ entirely from the specimens we have seen from other parts of the Malayan Islands and New Guinea. In particular the specimens from Borneo and Sumatra bear scroll and leaf designs as the chief motifs, while those from

¹ History of Mankind, Vol. I, p. 431.

² Ethnological Survey Publications, Vol. I.

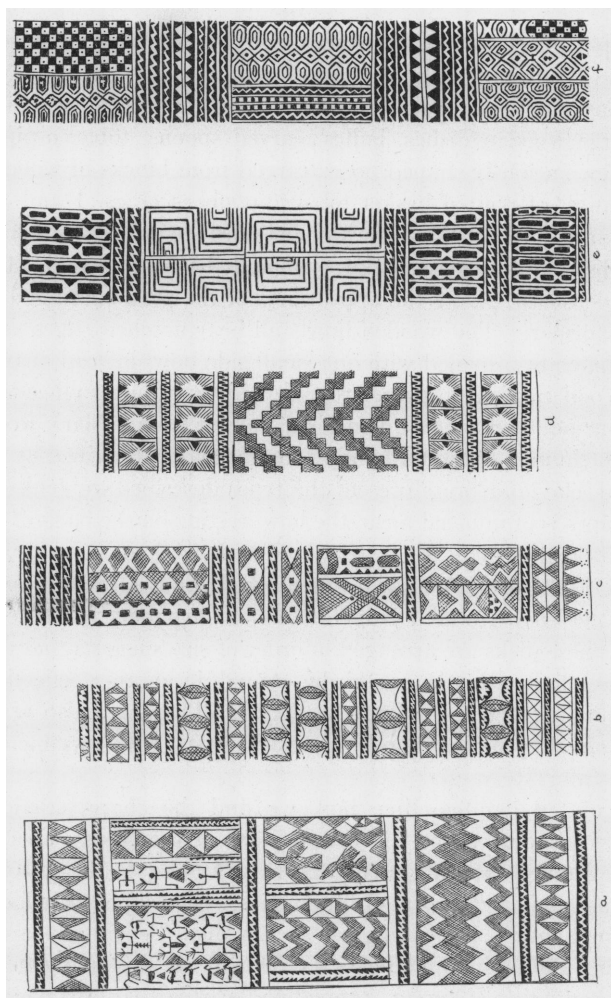


Fig. 21. *a* (70.1-4334), *b* (70.1-3123), *c* (70.1-3106), *d* (70.1-3122), *e* (70.1-3115), *f* (70.1-3103).
Lime Boxes. Length of *a*, 22 cm.; *b*, 22 cm.; *c*, 33 cm.; *d*, 16 cm.; *e*, 38 cm.; *f*, 45 cm.

Decorations on

New Guinea have the characteristics of Papuan art. A bamboo cup or tobacco-box from the Hova of Madagascar, in the Berlin Museum, bears representations of animals similar in execution to those upon one of our Philippine lime boxes, and so far as our observation goes different from the conventional forms in African art. It is the wide but seemingly contiguous distribution of these decorated bamboo boxes that suggest their importance from an ethnographical point of view. Though we have not the time to treat the subject fully, the data at hand seem to indicate their center of distribution to have been in the heart of the Malay Islands. Returning to the Philippines, we find a general type seemingly originating from some undetermined center whence they have found their way into various parts of the island group. In Fig. 21, we give a series of selected designs.

A set of brass ear cleaners bear designs produced by repeated impressions of a small punch similar to African iron snuff spoons from Barotseland.¹

Mr. Charles H. Senff presented a large representative collection of swords, knives and spears from the Philippine and other Malayan Islands. They were selected by Captain Hagadorn, chiefly among the Moro and Igorot. The cutting weapons are of four main types: the well-known long-handled, angling, bladed knife found in Borneo and elsewhere (Fig. 22, e); the long straight sword with a spreading blade and fringed handle (Fig. 22, a); the so-called Sulu knife with short bulging blade (Fig. 22, b); and finally the kris, some with straight blades, others of the well-known waving type (Fig. 22, c and d). A number of the latter are decorated with inlaid designs, in most cases highly conventionalized. One specimen suggests a connection between these designs and the curious form of guard found on all these blades (Fig. 23, a). On part of this blade we find the form of a scaly serpent passing under the ornamental clasp and terminating in a conventionalized head or beak. This peculiar hooked mandible and protruding tongue seem the most persistent features of these weapons, occurring so far on every specimen examined. While further research will be necessary to establish the suggestion that this is a serpent motive, it is clear that the decorator of this specimen so regarded it. The opposite projection of the guard is also repeated with fair fidelity and may well be a horn or a distorted occiput of the same monster. This is suggested by a figure on a jar of assumed Malayan origin figured by Ratzel,² suggesting that we have here the well known dragon of Asiatic art. The inlaid decorations of these blades (Fig. 23, b, c, d) vary greatly in detail, but agree in general arrangement in so far that we have a central stem parallel to the edges of the kris, flanked near the top by scroll and other simple designs.

¹ See Ratzel, *History of Mankind*, Vol. I, p. 411.

² *History of Mankind*, Vol. I, p. 470.

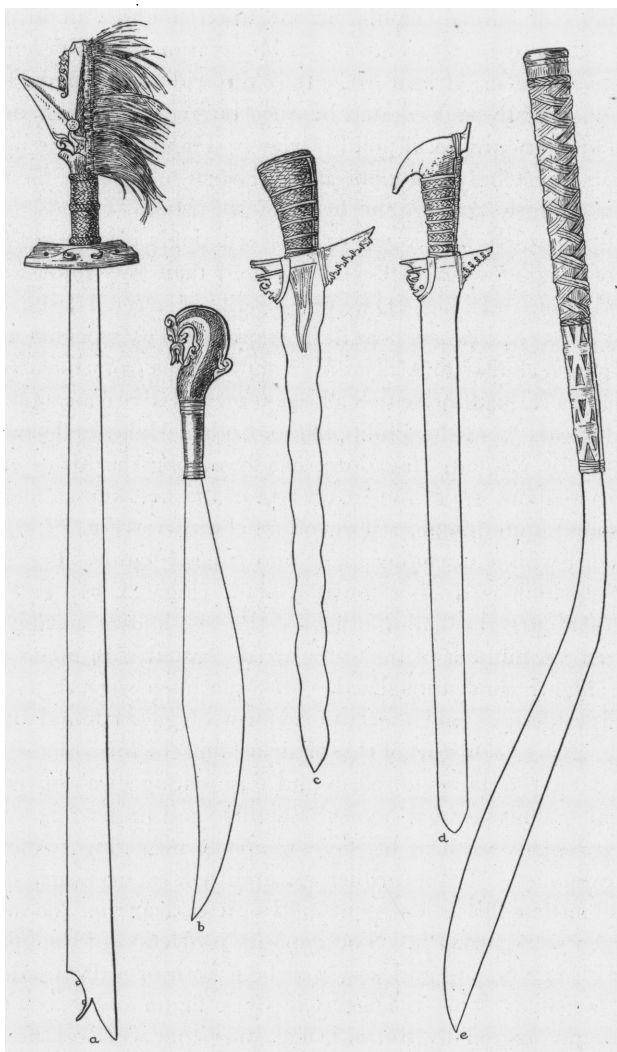


Fig. 22. *a* (70.1-4153), *b* (70.1-4189) *c* (70.1-4238), *d* (70.1-4155), *e* (70.1-1496). Types of Malayian Swords. Length of *a*, 106 cm.; *b*, 64 cm.; *c*, 84 cm.; *d*, 71 cm.; *e*, 98 cm.

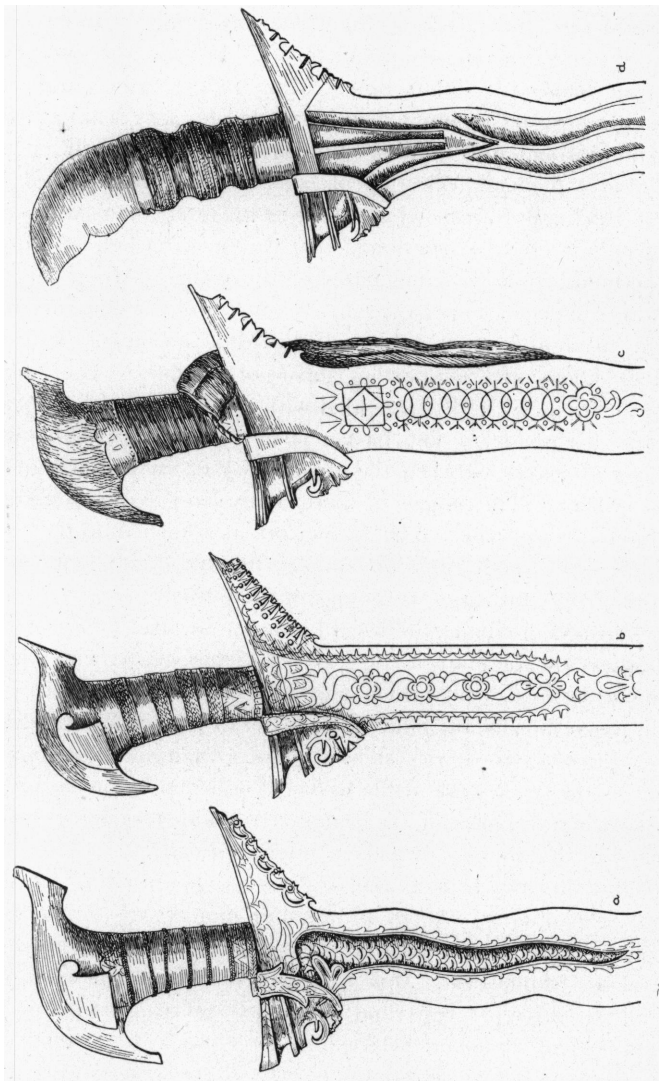


Fig. 23. a (70.1-4146), b (70.1-4150), c (70.1-4175), d (70.1-4147). Designs and Forms in Kris Decorations. Length of a, 73 cm.; b, 75 cm.; c, 73 cm.; d, 71 cm.

The handles are usually slight variants of what appears to be a bird form. Knives of the type shown in Fig. 22 d, often have handles representing heads of conventionalized animal forms. For the specimen examined the eyes are marked by inlaid dots. Many of the swords and knives have silver mountings and mention may be made of a kris scabbard ornamented with alternating bands of fretwork in silver and turtle shell.

Upper Burma. A small collection of baskets has been received from the Kachin of Upper Burma in which there is an interesting pack basket of unusual form. It may be mentioned that the pack baskets of America are usually pointed, while in some parts of the Congo, Africa, they are shallow and tray-shaped. This basket has a cover and a rectangular base, as is frequent in southeastern Asia and the Malayan area. It is also strengthened by hoops and supporting staves of bamboo. The carrying strap passes over the head and is provided with a curious wooden yoke for the shoulders as a spreader. The basket is in technique a double structure with a layer of leaves between the inner weave of coarse twill and the outer of fine wicker. The edges of both body and cover present an interesting braid of fine cane. The framework is attached to the basket by short spirals while small rings of complex flat braid and loops bound with a braid-like edge, form the strappings of the basket.

For short journeys, a small cylindrical basket on an oval base is carried. These cane baskets are about 40 cm. high and of wicker weave, with a framework as in the larger basket but which is attached by a Malay knot.¹ Five rows of twine weave border the edge below a braid formed by the ends of the warps. A three-ply rope with short ends of a material which appears to be the same as the framework of the basket is attached by means of loops formed by the upright spokes of the frame. A braided carrying strap of cane is attached to this rope by swivels of interlaced cane.

A satchel-like carrying basket used by chiefs when visiting friends is constructed of twilled cane. A flat rectangular mat 80 cm. by 35 cm. is first woven, then folded double and the side edges firmly closed by the aid of two strips in the framework. Malay knots attach this framework to the satchel. A native three-ply rope and a braided carrying strap make it complete. On festival occasions the Kachins use a small ornamental basket of very fine cane and yellow orchid stems. Its shape and construction is similar to that of the last basket; but when half of the mat is woven, the weave changes from twill to twilled twine, woven in opposite directions. Bands of the twilled twine are overlaid with the yellow orchid stems, in diamond and arrow point designs. The edge is of twine with the alternate

¹ Otis T. Mason, *Basketry Bolo Case from Basilan Island*, p. 196, Washington, 1907; *Vocabulary of Malaysian Basketwork*, p. 25, Washington, 1908.

warps coiled over three joining warp stems and run into the twining. A dainty three-ply cord and braided strap are also attached to this wallet. The character of the ornamentation is quite like that on specimens from the Andaman Islands. (M. L. K.)

Andaman Islands. A systematic collection, the gift of Mrs. Morris K. Jesup, was made in the Andaman Islands by Mr. C. Anderson, an account of which, with numerous illustrations appears in the *Museum Journal*, April, 1909. The collection is fairly complete and is accompanied by important notes on the customs of the Andamanese. The peculiarly shaped bow of the Andamanese, used for shooting fish is well represented in the collection and in addition, mention may be made of baskets, drums, sleeping mats, ornaments of shell and torches made of resin wrapped in palm leaves used for fishing at night, large iron-pointed arrows for killing the wild boar and long barbed turtle spears. Of especial interest are several human skulls worn as tokens of respect for lost relatives. These are carefully cleaned and painted, after which pendants with shells or fringe are attached and a strap put on, by which they can be suspended around the neck of the wearer. The collection contains a number of human jaws prepared and worn in the same way and for the same purpose as the skulls just described. Also, mention may be made of a fetich composed of human bones with shell pendants worn by friends of a sick person in order that his sufferings may be mitigated. With the collection is a series of photographs representing ceremonies and other phases of Andamanese life.

Archæology. Through the kindness of H. W. Seton-Karr, a few palæolithic implements from India were added to the collection. These were washed up out of pleistocene lateric alluvium, containing quartzite boulders, in Poodi and Gazeefet, Madras Presidency, and are interesting as coming from a country archæologically little known. They are generally like the palæoliths of England and of the Somme Valley, France. In addition may be mentioned some celts from the vicinity of Banda, all made by pecking, in some cases finished by polishing, and characterized by a broad bit tapering to a pointed butt. They have a general resemblance to some New World forms.¹

Also it may be of interest to mention casts of a few stone implements from Shantung, China, collected by Rev. Samuel Couling, a Baptist missionary. The originals are in the Royal Scottish Museum, Edinburgh. The series consists of celts, hammer and rubbing stones and a grooved axe. The celts are of a number of types, easily duplicated in almost any collection from the Eastern United States (Plate XXIII). Examination shows them

¹ H. W. Seton-Karr, Report of the U. S. National Museum, for 1904, p. 748.

to have been carefully wrought by the usual process of pecking, grinding and polishing. An irregularly shaped object of stone appears from its worn and battered appearance to have been a hammerstone; while another pebble, very much worn and beveled on one side, shows every evidence of having been used for grinding and polishing. Yet most interesting of all is that rarest of neolithic forms in the Old World, a grooved axe. The specimen is small and the groove encircles three surfaces, the fourth side being flat. Thus this small collection is exceedingly interesting as coming from a region, the prehistoric archæology of which is so comparatively little known, and in its duplication of so many well-known New World types.

PHYSICAL ANTHROPOLOGY.

The collections under this head were considerably augmented during the year. We may mention fragments of a skull from a mound in Nebraska presented by Mr. Robert F. Gilder, thirteen skulls from the vicinity of New York City presented by Henry Booth, and one skeleton and two skulls from Auckland, New Zealand. By courtesy of the Egyptian Expedition from the Metropolitan Museum of Art, a collection of human bones from ancient burials has been received. However, the largest acquisition was a series of 1800 palate casts from normal and feeble-minded white subjects, collected and presented by Dr. Walter Channing. The casts are so distributed as to furnish an unbroken series from the sixth year of childhood to middle life. During the year the Museum published a comparative study of this collection to which the reader is referred for further information.¹

¹ *Anthropological Papers, Vol. I, Part V.*

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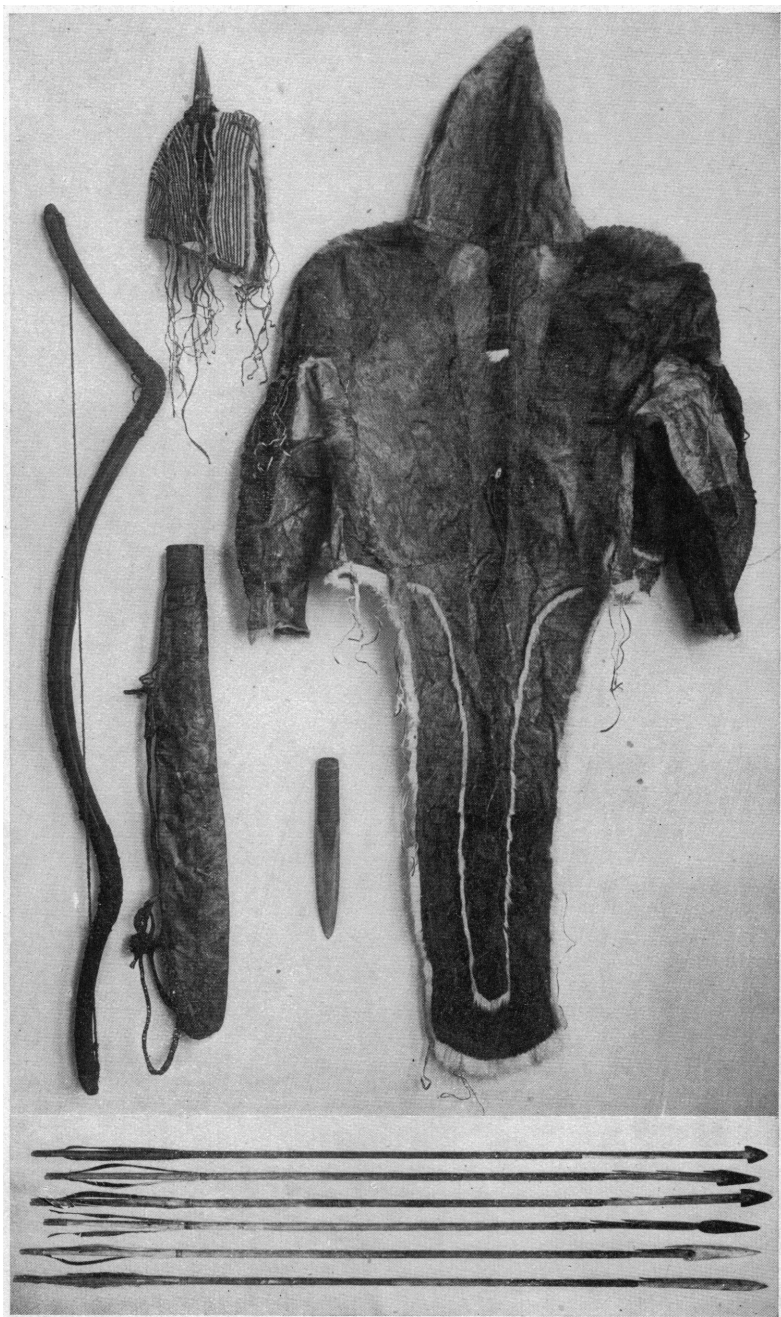
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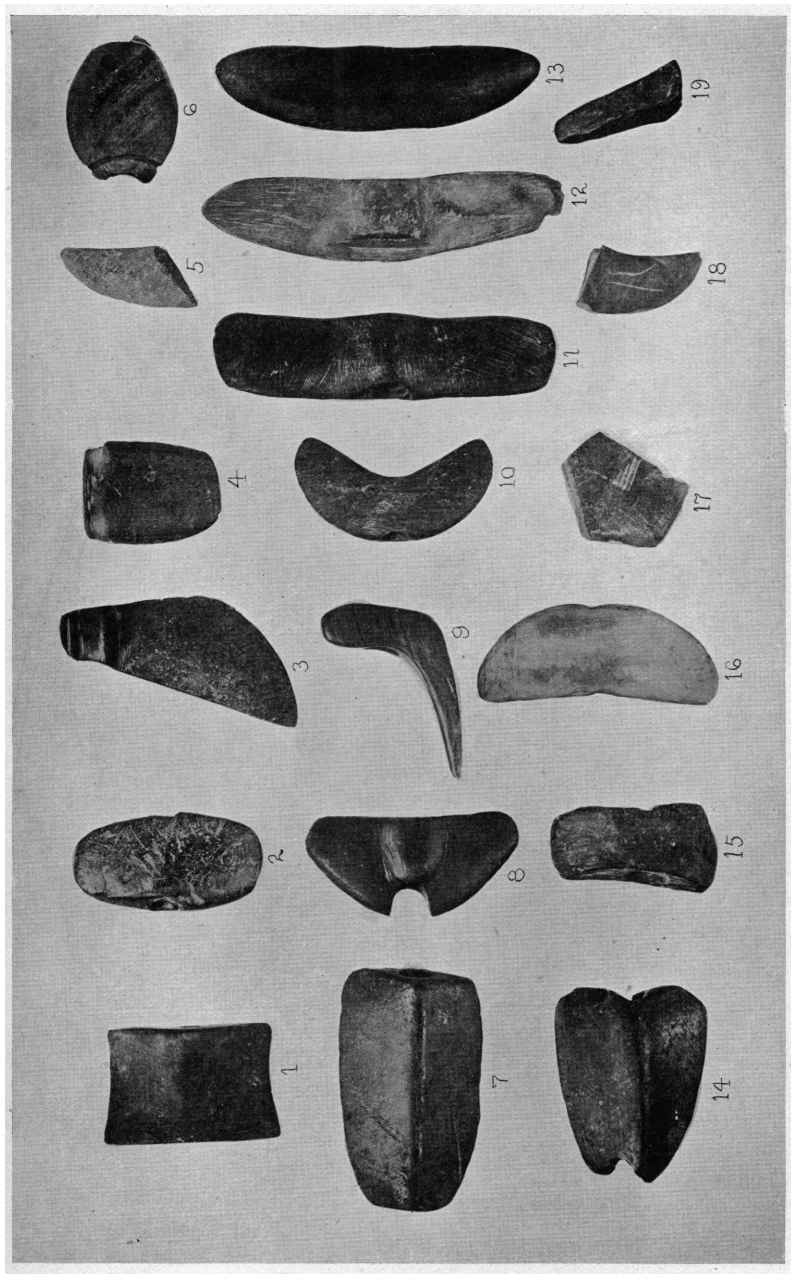
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FROM PRINCE ALBERT LAND.



BANNER STONES FROM VALLEY OF THE HUDSON.



NICOYA POTTERY.



ARMADILLO JAR.

(Page 324)



POTTERY FROM NICOYA AND TERRABA.



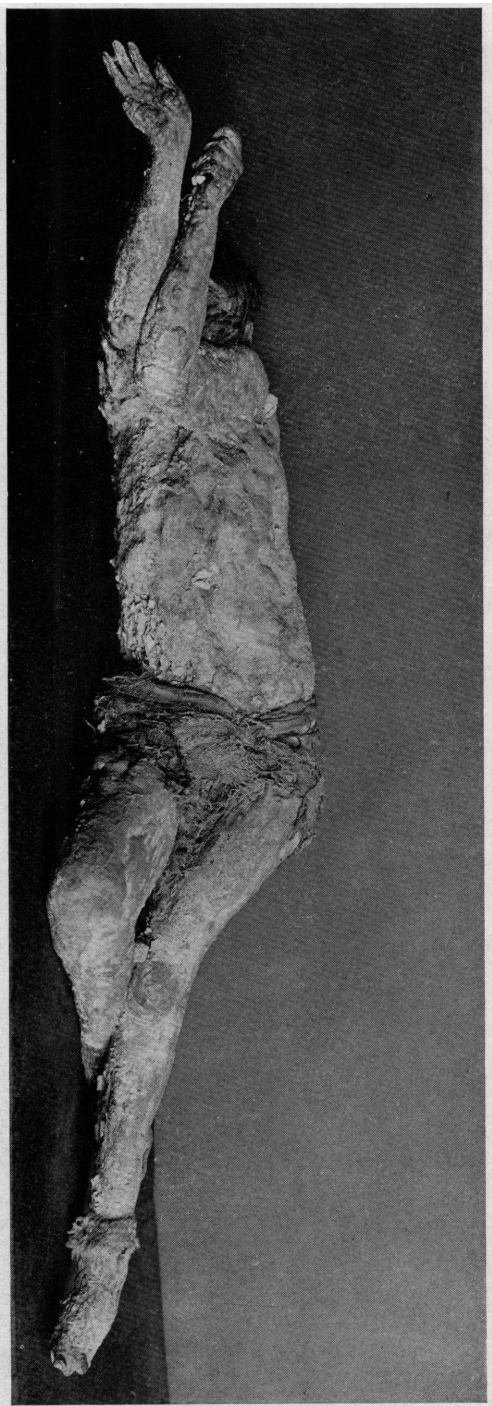
FULL COSTUME OF THE TUKÁNO INDIANS.



PAINTED CAPA FROM PUNTA ARENAS.

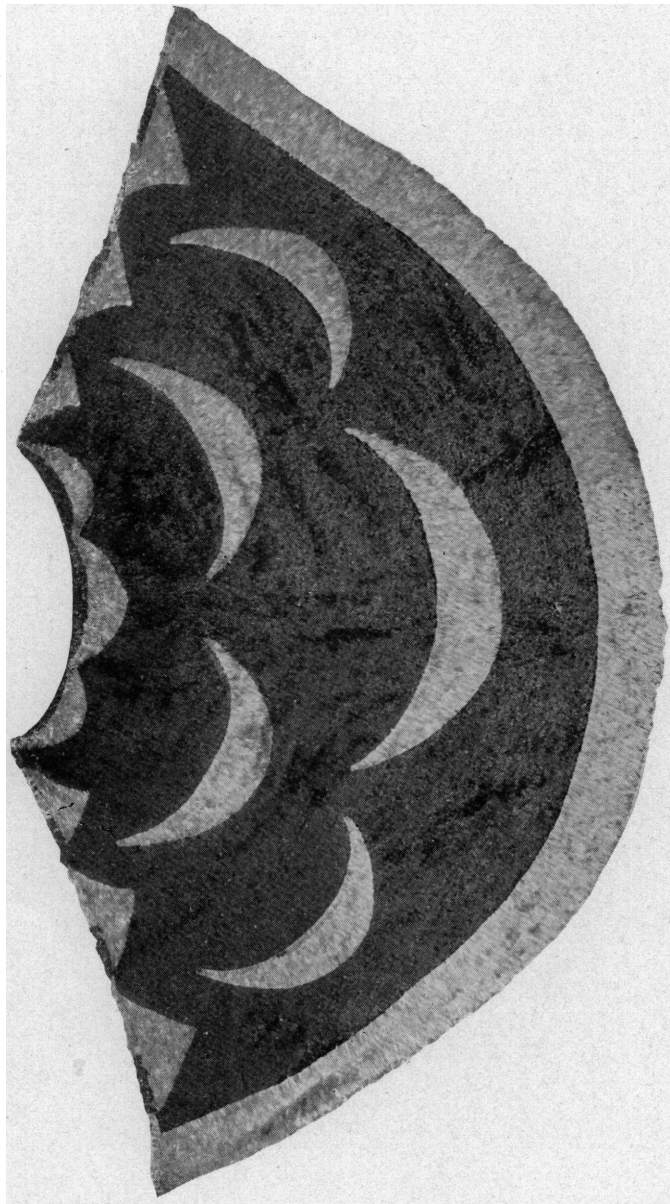


BLACK POTTERY FROM COLOMBIA.



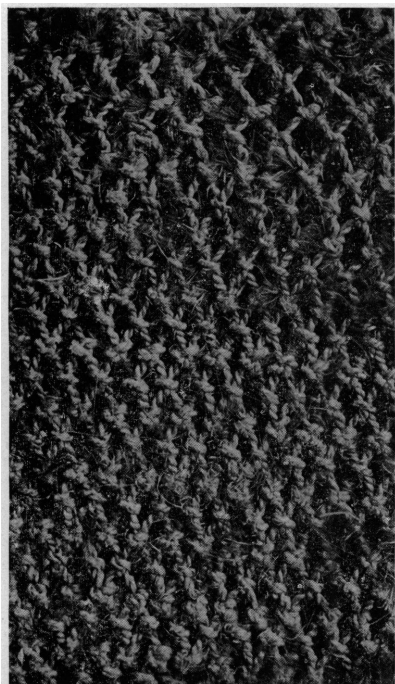
A MUMMY FROM CHILE.

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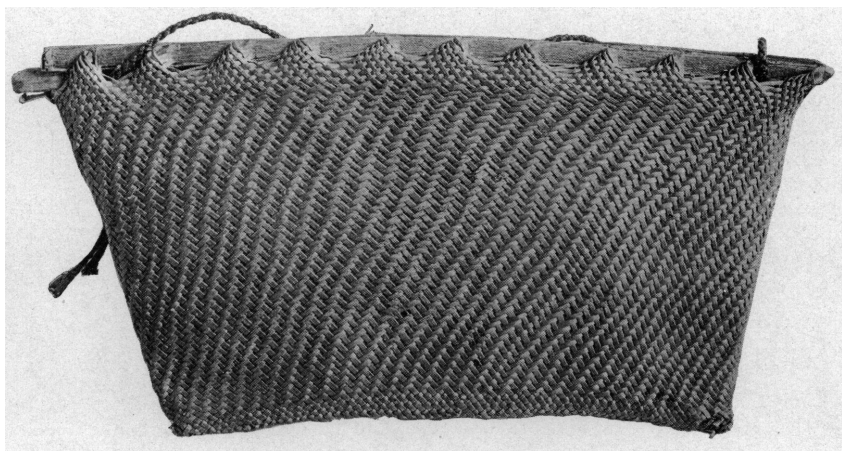
THE KEARNY FEATHER CAPE.

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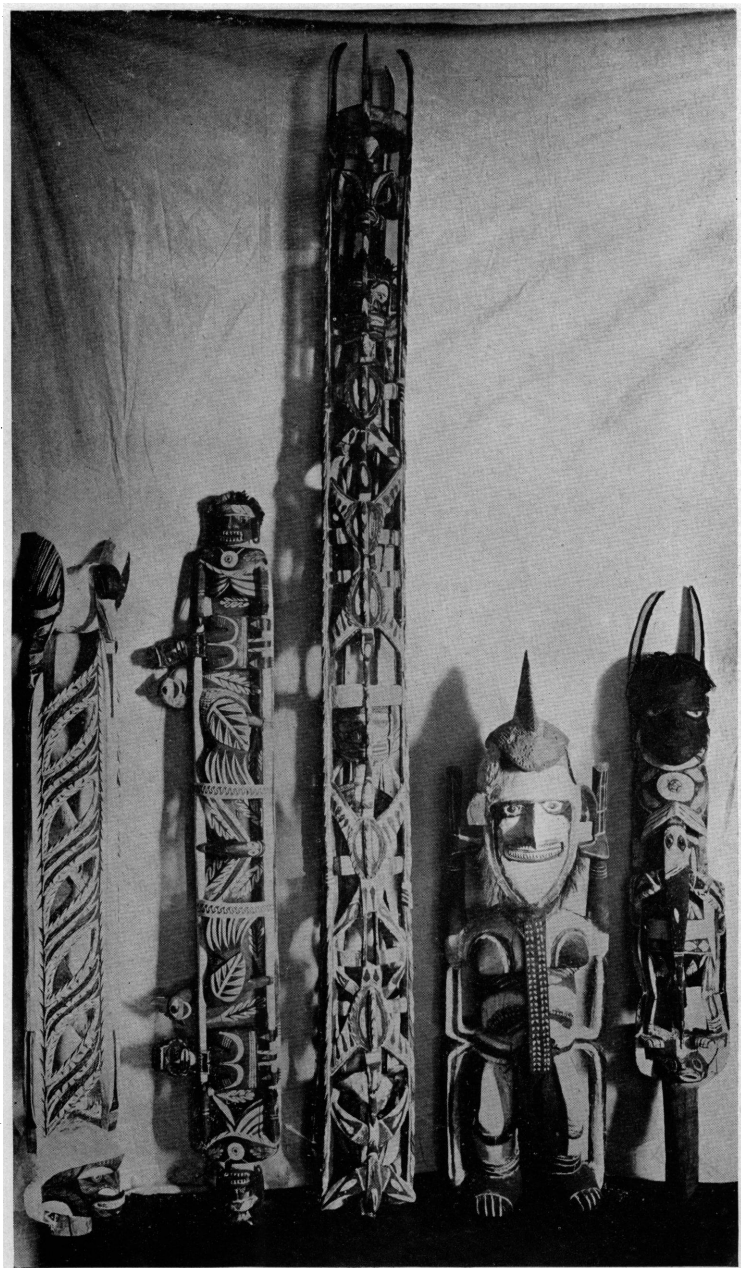


TECHNIQUE OF THE KEARNY CAPE.

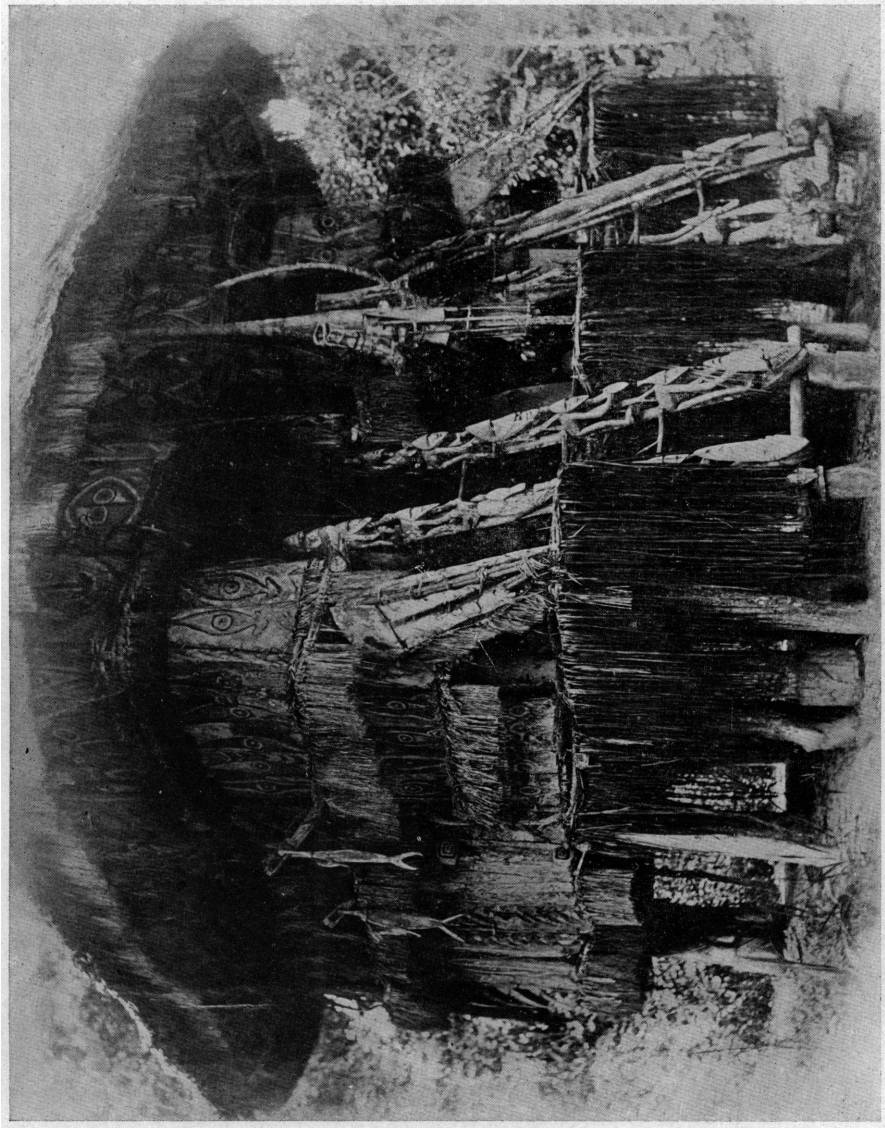
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BASKET FROM NEW HEBRIDES.



CARVED FIGURES FROM BISMARCK ARCHIPELAGO.



TABOO HOUSE, BISMARCK ARCHIPELAGO.



WOOD CARVINGS FROM MULANDI.



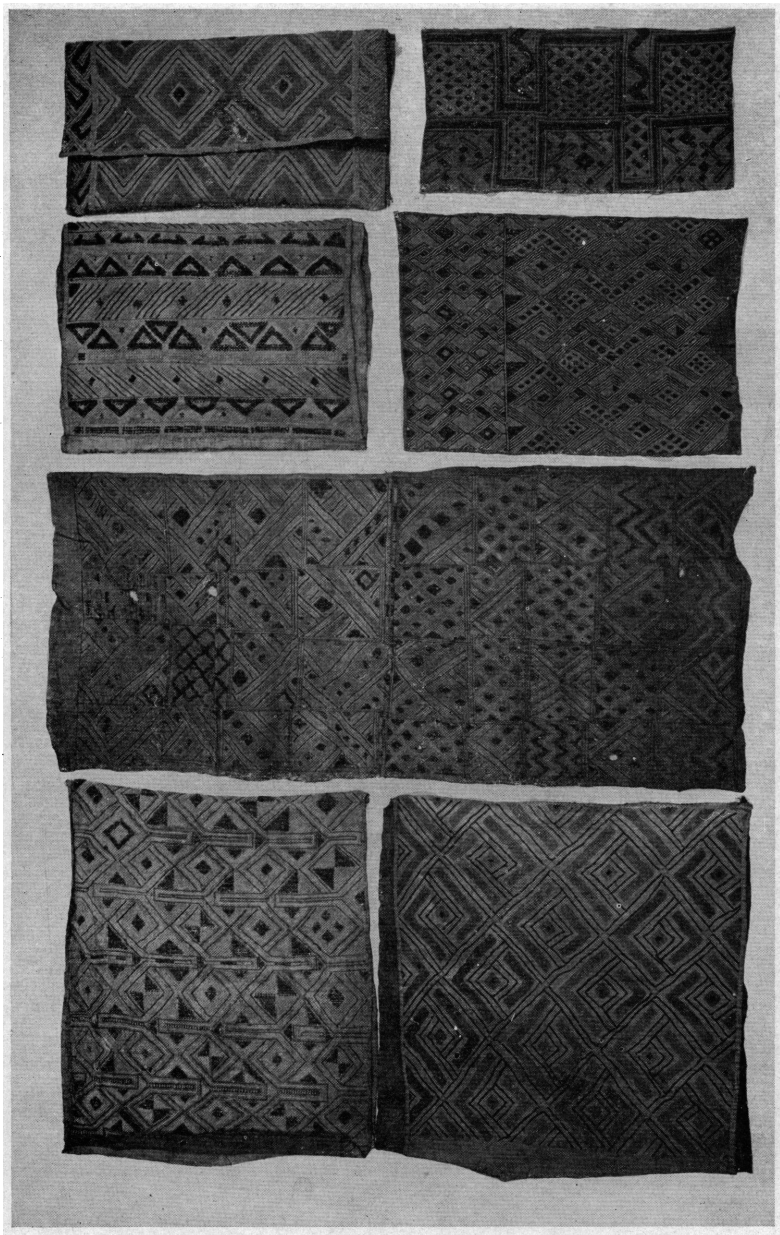
WOOD CARVINGS FROM THE CONGO.



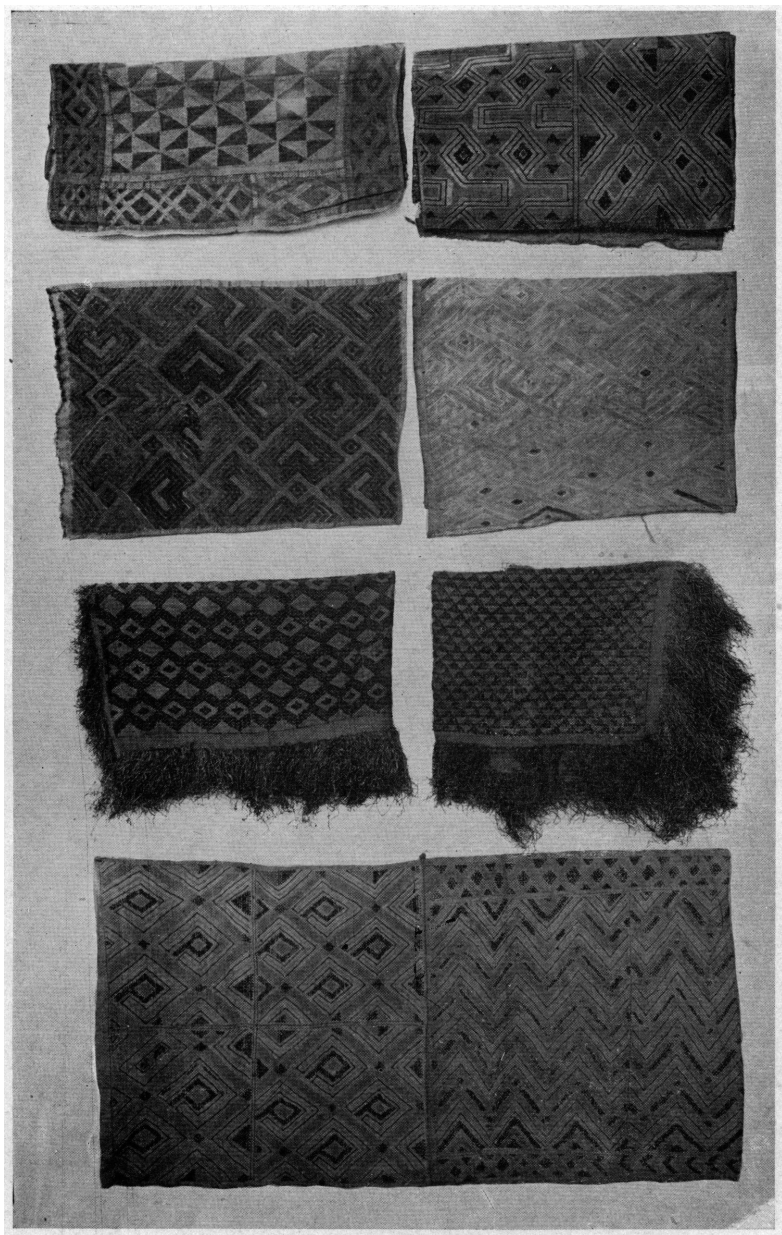
AFRICAN IMAGES AND MASKS.



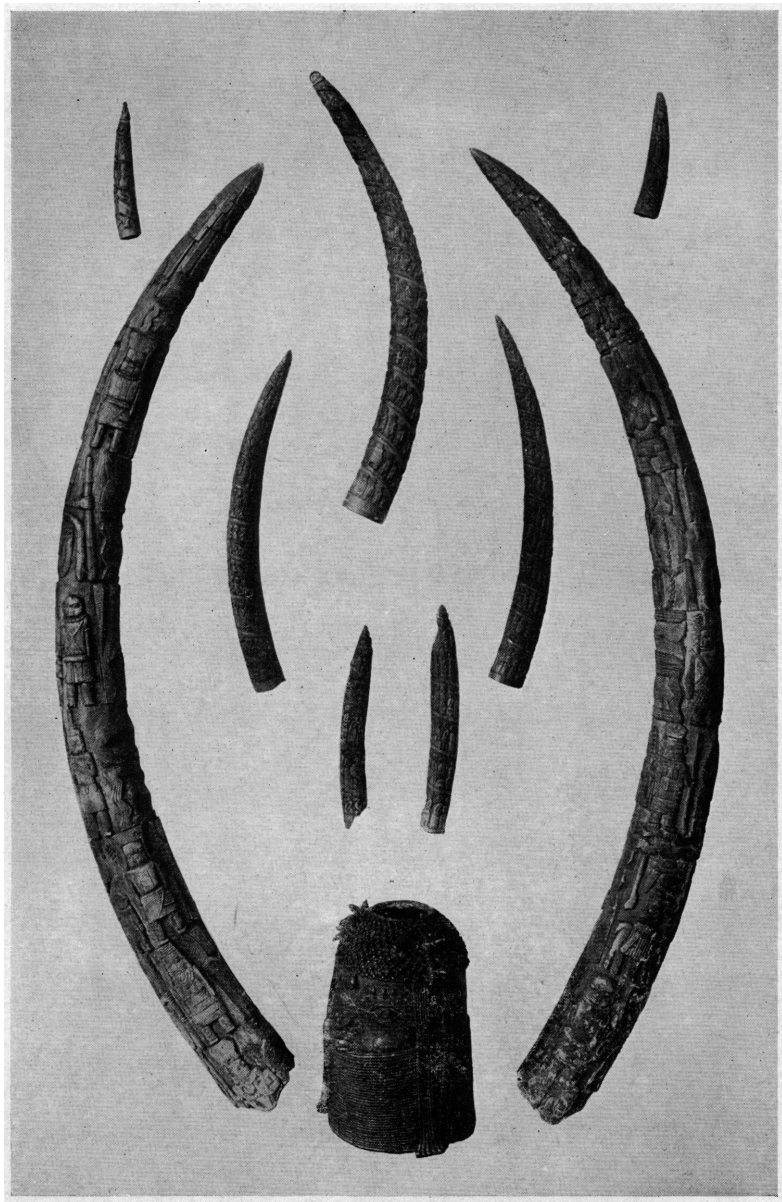
MUSICAL INSTRUMENTS FROM THE CONGO.



BAKUBA PILE CLOTH.



BAKUBA PILE CLOTH.



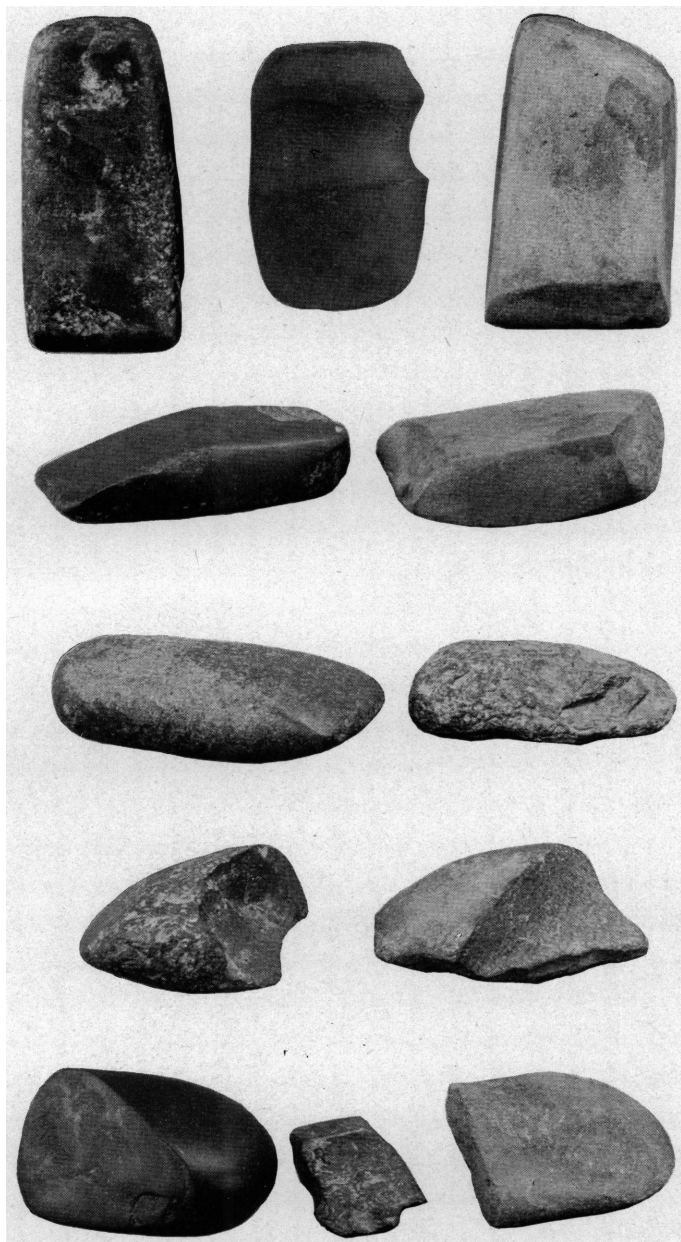
CARVED TUSKS AND A BRONZE HEAD.



BASKETS, POTTERY, GOURDS AND WOODEN WARE.



FROM THE PHILIPPINE ISLANDS.



STONE IMPLEMENTS FROM CHINA.

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