

DESIGN AREAS IN OCEANIA

BASED ON SPECIMENS IN THE UNITED STATES NATIONAL MUSEUM

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INTRODUCTION

Primitive art, as usually understood, is the product of geographic areas and of peoples who have for some reason not shared in the technical development centering about metallurgy in Europe. Other great metallurgical centers, as southeastern Asia and central Africa, developed art styles more commensurate with local developments in culture generally and were not disturbed by the early organized diffusion of western trait complexes. Each of the more generally diffused elements of design, as the triangle and zigzag or alternate spur, the spiral, the swastika, and the meandered guilloche, has a distinct areal style which may never be mistaken when once one has become accustomed to it in its local setting.

There seems to be a key design peculiar to each distinctive art area that unlocks the secret of the origin of other designs from the same area. Frequently this key is merely the understanding of a conventionalized form as applied either to textiles or to wood carvings, such as the incised frigate bird designs of Polynesia, or the crocodile, water buffalo, dog, and leaf designs in Malaysia.

When man attempts to represent objects of nature through the graphic arts of drawing, engraving, or painting, he is confronted with the problem of showing three dimensional objects on a two-dimensional surface. Primitive peoples solve this problem in a manner different from ours. Perspective is utilized by the civilized artist to give a visual presentation of the object as it appears to us in photography. The primitive artist realized that such a view must exclude from vision certain features essential for its recognition; the eye, for instance, when the individual is seen from the back. The primitive artist puts into the picture what he considers most important. That his point of view is influenced not so much by momentary impressions as by the demands of a formalized art enables the student to classify and evaluate designs of primitive peoples.

Peoples having a developed art technic, whether symbolic, representative, or purely decorative, rarely possess pictographic ability. This is true for peoples of Oceania as well as for the American Indian. It is only when formalized art tends toward realism that a good picture becomes a possibility, as in the Magdalenian cave paintings.

Symmetry may be observed in Melanesian shields or in their designs on paddles and arrows, also on Polynesian dressing boxes of carved wood. Decorations of Melanesian houses have a rhythmic repetition of design motive. Banded patterns on bamboo, although differing one from another, are symmetrical in themselves and are repeated at rhythmic intervals, giving a pleasing effect for the pattern as a whole. The omission, inversion, and distortion of a pattern is carried out with almost mathematical precision. In formalized Polynesian art on tapa, stamped blocks, each incorporating a conventionalized life motive, principally aviform, are repeated at regular intervals. Perhaps the simplest form of this rhythmic repetition pertains to the pineapple and to the lotus-flower motive on brasses, bronzes, and iron objects from Malayan metal-work centers.

Modern Malayan art, incidentally, ranges far superior to prehistoric European achievement. It was only with the coming of Grecian influence to northern Europe that art forms developed there beyond the initial crude stages of the later stone age.

The axial cross, or almost all symbolism in the form of variants of the swastika, have a different application and different meanings attached as we proceed from country to country and tribe to tribe. The use of the spiral is so widespread as to be of no significance in itself, although the technic employed in its execution may betray the maker. Common alike to painted designs on Pueblo pottery in the Southwest and to etched designs on bamboo or wood in Polynesia or in lower Melanesia, we can everywhere in the two areas distinguish the maker by the crudity or excellence of workmanship. The spiral and associated double-curve design representing originally zoomorphic forms, such as the horns of the water buffalo in Celebes, or the frigate bird in eastern Polynesia, is almost mechanically perfect when incised on bamboo or gourds in western Polynesia. It is crudely done in Melanesia and New Guinea. Not only are individual designs poorly or well done in one area, but all of the designs share alike and take their cue from the quality of the key design. We may thus speak of the excellence or of the crudity of design as characteristic of art areas.

Wood carving is usually characteristic of peoples of the stone age. This is notably true of the Melanesian islanders. Their carving of representations of the alligator and of the frigate bird is

superb. The Polynesian art complex employs similar designs but the media of bark cloth sets this apart from Melanesian patterns. Tattooing is characteristic likewise of both Melanesian and Polynesian areas. Cultural habits complicate the explanation of styles in art still further. Squatting tribes, for example, naturally do not develop artistically embellished stools or seats. A development of art in hair coiffures naturally leads to the invention and ultimate artistic embellishment of a neck rest, as in Polynesia and Japan.

The wood carving of the Maori of New Zealand, with its repeated use of the incised surface spiral, may never be mistaken for totemic carvings in the round of the Haida Indians of southeastern Alaska and British Columbia. The same may be said of the peculiar style of wood carvings of the Marquesan islanders, or the Fijians. The specimens of the wood carver's art of the various peoples of the Pacific show an appreciation of form and line. It will be seen, however, that incised surface decoration is in the style of tapa-cloth ornamentation to a remarkable extent. Ceremonial adzes, clubs, paddles, stilts, etc., were treated thus with the most minute and patient work, employing the teeth of the shark as etching tools.

Figures carved in the round, although produced by the Maori, the Melanesian, the Fijian, the Hawaiian, and the Filipino, yet are sufficiently distinctive to become a key or index to the art of their respective geographic design areas. In carving in the round, certain subsidiary principles arbitrary in their nature lead up to differences in their execution. The element of grotesqueness, frequently misunderstood, enters into the designs of each of the areas just mentioned so far as carvings in the round are considered. The omission of parts, the repetition of others, the misplacement to fit the media on which the design is applied, all these principles are well understood by the primitive wood carver; yet for each there is a difference in style.

Of all areas of decorative design, the island world of Oceania is the most extensive. Its most easterly projection is Easter Island, situated near the American coast. In the west its most extreme projection is Madagascar, near the African coast, while in the north Hawaii lies in comparative proximity to the Aleutian Islands of Alaska. The customary explanation of Japanese culture derives it from the Asiatic mainland.

This mighty island world, Oceania, then, taken as an area together with its seas and oceans, includes approximately as large a space as Asia. It is naturally divided into eastern and western parts, the line of cleavage corresponding roughly to the one hundred and thirtieth parallel. To the west of this lie the islands of Indonesia, together with Madagascar, the western half of which may be classed as belonging culturally to Africa. Oceania has been privileged to

share the proximity of the great culture influences of the Asiatic peninsulas of Arabia, India, and southeastern Asia, that point like so many huge fingers in the direction of Indonesia and the islands of the East Indian archipelago.

Eastward of the one hundred and thirtieth parallel the smaller islands of Micronesia and Polynesia remained isolated in a stone-age culture level until the days of Captain Cook and other great explorers of the eighteenth century. Stirling and other recent explorers found tribes of the interior of the Melanesian island of New Guinea similarly still unadvanced beyond the stone age. Micronesia and Polynesia are nowhere contiguous to the coast of a continent or of a peninsula which might serve as a bridge for the transmission of culture traits. They are closely pushed together in separate isolated groups.

If we thus divide Oceania into an eastern Polynesia and Micronesia, and a western Indonesia, we have not included Melanesia and the islands centering about the great island continent of New Guinea. From the geographic viewpoint these two groups are closely related to central Indonesia, but from the viewpoint of culture connections the same is not entirely true. Indonesia and Micro-Polynesia are mainly inhabited by peoples who speak languages differing as to dialects but related as to structure, i. e., the Malay or Austric language. This linguistic similarity, however, does not extend to the Melanesians or to the Negritos and Papuans of Australia and of New Guinea and surrounding islands.

Micronesian arts.—The Micronesians dwelling in island groups such as the Carolines, Gilbert, and Marshall Islands typify a culture in which the knowledge of iron is lacking and useful stone is scarce. The arts of the Marshall Islanders are well shown by the weaving paraphernalia and excellent belts exhibited in the National Museum. Shell and fiber neck ornaments, seed necklaces, woodwork, basketry, and ornamental bamboo boxes illustrate the type of art used in Micronesia.

The specimens exhibited in the United States National Museum embrace shark's-teeth spears, coconut fiber armor, helmets of fish skin, drums, headdress, basketry, ornaments, coconut vessels, dippers, house models, lapboards, pillow, boat bailers, lime gourds, fish-hooks, awls, pump drill, daggers, dish, canoe prow, and oval mauls of coral rock and heavy wood for dressing the pandanus leaf used in basketry.

Distribution of Polynesian designs.—Polynesians apparently may account for their occupancy of such widely separated islands as New Zealand, Hawaii, and Easter Island by their skill in navigation. They observed the flights of birds and set out to find the lands whence came these birds. The cult of the frigate bird, which plays a great

rôle in the life of Polynesians and of Micronesians such as the Gilbert Islanders, developed through a recognition of the essential aid rendered them by this bird when sailing the outrigger boat literally from one end of the Pacific to the other. It is therefore not astonishing to find the frigate bird motive among the wonderful wood carvings of Polynesia. Notably excellent examples of this design may be seen on carved wooden paddles from Hervey Island. These paddles are completely covered with an open-work filigree carving incorporating the frigate bird motive.

The American mainland was apparently outside the main course of Polynesian travel, due, no doubt, to the lack of the flights of birds coming from that course. There was nothing to prevent the discovery, occasional landing, even the settling of the American west coast by Polynesians. They were competent to make journeys of a month's duration, covering greater distances than that actually lying between the coast of South America and the western outpost of Polynesia, namely, Easter Island. The outrigger boat, when equipped with Micronesian navigators who knew the courses of the stars, and who were provided with a crude sailing chart of bamboo sticks spaced on a bamboo frame in such a manner as to plot out the course, made it possible for Marshall Islanders to engage in deep sea voyaging far from the sight of land. Landings of Polynesian crews on continental America doubtlessly were made from time to time, as evidenced by the many items of culture similarity in tropical America and in Oceania. Similarities with Polynesia in the culture of certain Northwest Pacific coast Indian tribes, such as the Haida and the Tlingit, who excel in plastic sculpture, in wood carving and in stone working, have often been noted. One of these, infrequently taken into account, is the wide extent of Pacific coast area where the Indian tribes of diverse linguistic stocks possessed a knowledge of woodworking and of sculpturing. As this area extends all the way from central California to northern Alaska it is apparent that the design area is an old one. Old Malayan influence, discussed later, might offer a tentative explanation. In explaining such extensive design areas as Polynesia and the Pacific coast of America it is necessary to allow for elapse of great periods of time, perhaps, also, completely to disregard the possibility of tribes now occupying the region as having established such culture contacts as at one time undoubtedly existed.

It has been conjectured that the so-called Old Malayan or Early Indonesian population elements of southeastern Asia arrived on the coasts of the several Indonesian island archipelagos at an early date. Motivation for this early travel may have been desire for adventure, overpopulation, or simply desire for trade. At any rate they

found such groups as the Philippine Islands, the great islands of Borneo, Sumatra, Java, New Guinea, even the Malay Peninsula, in possession of a dark-skinned Melanesian population. Pausing for a time along the Melanesian coasts, and occupying large areas in Borneo, Java, Sumatra, the Philippine Islands and other islands of the East Indies, they wandered gradually eastward, occupying ultimately the several island groups known to us as Polynesia. These islands in mid-Pacific they found unoccupied.

These early immigrants possessed the rudiments of a wood carver's art. Figurines representing the ancestral gods were carved from hard wood; representations of them were applied ornamentally to weapons and utensils. The use of paints was restricted to the medium of bark cloth which was used decoratively or as a bodily protective covering. The Polynesian artist was not master of such a large field as a robe of bark cloth. He therefore divided the field into zones when he applied his decorative designs in paint. He likewise had not learned how to portray plant, animal, or human forms. In this he resembles other primitive artists from other lands who, although possessing a conventionalized style of decorative art, yet can not break away from geometrical devices of a more unsophisticated nature. The realistic drawing of such tribal artists is crude. The Cheyenne and Sioux Indian drawings, for example, portraying horses, battle scenes, and hunting episodes, are similarly crude though the conventional geometric art of the Plains Indians is pleasing to the western eye and answers the requirements of many of the principles of design. The early undifferentiated "Old Malayan" art foundation blossomed out into what is clearly distinguishable as subareas of Polynesian design on such islands as New Zealand, Tahiti, Raratonga, Hawaii, the Marquesas, and Easter Island. This differentiation transpired before the time of the great European explorers in the sixteenth, seventeenth, and eighteenth centuries. Culture contact was had only with the culturally impoverished Melanesian, Papuan, and Negrito. In the Marquesas and in New Zealand they learned to carve wooden and stone gods of heroic size according to a design developed by them in their isolation.

The exceptional art patterns developed by the Maori and Marquesans must be attributed in part to Melanesian influences. The Maori learned to free themselves from the conventional division of the decorative field which may still be observed in the tapa cloth decorative designs of Hawaii and Tahiti. In their tattooing this may be noted only to a limited extent as the size of the skin surfaces to be ornamented is naturally determined and divided. The banded panelings in triangular and quadrangular figures appear along with realistically applied figures of birds, sea creatures, as star

fish, also centipedes and other figures. Tattooing is especially developed among the Marquesans, who tattoo the torso, face, arms, and legs, the whole according to a pattern charted in advance of the operation and conventionally divided into zones.

Weaving of baskets is peculiarly lacking in Polynesia, if we except the small fans and baskets not woven in twilled or twined technics capable of being used as decorative aids. Even pottery making is unknown to the Polynesians, as is generally the weaving of textiles. Adjoining Melanesian peoples, notably the Fijians, make an unpainted pottery, but like the Polynesians, possess no basketry or textiles.

In discussing the distribution of decorative art designs in Polynesia one might refer to six distinct geographical design areas as showing differences in art forms and modes of application of design. These are: Tonga-Samoa, New Zealand, Raratonga-Tubuai-Tahiti, Manihiki, the Marquesas, and the Hawaiian Islands.

The Tonga-Samoan area is characterized by the use of straight lines, zigzags, and a derivative, namely, the dentated line. There are some delineations of animals and men. The Fortuna Islands, Tutuila and Rotuma, situated within the confines of Melanesia, and perhaps the small archipelagos of Tokelau and Ellice, appear to belong to this group so far as pertains to decorative design.

In the New Zealand area curved lines with a pronounced tendency toward spirals show a clear relation with Fijian and Papuan types of etched and painted designs.

Stylistic art patterns in New Zealand, as in the Pacific Northwest coast area, are fixed and standardized, the spiral perhaps being the most recurrent device in this subarea of artistic design of which the Maori are the chief representatives. Blanket robes of the Maori have a broad border in colored patterns, principally black, in straight lines, zigzags, and triangles, while the field is plain white. This is more in harmony with other Polynesian designs. Raratonga-Tubuai-Tahiti has for its key designs a geometrical series of zigzags, semicircular and dentated lines.

In the Manihiki area sculptures in wood are for the most part unknown, but small plaques with incrustations of shell nacre arranged in symmetrical form are found.

The Marquesan area designs are more conventional; among them are found two types of human faces, strongly stylized. Examples of this art are represented in the National Museum collection in the form of carved wooden stilts and a dagger with carved figurines in high relief. This latter example of Marquesan design (U. S. N. M. No. 5345) was collected by Captain Aulick, U. S. Navy.

In the Hawaiian area straight lines are decorated with nodes, or in zigzags or angles. Straight lines are parallel or cross them-

selves, forming lozenge-shaped designs reinforced with dots or curved lines.

In an area as large and as heterogeneous as is Polynesia there are but few art elements common to the entire area. As one passes from west to east there is a developmental sequence in the plastic art; the hieroglyphics of the island of Paques are the last stage in this progressive series. The island of Niue presents a distinct phase, however simple. The islands of Poumotu and Gambier are little known from the point of ornamental designs.

Passing to the Raratonga-Tahiti group, we find designs derived from anthropomorphic models. Tahitian objects are rare, but the products of Raratongan art (Hervey) are well represented in museum collections. All objects appear to have a religious significance. Ceremonial adzes with handles of carved palmwood (U. S. N. M. No. 3719), collected by Wilkes in 1838, are probably the most exquisite examples of wood carving known among primitive peoples. Wrapping of sennit cord secures the stone blade. The rectangular pattern of filigree openwork with which the handle is carved resembles lace work.

Hawaiian decorative art.—Hrdlicka, in speaking incidentally of the Hawaiians, says that they do not represent a pure ethnic group, but carry in all probability the blood of the yellow-brown Indonesian, and even Melanesian and Negrito ancestry. This implies that the fundamental type is a yellow-brown or Mongoloid.

There are exhibited in the National Museum collection examples of the principal classes of objects produced by the Hawaiian for the material needs of social life. There are shown excellent examples of stonework consisting of poi pounders, adz blades, net weights, game stones, lamps, mirrors, divination stones, sling stones, grinding and polishing stones, and pestles. Woodwork is represented by platters, kava bowls, bark beaters, and polished coconuts serving for drinking cups. Gourds were enclosed in complicated network and used in carrying and serving food. Smaller gourds were used as cups and rattles. Sperm-whale teeth were worked into ivory hook-shape ornaments, especially into pendants, to which were attached braided cords of human hair and which were valued as fetishes. Several rattles, a musical bamboo, nose flutes, a whistle, and a time-beating stick; ornaments of feather, shell, and nuts; pens for decorating tapa; and fly brushes used by chiefs, are shown. The pearl shell was employed in the remarkable fishhooks made by the Hawaiians. Beads were also made of shell, which resemble those of the California Indians. The Hawaiians prepared a fine even cord of sennit and they were wonderfully skillful in knotting the cords into a pleasing structure, as the carriers for calabashes and bowls. These are sometimes veritable

works of art and form a variety of lace. Marionettes of carved wood and imitation leather capes are paraphernalia of the Hulu dance.

The foundation of the well-known Hawaiian cape is a network of olona, or "native hemp," and to it are attached by means of fine threads of the same material the feathers of native Hawaiian birds. The feathers overlap each other and lie flat, forming a smooth surface. The upper and lateral borders, which are corded with a string of olona, are decorated with alternate tufts of red, black, and yellow feathers. The groundwork is yellow, ornamented with crescents of black and red feathers. In front are two crescents of red, one above the other, one-half of each crescent being on either margin, and they form the full crescents when the cape is closed in front. The inner surface is without lining and shows the olona network and the quill ends of the feathers.

The cord of the upper border is prolonged to serve as a fastening at the throat. The yellow and black feathers are obtained from the Oo (*Acrulocercus nobilis*). The yellow feathers are of great value, as the bird is comparatively rare, very shy, and difficult to capture. It has but a small tuft of these feathers upon each shoulder. Its general plumage is of a glossy black, and from the breast and back are obtained the black feathers. The Oo is taken alive by means of birdlime; the yellow feathers are then plucked and the bird released. The red feathers are from the body and neck of the *Vestiaria coccinea*, the most abundant bird of these islands.

A cape of this description was presented in 1841 to Commodore W. C. Bolton by Kamehameha III, King of the Hawaiian Islands. Capes such as this were formerly the royal robes of state and were considered the principal treasures of the Crown. Length, 17 inches; circumference, upper border, 16 inches, lower border, 66 inches. Accompanying this cape is a cylindrical bag of yellow feathers or leis to be worn on the head.

Decorative art of the Maori of New Zealand.—The Maori are in possession of several distinctive styles and subjects in their decorative art. Noteworthy among these is the carving of the so-called *tiki*—an ancestral deity figurine which plays an important part in their cult and decorative art complex. Though a sacred image, the resemblance to the outline of a human foetus is remarkable. Body tattooing is occasional among the Maori but they do a complete job in facial tattoo. The employment by the Maori of incised or applied surface spirals in complex patterns is foreign to the rest of Polynesia. Spiraled designs are etched by them on the outer surfaces of their wooden bowls and trinket or dressing boxes. Their idols and sacred images are carved, however, in true Polynesian style. The figurines representing ancestral deities vary from island to island. be-

traying thereby a long period of independent growth in design from each of the Polynesian subareas of decorative design. The wooden marionette figurine is a good example of such local variation, through still conforming to the conventional Polynesian style of wood carving. Samoa and Tonga do not possess decorated wooden carvings or decorative designs in the form of line plays. The Maori, like the Marquesans, but unlike other Polynesians, persist in ornamenting the carved surfaces of their wooden implements of diverse description with curvilinear designs. This, as in European rococo art, consists in the application of spirals and of counterspirals locked together. This device resembles that of the Dyaks of Borneo, who thus conventionally represent the interlocking tails of two dogs. Midway between New Zealand and Borneo in the so-called Massim area appear similar hooked spirals. The design blossoms into the concentric circle, so frequently applied as a frieze decoration when daubed over with red paint in the gable end rafter projections appearing at the front of Maori houses. The thick planks of the wooden ancestral pillars supporting these houses have similar decorated surfaces filling in the spaces between the grotesque faces of an ancestral deity. These are deeply incised and inset with shell, the whole being painted over with a red ocher.

Meandered spirals appear incised on the surfaces of the musical bull-roarer of the Australian-Papuan culture area, also on the painted wood carvings of a semisacred nature. As mentioned previously, the richly carved boxes and the ancestral deity figurines are never painted by the Maori, who thus conform to Polynesian rather than to Melanesian art impulses. The spiral design is used by the Maori principally in wood engraving. The spirals are double and are placed in interlocking patterns, or volutes. Boxes of wood cut out of the solid, tattooing, house gable decorations, and house foundation posts—these are some of the typical media on which are placed the spiral patterns in connection with diverging lines, spurs, nucleated cores representing eye forms, and other facial features, or any feature breaking up the continuous spiral, but blending into it. The design overlaps into Melanesia as shown in the cut devices on shields from eastern New Guinea.

Carving in the round is a characteristic of the Maori woodworker, who resembles in this respect the artisans of many other areas, notably Melanesians and Northwest Pacific coast Indians, each in a broad way contiguous to the area of the Polynesians. The art of wood carving in the South Pacific is imitative in that the designs are similar to those used on more flexible materials such as the woven fabrics in Tonga.

In comparing Polynesian textiles, the contrast between the feathered mantle of the Hawaiians just described and a Maori man's cloak

exhibited in the National Museum is of interest. The material is finely prepared *Phormium tenax*, or New Zealand flax, twined with great accuracy and neatness. The border is formed by dividing the warp into numerous strands intertwined with black-dyed flax and red strouding (bayeta), producing lozenge patterns in great variety. The edges of the cloak are bordered with a narrow geometrical pattern of close twining which is continued from the border of the garment. The upper edge is finished with a sewing of red and black cord and is supplied with two tying strings. The robe is a fine example of the best textile work of the Maori. The material has aged to a fine brown color and has taken on a silky luster. Collected by Edwin Smith, United States Geological Survey, in 1883. Length, 38 to 45 inches; width, 52 inches; bottom border, 7 inches wide; side borders, 1 inch wide.

Tonga-Samoan art area.—Samoans of to-day have been affected as to the nature of their clothing by the distance from the centers in which the whites live; also the inconvenience of the old Samoan dress has caused them to adopt cotton materials for clothing. The men and children wear a lava lava or loin cloth knotted about the waist and reaching to the knees. The men usually wear a cotton undershirt and on official occasions a white coat.

The women wear a loose wrapper or a skirt and loose sack, or the skirt may be replaced with a lava lava. At the siva siva, or ceremonial dance, and other purely Samoan ceremonial affairs, olden types of costumes and ornaments are seen, especially those of the women and the costume of the taupo, or village virgin.

The Samoans are skilled in making mats, buckets, and fans from pandanus and palm leaf, these plants yielding excellent material for the purpose. Mats are made of exquisite fineness and are valued as heirlooms. These mats are trimmed with red feathers of a parrot. Baskets are woven in checker designs in black and natural colors, and fans are constructed in beautiful forms and patterns. There are exhibited in the National Museum wooden dishes, clubs, spears, adzes, combs, fly brushes, ornaments, and a drum. A large kava bowl was presented to President Grover Cleveland by Malietoa, King of Samoa. The exhibit also consists of ceremonial dress, dance head-dress, ornaments, combs, pillows, paddles, spears, and fishing appliances.

Breadfruit, bananas, taro, potatoes, and coconuts furnish the principal food supply, and fish are eaten. The only domesticated animal is the pig. The Samoans are robust and active, their war-like exercise with club and spear, and their constant practice with the canoe paddle developing a fine physique. They are cleanly, and delight in flowers and perfumes. The men excel in woodworking,

in building elaborate houses, in making large canoes, and in carving out bowls, dishes, clubs, and spears from the Samoan chestnut. The women weave mats of the finest texture, and beat out bark cloth of strong fiber with corrugated clubs, decorating the fabric with native designs in color.

The Samoans are of the brown Polynesian race which at some early period spread over the Pacific to numerous widely separated islands and reached to within 1,800 miles of the South American Continent. The Samoan Islands were visited by the Dutch navigator Roggoveen in 1722, and named by Bougainville in 1768. Like the Hawaiians, Samoans live in villages which are scattered along the coasts of their tropical islands. They were formerly ruled by hereditary chiefs, but as the islands now belong to the United States their governments are accordingly administered by naval officers.

Tapa cloth, leaf girdles, necklaces.—The making of tapa cloths is one of the oldest native industries of the Samoans, Fijians, Hawaiians, and of other Pacific islanders. These cloths of beaten bark are now used mainly for decorative purposes during festivals and ceremonies. They were originally used as lava lavas, a kind of loin cloth worn by Polynesians; also as robes. They are still used as objects of wearing apparel to a limited extent, although natives find the imported cotton and other European textiles more satisfactory.

Tapa cloth is a primitive type of paper, although not fashioned from the pulp of the wood. It is rather made from the bast of a species of mulberry tree, which grows abundantly throughout Polynesia and which in past years was especially cultivated. When 3 months old it is cut down and its bark stripped from it. The bark is then tied together in bundles and weighted down in fresh water, where it is allowed to soak for about a day. After this soaking the strips are placed on a flat board and scraped with a mussel shell. After they are scraped clean they are beaten with sticks on a round log which causes them to spread out into wider strips. The root of the arrowroot, which resembles a plant bulb, is then boiled and the skin removed. It is then used as a sort of gum for sticking the different strips together. It is rubbed along the edge of one strip which is placed upon the edge of the other and in this manner they are joined, forming cloths of various dimensions.

The cloths are then dyed and painted with patterns for which nothing but native-made vegetable dyes are used. Wooden patterns are made, the white tapas are placed upon them, and with a cloth the dye is rubbed all over them. In this manner the pattern is transferred to the tapa cloths. In some cases the patterns and figures

are painted by hand on the cloths, the fruit of the pandanus tree, which makes an excellent paintbrush, being used for the purpose.

The Samoan bark cloth, or tapa, is not so fine as that of Hawaii and other parts of Polynesia. It is coarse and for the most part crudely decorated. It is manufactured from the u'a, or paper mulberry (*Broussonetia papyrifera*), a plant propagated by suckers and cultivated sparingly.

The bark of the slender sapling is removed and prepared by soaking, peeling, and macerating. The strips are then beaten with the square tapa mallet or beater into long strips. The holes and thin places are filled or thickened by strips attached by paste made from masoa, then the fabric is ready for painting.

The patterns are placed on the tapa by blocks of two kinds. One has a raised design cut out of solid wood; the other is composed of a frame with the ribs and fibers of the pandanus and the coconut arranged in a pattern. Striping with brushes and freehand painting are also practiced.

The colors used are yellow from the fruits of the loa, red or black from the sap of the hibiscus, bluish gray from the juice of the stem of the soa'a, and dark yellow or dark red when slaked lime is added to the juice of the nonu, and brown when it is added to the juice of togo or pau.

The dry and bleached tapa is laid over the pattern block or frame, its edges weighted down with stones, the dry color sprinkled over it and rubbed with a bit of tapa so that the raised design alone retains the color. This is repeated for each field of the design, sometimes a field being gone over with two colors to blend, and then, the patterns having been outlined in colors, they are fixed with the juice of the o'a.

Tapa is still worn at times, especially by chiefs and taupos (village virgins), and is often seen in the villages remote from the trading centers.

Previous to the introduction of American and European trader's goods, such as calico and other cotton prints, the Samoans sewed together an apron from ti leaves (*Dracaena terminalis*). The man had a small apron about a foot square and the women had theirs made from longer ti leaves, reaching from the waist down below the knees and made wide so as to form a girdle all around.

Leaf girdles (titi) now appear only in the siva siva, and are made from the colored varieties of the ti. The leaves are gathered fresh, split lengthwise, the midrib removed, and the pieces strung in one or more rows on the midrib of a banana leaf. For a dance they are considered most ornamental when made to shine with coco-

nut oil. The titi fatupona was a girdle which lasted for a week or longer, and was the type worn commonly in earlier times.

Necklaces of a permanent character are made from various seeds and shells, and are commonly used as gifts at parting. The seeds used generally are those of the lopa samoa (*Leucaena glauca*), which are brown, and those of the sanasana (*Coix lachrymajobi*), light bluish white. These are perforated and strung, either of one sort or of two or more sorts mixed in a definite pattern, and often mixed with the shells of land snails, forming very pleasing necklaces. Armlets of small white shells were worn by the men above the elbow. Some pierced their ears for flowers. A long comb made from the stem of the coconut leaflet was a common ornament for the women, and was worn in the hair behind the left ear. These combs are much inferior to the beautifully carved combs of whalebone used by the Maori of New Zealand, which are very rare. The splendid examples collected by Wilkes, now in the National Museum, are among the few extant specimens of this form of Polynesian carver's art.

Mats.—The early Fijians and Samoans prized fine mats and considered them their most valuable property to serve as a medium of exchange. They were preserved with great care, some of them passed through several generations, and as their age and historic interest increased they were the more valued. Many of the oldest and best mats had distinct names given them, and acquired great value if they had been used as "top mat" at any great occasion, such as at the marriage of some celebrated taupo (village virgin) or at a peacemaking on the conclusion of some war. Many of the most valuable mats are old and torn shreds of the original mats, but they are eagerly sought after by the Samoans.

The fine mats are made of the leaves of a species of pandanus (paono) leaf scraped as thin as writing paper and slit into strips about one-sixteenth of an inch wide. Fine mats are made by the women, and when completed are from two to three yards square. They are straw or cream color, are fringed, and in some instances ornamented with borders of scarlet feathers. A small species of parrot is kept in captivity for this purpose. These fine mats are thin and almost as flexible as a piece of calico. Few of the women of to-day can make them, and many months or even years are sometimes spent in making a single mat.

Another kind of mat is the ie sina, a white shaggy mat woven or plaited so as to be smooth on one side and shaggy on the other. When bleached white they are rather like a fleecy sheepskin. The projecting fibers may be as long as 6 inches. The shaggy mats often were colored with red clay or a red earth mixed with coco-

nut oil. The ie sina are very scarce, and the art of making them is almost lost, if not entirely so. There are villages which do not have a single shaggy mat.

Some of the fine mats are for costume purposes, others are in the nature of house furnishings. They are used only by the chiefs of high rank, and then only on ceremonial occasions and in an official capacity.

Tattooing.—Among the dark-skinned races of Africa, Australia, and Melanesia, tattooing is replaced by the artificial production of raised scar tissue on the body or face, forming designs in relief. This so-called cicatrization is a decorative technic not productive of elaborate or pleasing decorative designs. Asiatic races, Indian tribes generally throughout America, and Oceanic peoples, however, understand thoroughly the tattooer's art which is universal among them. The word *tatu* is of Tahitian origin, its American equivalent meaning "to mark." Among the peoples mentioned the process of tattooing was attended with ceremony, while among the Polynesians the fact that a boy is tattooed signifies he has entered the ranks of the men.

Nowhere is tattooing more effectively applied from the standpoint of esthetic art than in New Zealand. The tattooed faces are wonderful examples of the artist's skill in the application of spirals and of curved line etching. These lines are usually centripetal and cover the entire face, including the lower lip and nose. There are no straight lines and the designs vary from individual to individual, but are symmetrical and conform to stylistic patterns. In Polynesia the decorations appropriate to objects of material culture, such as houses, are different from tattooed designs. Designs applied to cloth or incised on bows of canoes are different again.

In the Marquesas Islands, tattooing occurs in series of triangles of solid color on rectangular bases. These designs tattooed on the body and legs are said to be symbolic and to represent in part mythological events. In part they are merely decorative, depicting animals, mainly the turtle and crustaceans.

According to Samoan legend, tattooing originated in Fiji, where at first only the women were so decorated. In Samoa and in the Marquesas the men alone are tattooed. At the present time, owing to the influence of European and American culture, a native sense of propriety leads them to cover the tattooed parts of the body. The abundance of trader's cotton goods is also a contributory factor. The practice is gradually discontinued as useless and expensive. There is no longer an incentive to bear the pain involved.

In Polynesia a boy is ineligible for marriage until he becomes tattooed. This, of course, before the introduction of western ideas. When application is made for the services of a professional tattooer, a present of a fine mat is made, the acceptance of which is sufficient to make the contract binding. A house is set apart for the scene of the operation. A number of young men are tattooed at the same time and a number of tattooers are employed. Instruments used are shaped from human bone, the serrated edges of which resemble a fine-toothed comb. The instruments are usually five in number and vary from one-eighth of an inch to an inch in length of operating edge. They are securely bound to reed handles 6 inches in length. Tattooing instruments in the National Museum are mostly from Fiji. The American Indians, by way of contrast, used tattooing needles of sharp flint points or of cactus spines; latterly, steel needles secured firmly in a leather binding.

The points of the tattooing instrument are dipped into candlenut ashes and water, and the instrument is then used to puncture the skin by tapping with a mallet. The rapidity with which the tattooer works in following the pattern marks his skill. Patterns vary from island to island only in minor details which might be called coats of arms to distinguish their people, and each generation had some trifling variation.

Tattooing extends from the waist down to the knee and covers the greater part of the body, but is variegated here and there with neat regular stripes of the untattooed skin. The designs when well ciled appear as silken breeches and caused Behrens of Roggewein's expedition of 1772 to say: "They were clothed from the waist downwards with fringes and a kind of silken stuff artistically wrought." A close inspection would have shown the narrator that the fringes were bunches of ti leaves (*Dracaena terminalis*) glistening with coconut oil, and the silken stuff was the tattooing just described.

When all was ready for the operation the young man would throw himself on the ground. A young woman, generally some relative of the youth being operated upon, sits cross-legged and holds the young man's head in her lap. Three or four girls would hold his legs and sing to drown his groans as he writhed under the lacerations of the instruments. Attendants were present to wipe away the blood as it oozed from the skin. When about as much as one's hand was done, upward of an hour's work, the lad would rise and another would take his place. Each one would have a turn about once a week, depending upon the number in the party.

Payment was made to the tattooers with property consisting of fine mats and native cloth, the value of which depended upon the rank of the young chief being tattooed.

Tattooing is an expensive operation for the one tattooed, though for the operator the rewards for his skill are satisfactory. Food is free to him during the three or four months consumed by the operation. Then, too, the payments in fine mats, in tapa cloths, and other considerations reached a respectable amount. If dissatisfied with the payment offered as the work progressed, the professional tattooer simply delayed his work, as an unfinished tattoo was considered a disgrace. Friends always came to the rescue in such an emergency.

Headdresses.—It is impossible to refer to ceremonial garments and decorative wearing apparel without making some slight mention of the ceremony or artistic performance calling for artistic decorative display. Dancing is one of the major methods of expression of Polynesian artistic abilities. Dancing exhibitions are there conducted with the aid of song and the music of instruments. Such performances are designed merely for the entertainment of visitors. The object of the dance is to display native charm and agility. Formerly the Polynesian dance, no doubt, had a symbolical meaning, hinted at by the survival of the punctiliously ceremonial manner in which the simple dance movements are still carried out. The village taupo, or official village mistress of entertainment, is the central figure in the ceremonial dance and is the leader of the concerted movements of the dancers. The dancing group consists of girls working as a ballet. The taupo has undergone a long period of training, and her attendants are rehearsed by her. The excellence of the taupo's dancing and of the ballet is one of the village boasts, and songs and verses of praise are written about it.

The Polynesian dance is very formal. Sometimes three or four hours are required for the toilet of the taupo. Her dress differs from that of her other attendants in one important particular—she wears the tuinga, or Samoan headdress. This headdress is a composite affair of human hair, nautilus shells, plumage, and a scaffold of sticks. It is assembled piece by piece on the wearer's head, and is a source of constant pain to her because of its weight and the tightness with which it is bound onto the head. The foundation is a strip of cloth wound around the head at the roots of the hair. The strip serves to draw the hair into a bunch at the crown and causes it to stand up its full length. Upon the base of real hair is tied a wig of human hair set in a frame of cloth or fiber netting. Then the scaffolding of three sticks and a crosspiece is tied in front and made fast to the cloth covering above the forehead. This framework usually supports a decoration of small mirror disks. Green and red feathers of the tiny parrakeet are attached to the framework, and the tuinga is completed by tying across the forehead a band of several rows of the partition plates of the nautilus. With this

decoration goes a necklace of shells or of whale's teeth ground fine and sharp.

House furnishings.—The furnishings of a house are simple. A few bundles of mats, a roll of tapa cloth, and a few household implements and utensils constituted the furniture before the arrival of the Europeans. Now chairs, tables, camphor-wood boxes, and even beds are appearing in their houses. The furnishings are of two sorts: Those cut entirely from wood and those woven or plaited from leaves or bast.

The wooden articles include bowls, cups, tapa beaters, paddles, bamboo head rests, occasionally low wooden seats, and combs. The most prized bowl is the tahoā, used for making kava. There are few of these in any village and they usually belong to the chief's family, or even to the village. The better specimens take years to make and are beautifully shaped, round, smoothly polished, sometimes with a patina of fine color if in long service, and provided with a variable number of legs up to 16 or more. The bowl is made from a single piece of hard-grained heartwood of a large ifilele tree.

Much less care is used in the manufacture of the umete or mixing bowl found in the cook house. It is a shallow oval bowl with a handle at each end.

Tapa beaters or mallets are made of any hardwood, ifilele and toa being especially good for the purpose. They are square in cross section and have a rounded handle. Two surfaces are finely grooved, while two are smooth.

Bamboo head rests consisting of a short length of bamboo with two short spreading legs at each end are being replaced with the more comfortable pillow stuffed with kapok fiber.

Combs of a peculiar pattern were made of hardwood such as the ifilele and toa. Cups are made of coconut shell scraped thin and sometimes carved. Bottles of glass are now used, but coconut shells with a small opening were used, as well as gourds and short lengths of bamboo.

Cotton mosquito nets have almost completely replaced the tapa canopies formerly draped over the beds.

Floor mats are used to cover up the floor of small pebbles. These are coarse mats plaited from the strips of pandanus leaves and paono. The strips vary from 0.12 to 1.25 inches, seldom coarser, the finer usually about one-quarter to one-half an inch in width. The mats are spread on the floor to sit upon, and in piles, the coarser below and the finer above, for a bed. They may be washed and usually are kept clean.

Among the utensils most used are the coarser pack baskets made from the half of a coconut leaf split lengthwise. Food baskets are

made in the same way. The baskets and banana leaves are all the dining-room furniture required, although the natives are beginning to use imported plates and dishes.

Fans are of various shapes and materials. The coarser fans are woven from coconut leaves and are used to fan the spark to produce a flame. The finer fans are used as heat or sun screens for the face.

Polynesian stone structures and images.—Spirit houses (Fale-aitu) were erected in some of the districts to the deities, especially the war gods. These temples were built of the same materials and in the same style as the houses of men, with nothing to distinguish them from the ordinary dwelling except that they always stood on platforms of stones varying in height and size with the respect felt for the god. They were usually situated on the public green and surrounded by a low fence. Whatever emblems of the deity were in the possession of the village were placed in the temple.

Worship of a venerated ancestral chief appears in eastern Polynesia, in Easter Island and in Tahiti at its best. It is not so apparent in western Polynesia, in Samoa, and in Tonga. Thus, in Tahiti, the Ahu, or stone-flagged burial quadrangle reserved for the chiefs corresponds to the stone bases on which rest the stone images of Easter Island. They also correspond to the bases on which elsewhere in Polynesia are erected the huts where are preserved the small wooden idols.

In Easter Island the great stone figurines with stone hats are found even on the slopes of the mountains. Elsewhere in Polynesia, in Hawaii, New Zealand, the Marquesas, Hervey Island, even on the borders of Melanesia in Nukumanu, all figurines representing ancestral deities are carved from hardwood. In Easter Island, due to the scarcity of hardwood, the figures of ancestral deities are carved from the tufaceous lava, except for the smaller statuettes of from 1 to 2 feet in length, which are carved from hardwood and are very rare. Characteristic of these smaller figurines is the curved nose, protruding ribs, breastbone in relief, abdomen concave, and thin legs and arms. The hard lavas of Hawaii and of other Polynesian islands and conversely the quantities of hardwood there obtainable led to a distinct development in wood carving in the round.

The Easter Island images are the most interesting of archeological monuments. There are over 600 of them on this island. Formerly they stood in groups of from 6 to 12 on platforms of hewn stone facing the sea, but in later years they have been thrown down during the civil strife among the natives. Most of them are to be found on hillsides at the eastern end of the island. They were hewn out of volcanic tufa in the crater of an extinct volcano and transported over its sides, sometimes 3 or 4 miles, to their destination. The island is

almost treeless, and the wonder is how savages could remove objects so fragile as these, weighing from 3 to 30 tons each, over ground so rugged. There are now 400 people living on the island and they are of pure Polynesian stock. They know nothing whatever of the erection of these images and it is quite evident that they are the descendants of a later immigration. The images exhibited in the National Museum, together with many other objects of ethnological interest, were procured during a 12-day visit to the island in 1886 by the U. S. S. *Mohican*, under Commander B. F. Day, U. S. Navy. (These images are described and illustrated by Paymaster W. J. Thompson, U. S. Navy, in the report of the U. S. National Museum for 1888-89.)

Artistic ability of the Fijians.—The skill and artistic ability of the Fijians is shown by type objects exhibited in the National Museum. The exhibit consists of a decorated bark cloth, baskets with pleasing patterns, women's girdles showing remarkable textile work, fans, rolls of coconut fiber cord (sennit); carved wood images, clubs, bowls, food hangers, etc.; masks; and ceremonial fly brushes. The specimens are from the exploring expedition of 1838-1843 under the leadership of Lieutenant Wilkes, U. S. Navy.

The Fiji Islanders have quite fully taken advantage of their material environment and are especially noted for their skill in working wood, from which they make boats, houses, weapons, and a great variety of dishes, headrests, and domestic utensils, which show an appreciation of form and decoration. The exhibit contains carved dishes, pillows, forks, spatulas, coconut-shell cups, and pottery of different shapes, glazed with resin.

In Fiji, painting over of food bowls, kava bowls, pottery, clubs, and other objects is unknown, but the bark-cloth decoration of spaces filled in with figures of black paint resemble the cloth of the Polynesians. It is well known that culturally the Fiji Islanders are closely related to the Tonga and Samoa Islanders. A Melanesian group, the Tami Islanders, are also divergent from ordinary Melanesian practice in that they decorate with carving even the outer surfaces of their wooden bowls and even of their sailing boats. These boats, carrying on commerce with the Siassi Islanders, could readily have absorbed Polynesian decorative ideas so prevalent along the coastal areas of Melanesia. Ordinarily the Melanesians are people of the forested interior or hinterland.

Fiji, which lies on the margin of Polynesia, possessed a greater number and more forms of carved wooden clubs of war and spears than any of the Polynesian islands. The clubs exhibited in the National Museum from Fiji are more massive than those of the dark peoples to the East. The material is usually Polynesian ironwood, which is hard and durable and very difficult to work with primitive tools of stone and shell.

The war spears of the Fiji Islander are made from a single tree trunk under extraordinary difficulties for the worker. They are ornamented with braided coconut fiber cord and carved. One variety has four radiating points lashed to the shaft. The Kingsmill Islander fashions shark-tooth spears and daggers. These weapons are good examples of the skill of these islanders in drilling wood and shark's teeth. Some of the weapons resemble swords. Armor of knotted coconut fiber was used and a helmet of spring fish skin.

Ornaments of the Fijians show an extensive use of shell and much skill in working them into form. The necklaces and other ornaments worked from whale-tooth ivory are remarkable examples of patient industry.

In contrasting the carvings in the round from Melanesia and from Polynesia, one notes at once that the former are painted while Polynesian figurines of hardwood are always unpainted. Furthermore, it is noted that the Melanesian figurines are carved from light wood. There are many accompanying differences in structure and design, also in function.

Melanesian art.—In the islands of Melanesia north and east of Australia we find examples of cultural diffusion from two radically distinct ethnic elements—the dark-skinned, kinky-haired Melanesians and the wavy-haired, brown-skinned, old Polynesians, who were anciently closely linked with the straight-haired, brown-skinned old Malaysians. Immigrants from Malaysia passed through Melanesia on their way to settle in those islands now known as Polynesia. These old Malayan immigrants absorbed Melanesian decorative motivation and applied designs after Melanesian patterns to their sculptures in wood, but also distributed early Malayan design patterns along the coasts of Melanesia, in those islands where they sojourned. This intermixture with Malayan designs helps to set Melanesian designs apart as distinct from Australian-Papuan decorative designs. To be sure, the old Melanesian art survived, and it is sufficiently distinctive in its elementary manifestations to characterize the entire Melanesian art area as separate from Indonesian or Malayan art areas.

Melanesia is characterized through the growth of population units more extensive than those of Papua or of Australia, where simple hunters and gatherers lived their nomadic existence. Better houses and a more close-knit social organization grew along with handicrafts and decorative arts. Wood carving in the round served to represent honored and venerated or feared gods and ancestors. These figurines were not painted; at the most, one provided them with decorative textile covering in red colors. This color was considered sacred, although yellow was also used. The nonpainting of sacred ancestral figurines extended as far as Indonesia and Micro-

nesia, along the border of the Melanesian-Papuan land masses, such as Kaniet in the west and Sikaiana and Loaniua in the east. Tattooing, for example, was not taken up by the people of dark skins, who used instead an abundance of paint, which, in turn, was not used by the lighter-skinned Indonesians who tattooed themselves. The coasts of all Melanesian islands, inclusive of New Guinea, have become Malayan in culture and decorative art. The painting of bark cloth, which appears to best advantage in Polynesia, occurs but seldom in Indonesian and Micronesian art, as in Celebes, for example, where painted bark cloth substitutes for woven rectangular matting.

The Polynesians fashioned their hardwood gods in artistic manner and saw no need to paint them, while the Melanesians fashioned their gods of softer woods in sketchy manner and painted them with gaudy colors. These gods served them only for the festival period. Throughout entire Melanesia there is a riot of color painting, excepting such wooden vessels as are fashioned on the Admiralty Islands, which are not painted.

The carved and tied objects of New Ireland, designed for the cult of the dead, namely the large helmeted heads with small body and yet smaller legs, are similar to the sculptured figurines of Raratonga and New Zealand. In all these figures the painting of the face is similar. This is replaced by the Maori with tattooing. The Uli figures of New Zealand (dead cult) show breasts and phallus—a sort of a fertility fetish similar to that of India. The Uli figure is also somewhat similar to the New Guinea ancestral figurines from the Sepik River tribes, and even resembles the wooden idols of the Maori and of the ancient Easter Islanders, apparent in the rib structure revealed on the New Guinea and Easter Island figures. Papuan influence may be seen in the ray-like appendages on the body sculptures of idols from the Tugeri of the south coast of New Guinea, also on the plastic puppets which are occasionally provided with wooden masks. These wooden figurines are found also in the New Hebrides, in New Guinea, in the Admiralty and Solomon Islands. The Solomon Island puppets have black heads inset with mother of pearl and the Sepik River type is like the bill of a bird. Squatting figures, strangely reminiscent of the Sepik type and of those of the island of Bali, also occur.

The bird motive in Melanesian religious art design goes back to their mythology and is similar to Indian religious art. Thus the bird motive is present not only in figurines but in shield decoration and in symbolism from New Guinea, particularly the ancestral images with bird beak and red paint, and stylized incised border designs, otherwise apparently foreign to the Australian-Papuan and the purely Polynesian art motivation. One finds it in west New

Guinea, where the Melanesian-Papuan element meets with the Indonesian art motivation especially characterized in the squatting figures used as burial vaults, again on the neck rests, wooden carved drums, shields, spears, and bamboo lime containers of the north and south coasts. These display in part the bordered incised designs, in part the faces and figures of men and animals in abundance of decorative variation, all this carving in the round and etching on wood being the work of practically naked cannibals. In the Sepik figurines of carved wood the nose becomes a beak extending to the navel as an ornamental embellishment. This may be due to bird mythology and to nose piercing which distorts the septum of the nose in real life in a supposedly ornamental manner. Ornamental designs of a crocodile head from the Sepik is pleasing and realistic, not grotesque as are the above mentioned. In the south of New Guinea the Tugeri, also the tribes on the Gulf of Papua, all possess this ability of pleasing animal sculpture.

In the east of the island, in the Massim region, appears Indonesian art decoration. This is seen also in the Solomons, where decorated bamboo lime boxes similar to those from Timor in highly ornamental patterns appear, along with dancing boards, black bowls with mother of pearl inlay and horseshoe-shape patterns.

Aboriginal Australian design.—When separated from their traditional methods of executing art designs, most primitive peoples make a poor showing. A conventionalized frigate bird, spiral, or a water buffalo volute may be practically mathematically perfect when it leaves the hand of the Polynesian or Malayan artist, but actual pictures of the frigate bird or of the water buffalo could not be drawn by either of the two. Apparently we must go back to the less sophisticated Magdalenian of the old stone age, or the bushman, or even the lowly Australian aborigine, for realism in pictographic art. Smooth surfaces of rock boulders and cliffs are sometimes covered with paintings of hunting scenes, human faces, corroboree scenes, and of animal life. Melanesians are also skillful in pictographic art. The work of Australian and of Melanesian, also of African bushmen artists, like that of the Eskimo, is in silhouette and lacks perspective.

Australia, larger than continental United States and bordering Indonesia on the south, shows but little differentiation in art designs, and these but of a low grade, on a par with those of the South African bushmen and kindred tribes. Museum collections representing the tribal art characteristic of north, south, and west Australia, include totemic designs on incised stone, bone, and wood. Their representations in sand pictures are considered superior to their incised work on stone and wood. Ornaments of fur and feathers are common; paint designs are associated with incised shell and other media. In art, as in several other phases of primitive life, Australian

aboriginal art is inferior to that of other peoples who have a similarly developed totemic system.

The Australians are one of the most primitive of peoples, and their exhibit at the National Museum consists of spear hurlers, boomerangs, clubs, stone axes, shields, an ornamented fur robe, a netted bag, baskets, a message stick, and a pair of shoes which are thought to render the wearer invisible. Their boomerangs, churingas, and message sticks have symmetrically incised or painted designs.

Isolated as are the great island masses of New Guinea and Australia, we find, as expected, that the decorative motives and the style of their application are distinctive and extremely stylized. A further causative factor in emphasizing the isolation of their art impulses is the racial integrity combined with linguistic forces peculiar to the area. The patterns are applied to basketry and to wood through painted designs. Another form is the combined incised and painted design so frequently found on Melanesian weapons of offense and defense. Sand paintings of a ceremonial nature are not nearly so pleasing as are those of the Hopi of southwestern United States; they are rather in form of a maze such as is well known to our Apache artist when in a ceremonial mood.

Painting with carbon or charcoal or colored clay is also characteristic principally in red and yellow earths. The body is thus painted with stripes; line drawings, and flat surfaces forming geometrical figures. Even the rocks are thus painted, as are objects of diverse description. The narrow oblong wooden shield and the wooden troughlike bowls are so painted, the latter being longitudinally corrugated and painted over with red ochre. Further ornamentation is in the form of white and black bands. Weapons, as shields, spears, and spear-throwers, have zigzag line ornamentation representing snakes. Transverse line, angle, and flat surface designs are varied, and on the curved wooden boomerangs are wavy V-shape patterns in transverse order.

In North Australia basketry ornamentation occasionally takes on a realistic spirit in the form of painted dancer or warrior figures. Peoples having a higher development of basketry technology weave their decorative designs in the body walls of the basket, so that both in the primitive design itself and in the technical deficiencies of basketry, for instance, may one see the low stage of Australian culture. To be sure many peoples, as our own Plains Indians and the Malayan peoples of Java and the Philippines, have a highly developed technical achievement—the one in quill work and the other in basketry—but a corresponding lack of development of pictographic or painting art. It is impossible to establish from observation the art sequence of peoples, whether one observes the Papuans and the

Australians, among whom the art of painting is developed but plastic efforts are crude or entirely lacking, or whether one considers Malay groups among whom the weaver's art and plastic efforts generally reach a high stage but who can not paint. On the basis of such comparisons it is impossible to determine which art is the older. It is rather true that they are mutually exclusive in principle. We need but refer to the crude pictographic efforts of Polynesia, where a corresponding pictographic art—that of tattooing—is highly developed. The modeling of human or animal figures is almost absent in Australia, while the churingas of stone are so carved in the round as to be work of pleasing artistic merit. These highly conventionalized devices, representative of their god or totem, are intimately associated with mythological religious lore and represent imaginary personalities showing a well-understood conventional art. Churingas are usually oval or flat pieces of stone or wood and are provided with incised and painted decorative designs. It is said that the peculiar lengthwise corrugations are first cut into the surfaces of a wood churinga or shield piece to better hold the applied red ochre paint. Patterns are mostly wavy lines or broken circles and spirals usually in connected series. Originally these figures, like conventionalized devices on California Indian basketry, had a symbolical meaning and were not to be considered as purely decorative. Concentric circles are designated as rest places, while diverging lines are trails taking on forms of the maze.

Among the Australians, who are hunters primarily, animal souls must either be appeased or intimidated. Thus arise scenic art portraying the methods whereby this is effected in a conventional manner. From another angle this highly stylized art might be viewed as a form of pictographic writing in the form of a primitive map or plat as viewed from above. An opossum churinga, for instance, on which incised and painted lines appear, represent, as mentioned, trails and hiding places, while star forms represent trees about which the game animal moves. The whole thus appears as a hunter's charm accessory.

At times a wavy line appears to represent a trail, again a snake, a grub or worm, a vine, however the technical ability to realistically portray is lacking. When a useful article, as a churinga of a shield, has etched or painted devices not much more intelligible than childish efforts it must not be understood that they are therefore meaningless. The primitive artist feels that decoration enhances the value and effectiveness of the object. The dance, the battle, and the hunt are primary activities in the life of the primitive Australian, but nowhere do the Australians approach the excellent drawings of the bushmen of South Africa.

Papua and New Guinea.—The desire for ornament is very marked among the dark-skinned islanders of Papua and Melanesia. The specimens exhibited in the National Museum from New Guinea consist of costumes of fiber, arm and neck ornaments of feathers, shells, teeth, weapons, basketry, etc.; headdress, combs; carved wood spatulas, decorated gourd and bamboo vessels, etc. There are also shown wood carvings from the Solomon Islands. The recent explorations of Stirling in the interior of Dutch New Guinea, and of Brandes in British New Guinea and the territory of Papua in the east, have given the Museum a most extensive and representative Papuan and Negrito collection, while the great collections from Malaysia obtained by W. L. Abbott can perhaps never be duplicated.

It appears that in Oceania geometrical designs are almost always traceable to some anthropomorphic or zoomorphic or phyllomorphic motive more or less conventionalized. Thus in the bark belts collected by Abbott and Brandes the human face has been applied as a decorative pattern. Eye forms are occasionally plainly recognizable. On combs and wooden clubs are etched the curved beak and eye of the frigate bird. This design is conventionally modified into meandered interlocking spirals with the eye placed at each point of intersection. The beak alone is represented occasionally in Melanesian art as scrolled arabesques.

The Papuan tribes excel the Australians in the plastic modeling of human and animal forms in a peculiar manner. A framework is constructed, covered with bark and painted white. Masks are so constructed and are rather terrible examples of realism in the form of masks and headdresses of heroic size. Such huge masks are supported by attendants holding bamboo staves, and have therefore little ornamental and art value. Painted lines and angles and a host of smaller devices in color fill in the facial planes, which are done in unconventional manner or free style. In New Guinea the more realistic efforts, which, as mentioned, are quite lacking in Australia, occur in typical Papuan painted form. The origin of this art must lie in the proximity of the Sulka and other coastal Papuan tribes in contact with old Malayan art.

Negritos and Papuans of central Dutch New Guinea.—The recent Stirling-Smithsonian expedition to the highlands of central Dutch New Guinea, under the leadership of Matthew W. Stirling, has achieved some striking and important results. Negrito groups of the Nassau Mountains, hitherto unvisited by white men, and Papuans of the central lake plain, which lies between the Nassau Mountains on the south and the Van Rees Mountains on the north, are now made known to science for the first time.

Stirling found the Negrito, a negrillo pygmy people, in possession of a sedentary, comparatively high culture based on agriculture, on the one hand far outranking neighboring Papuan peoples while offering in almost every respect a marked contrast culturally to the physically related groups of Malaysia. Characteristic of the Negrito or negrillo pygmies throughout the range of their distribution, notably in the interior of the Malay Peninsula, in the Philippines, and in the Andaman Islands, is their isolated habitat, which is usually a mountainous more or less inaccessible interior plateau region where they are surrounded entirely by stronger and more numerous lowland peoples. Characteristic of the Negrito of central New Guinea is the diminutive stature, which in males is less than 152 centimeters, in females 145 centimeters, and the dark skin color and frizzy black hair. Stirling found several individual Negritos of the Nassau Mountains with hair of a reddish tinge. The Negritos of the Upper Rouffaer River valley were found in possession of a well-developed economic system based on agriculture, but with no governmental organization extending beyond the isolated villages. It becomes necessary, as a result of the discoveries of the expedition, to enlarge our conception regarding the commonly attributed cultural characteristics of the Negrito.

The pygmy Negrito of the Nassau Mountains lives in a region inaccessible alike to hostile Papuan and to the white race. There they have developed a culture unique to science, differing in many respects from that of the Papuans and from Negrito tribes living elsewhere. Stirling found wide variations in the language spoken by different pygmy Negrito groups. Just what this variation signifies will be indicated after further study. Whether all of the observed linguistic differences will prove to be variants of existing Papuan stock languages, presenting a condition similar to that prevailing in the Philippine Islands, where Negrito spoken language has been revealed as variant of the Malayan stock language, or whether there may be different languages existing among the New Guinea Negritos themselves will undoubtedly be established after Mr. Stirling has made a thorough study of the linguistic data obtained.

Animistic tendencies were noted in the observation that the Negrito believes spirits of dead relatives to inhabit various natural objects, such as stones and water, also different kinds of animals. Another observation of considerable interest is that the Papuan groups do not bury their dead, but instead leave the bodies exposed near the villages, producing a condition which does not tend to enhance the pleasure of sojourning in the vicinity. A gruesome ornamental

pendant worn by Papuans suspended from the girdle consists of the mandible (lower jawbone) of some departed ancestor or other relative snatched from the putrefying body. After the flesh has been scraped away a fabric band is woven around the central part of the mandible and a suspension loop attached. Two of these amuletic pendants from the Kirakai River are included in the collection brought back by the expedition. Negritos bury their dead according to a ritual, and so offer another testimony of the superiority of their culture over that of the Papuan.

It is in his material culture and decorative art designs that the peculiar development of the Negrito is best demonstrated. Houses are erected of rough-hewn wooden slabs set vertically and covered over with grass and palm-leaf thatch. The flooring of rough-hewn boards is placed several inches above the ground. This is probably a culture survival, as there appears to be no need for this custom, either as a protective or sanitary measure, in the salubrious uplands of the Nassau Mountains. Decorative art is manifest principally in surface patterns on weapons.

Clearings are perched on precarious slopes of the steep mountain sides. Various crops are produced. A variety of white sweetpotato, sago, taro roots, sugarcane, bananas, tobacco, and lemons are staple products. The use of potatoes and of starchy food in general is preponderant in the diet of the Negrito and causes an unusual distension of the stomach and abdominal region. An oblong wooden food dish is cut out of the solid trunk of a certain soft-textured tree. These food dishes are two or more feet in length and are used somewhat as mixing bowls or as mealing stones, no stone mortar being employed.

Spoons, awls, dirks, weaving and plaiting implements, and various other objects are fashioned into implements for daily domestic use from leg and wing bones of birds, chiefly from the tibiae of the cassowary, a tall and somewhat vicious bird inhabiting all sections of the island. By far the greater use of bone is in the fashioning of ornamental objects, charms, and trophies. Here, again, there is an observable distinction between the primitive technology of the Negrito and the Papuan. The marked tendency of the Negrito is in the direction of simplicity of construction or meagerness of application and is linked with excellent technique and artistic merit in ornamental designs introduced. The Papuan displays a lavish use of materials combined with a coarseness of technique and a quite elementary art impulse and execution of design.

A food cooker like that of the Polynesians is used by the Negrito. A depression is made in the ground and is lined with stones. In this cavity are placed food ingredients, such as meat, potatoes, or

taro. Hot cooking stones wrapped in leaves are then placed on the food and the whole is covered over with ashes and earth. Exclusion of air serves to continue the cooking process for some time. Thus is created a primitive fireless cooker.

There is scarcity of domestic implements but a great variety of woven cord fabrics, applied chiefly to the making of openwork weave meshed carrying, storage, and trophy bags. Although very few and crude baskets are made by the Negrito, basketry materials and technique are applied as in the making of body armor, in ornamental braided bands resembling the continuous braided bands of basketry materials so much in vogue among the peoples of Malaysia, in the braided thong woven as wristlets, in headbands and ornamental wristlets of twill weave, and in many other objects betraying a skill that could easily have been applied to the making of baskets as well.

Pottery making, like the use of metals, is unknown to Papuans and pygmy Negritos alike.

As no cradle board is employed, carrying bags of woven cord fabric are used. Such a carrying bag is often quite large. It is woven with a 2-ply cord fabric in simple openwork meshed design and may be used to carry everything from firewood, meat, potatoes, and other supplies, along with a baby unceremoniously thrust into its improvised cradle, from which it is removed without protest on the return of the mother from the clearing.

Many of the woven carrying bags have an ornamental figured design covering one side effected through the introduction of peeled grommets from the yellow stems of the orchid. Some of these are stained a dull red, producing with the natural color of the fabric material designs in three colors. The designs introduced form geometric rectangular figures and are produced by intertwining the introduced peeled orchid strips with the 2-ply fabric of which the bag is made. Peeled strips of yellow orchid stems are similarly introduced as appliqué designs on charm and trophy bags, also on girdles and other objects of personal adornment. Cut sections of stems of orchid are mounted on fabric cord as beaded necklaces.

The carrying bag is worn as a headdress when not in use for other purposes, a portion of it being allowed to drop like a veil at the side of the head or down the back. This draping lends a peculiar appearance to the wearer, giving the Negrito the illusory appearance of having a Semitic cast of facial and head features. When in use as a carrier, a long band or tump line, with which it is provided, is passed around and over the forehead.

Another variety of meshed bag, the so-called trophy bag, is worn by men only. It is carried under the armpit at one side of the body and is supported over the opposite shoulder. Attached to this bag

are ornamental appendages of boar's tusks, each tusk representing a trophy of the hunt. The Negrito uses no spear but bags his game with the aid of his dogs and his bow and arrows only. There is nothing remarkable about the bow. It is formed from the black palmwood, is 5 or 6 feet in length and is plain, the ensemble of bow and bamboo arrow resembling for the most part the bow and arrow used by the Tinguian of Luzon.

One peculiarity in the construction of the Negrito hunting or trophy bags is in the attachment of a neatly carved and highly polished "swagger stick" of bone cut from a tibia of the cassowary. It is secured by a wooden pivot, around which the "stick" is almost constantly twirled by the Negrito hunter when he is not otherwise occupied. A small wooden pillow 6 or 8 inches long and 3 or 4 inches wide, but less than one-half inch in thickness, is always carried in the trophy bag.

A third type of woven fabric bag is the smaller charm or amulet bag of similar weave and ornamented profusely with peeled orchid bark. The charm bag represents, along with the woven body armor, some of the finest products of the skill of the Negrito in the loomless handicrafts. It is a small pouch 3 or 4 inches long, scarcely large enough to carry a tooth, a beautifully colored seed, or some other similar amulet. The compact weave is dissimilar to that of the large open-mesh bags. It is a combination of a series of braided ribs, each having two or three elements and each made up of 2-ply cord. These braided ribs are passed diagonally from one side of the bag to the other and have no connection with each other except at the center of the bag, which on completion becomes the bottom, and at each end where the braided rib terminates by having each one of its constituent elements become an element in the next braided rib. By arranging the braided ribs about a center near each end of the bag, and having the ribs terminated there, the bag assumes an oblong rectangular outline. A novel feature is introduced at this stage in the making of the charm bag. On the surface which is to become the outer one, a continuous strip of peeled bark of the orchid is twined longitudinally around each intersecting braided rib with which it forms an X-shape angle firmly knitting the different ribs together and at the same time supplying a beautiful ornamental pattern. So far as is known this weave is new to science. A braided rib representing the elements taken from four of the braided ribs of the bag thus continued forms an extension several inches in length. This is designed for a cover, as each charm bag represented in the collection has an extension cord just long enough to be passed enough times around the bag to completely inclose it if the process is begun at one end and continued to the opposite end of the bag.

The clothing of the pygmy Negrito is scanty. Women wear a skirt girdle of braided cord with cord fringes 3 to 6 inches in length, or of plaited pandanus palm leaves. The girdle worn by the Negrito men is even more scanty but is more picturesque. Here, again, are used the grommets of peeled bark of the orchid as an ornamental surface design, strands of which are intertwined with the other fabric elements, making up that portion of the girdle 6 to 10 inches in length fitted to the small of the back, where it is passed back and forth until the desired thickness is obtained. As the girdle braid is of the thickness of one-third inch 15 to 25 thicknesses are used to form the desired thickness for the back pad or bustle, as one may choose to call it. Looped about this pad at either end is a coarse double strand of fabric cord passing around the body where one end is attached to a small braided basketry band about 2 centimeters wide and of large enough a diameter to be fitted over a slender, tapered gourd used as a penis cap. The other end of the gourd girdle, which is passed about the body from the opposite side, terminates in a knot. This knot is slipped under the basketry band and the band is pushed downward on the expanding side walls of the gourd until it is firmly fixed. This completes the men's costume, except for the headdress and body armor.

The Papuan male costume includes two elements worthy of note. These are the taillike ornaments of cassowary feathers or of pandanus palm leaves and the sharp-pointed nose ornaments of bone which are passed through the nostril wings both vertically and horizontally. The taillike ornament affected by the Papuan consists of a number of pandanus leaves or of the tail feathers of the cassowary attached to the end of a short curved stick of wood slit open at one end for insertion of the plume and curved at the other end for insertion in the girdle. Mr. Stirling states that the Papuan feels himself quite undressed when he is without his tail ornament and that he would take to the bush immediately after having parted with this so necessary article of personal adornment to members of the expedition for a consideration, to the great amusement of his fellows.

Among the various kinds of headbands and headdresses in use among the Negritos and Papuans is a simple twill weave, delicately plaited headband of rattan, ranging in width from 1 to 2 inches. Another headdress worn by the Negritos is one of coiled cassowary feathers attached to a woven basketry frame of rattan splints. Still another consists of a woven band of basketry material with inset of shell, plumed pompons of bird of paradise feathers, and others of feathers resembling those of the Carib Indians of Vene-

zuela and Guiana. Sometimes a bit of crimson color is obtained by addition of tail coverts of small birds of brilliant hue.

Wristlets of coarse braided rattan, which are also used as fire thongs, or of more finely woven braided bands of fine basketry material, and others, stained to form geometric designs, complete the costume; though many additional touches are lent by ornamental necklaces of variously colored seeds, shell, and beads from cut section of orchid stems.

A characteristic object from the Papuans of the Kirakai and mid-Rouffaer Rivers is a trophy bag carried by the Papuans in much the same manner as the Negrito carries his trophy bag, to which, however, it is far inferior. This trophy bag seems to have a certain value as a charm and the essential ornamental features, chiefly pendants of the crudest kind, occur also as pendants on amuletic necklaces worn by Papuan women of the central plain. The pendants are trophies of the hunt, as cassowary bird heads, beaks of hornbill, feet of bird of paradise, leg bones of various birds, pig tails, and snake tails. All of these are attached at the side of the rather compactly twined woven bag with loops of rattan splints, the ends of which are inserted between skin and bone of the leg and tail piece pendants. Shrinkage due to drying causes the rattan loops to remain firmly fixed. The amuletic necklaces worn by Papuan women have still other pendants attached, such as fragments of bird bodies, seeds of the common allspice, sections of bone and shell, together with bits of bark.

One of the more characteristic methods of executing ornamental designs employed by Papuans is the etching of surface designs on arrow points. These designs are so highly differentiated as to easily distinguish one area from another and also from the designs executed by Negritos on their bamboo arrow points. The latter are characterized by wrappings of peeled grommets of orchid stems. Papuan designs are applied both to bamboo shaft and bamboo or palm-wood foreshaft and may take the form either of curvilinear or rectilinear surface etchings or of carvings on the body of the foreshaft. Inlay of lime or white paint is sometimes applied on carved surfaces in true Melanesian style.

A peculiarity of the Negrito arrow from the Upper Rouffaer Valley is the banded ferrule which is placed over the juncture of palm-wood foreshaft with bamboo shaft. This small woven ferrule with its unique spiny surface, due to the peculiar twined weave, is identical with the ferrule made by the Negrito in the Philippine Islands and which is used by them for a similar function. This is the only deep-seated resemblance noted in the weapons of these widely separated pygmy groups, unless one takes into consideration

the nonuse of the blowgun by each. Culture characteristics of each resemble more the culture complex of adjoining peoples than that of a common ancestry.

The Takutamesa Papuans have shafted arrows of bamboo with heads of leaf-shape split sections of bamboo stem. Line etchings on arrow head and bamboo shaft probably represent animal figures.

The Van der Willigen Papuan arrow type has but few line etchings on its bamboo shaft but has elaborate barbing carved bilaterally on its palm-wood foreshaft. A peculiarity noted is the reverse feathering attached to foreshaft at the tip. The base of quill is pointed toward the nock while the tip of feather is near the tip of the arrow point.

Arrows from the Papuans of the Upper Mamberamo River are as a rule tipped with bone, a diagonal section of which has been removed to form a point. Etched lines occur both on bone point and bamboo shaft. The foreshaft is of palm wood, is triangular in section, and is deeply barbed in pairs along two of the intersecting angles but not along the third.

Arrows obtained at the junction of the Van Daalen and Rouffaer Rivers are tipped with a cut section of bone. One of the arrows has an unusually long foreshaft of palm wood with many diagonally cut sunken panels which provides a jagged surface for lacerating and making large wounds.

The Sebit Papuans of the Upper Mamberamo River Valley etch an ornamental design on their bamboo arrow shafts by burning banded lines around the circumference of shaft, also by etching curvilinear figures representing animal forms. The foreshaft is multiple barbed and bone tipped.

The Papuans of the Kirakai River have arrows with bamboo shafts. Some of the foreshafts of palm wood are unusual in that they have multiple trilateral barbs placed at lines of intersection of the triangular sectioned foreshaft.

Papuans of the Lower Rouffaer River make, in addition to the burned-etched banded designs used by the Sebit Papuans, peculiar long dashlike punctated figures by burning. A leaf-shaped section of bamboo stem is the usual form of arrowhead and usual material employed by Papuans and Negritos alike. The sole exception is the bone-tipped palm-wood point which is also foreshaft and occurs in about 30 per cent of all Papuan arrows. It is not used by the Negritos.

Bows are of uniform type and are inferior to the arrows from the viewpoints of artistic design, craftsmanship, and inventiveness displayed in their construction. They are long, straight, flat surfaced on the inner and rounded on the outer side. The bow cord is a long

strip of rattan knotted at each end and easily slipped over the slightly hollowed nock ends of the bow.

Fishing is conducted with circular dip nets held in the hand. Other forms of fishing paraphernalia include long funnel-like traps of rattan splints. Similarly shaped traps made from some unidentified thorny vine are used by Papuans of the Kirakai River region.

A form of body armor appears as an enlarged girdle among the Takutamesa and Sebit Papuans of the Van Rees Mountains. It consists of a narrow braided band made from an unidentified vegetable fiber which is wrapped around the abdomen from 75 to 150 times, forming a bulging roll completely covering the lower torso. The nearest resemblance to this object of wearing apparel, which is both ornamental and protective, is the braided girdle worn by the Igorot.

True armor appears in use among the pygmy Negritos. The Negritos of New Guinea are alone among all pygmy Negrito peoples in their use of body armor. The armor appears in the form of a woven fabric jacket which is worn as a covering over the chest and lower abdomen. The armor shows not only high artistic merit but embodies the principles of extreme flexibility and durability. Native arrows can not penetrate it except at the top, where it is suspended from the shoulders by straps of woven fabric which also cover the upper chest. The armor proper begins with a change in the weave at a line 3 or 4 inches below the shoulder straps. The weave from this line downward is a compact form of a double-faced twisted-twine pattern. It appears to be new to science and an exceedingly ingenious invention. As the Negrito's life depends on the strength and impenetrability of his body armor, no shields being used, it may be understood that the weaving of body armor represents his best efforts and skill as a weaver. The warp or passive element is made of a continuous strand of rattan splints which passes vertically from top to bottom and back again entirely around the circumference of the jacket. The crossed weft or active element, also of finely cut rattan splints, passes horizontally across the body as a twisted twined element. The unique features of this weave, which supplies flexibility and strength, may be seen in the manner in which the weft is twined first over two warp elements, then completely around the second, and again over two but undergoing two twists in the process. The same process is carried forward on the reverse side of the jacket, forming identical patterns on both inner and outer surfaces and supplying great toughness of fabric.

The ribbed weave of the upper portion of the jacket is similar to that described before when discussing the weave pattern of the Negrito charm bags. Peeled grommets of orchid stems are intro-

duced to produce ornamental patterns as in the charm bags. Across the front of the jacket where the true armor weave begins is a line of ornamental display of feather decorations, chiefly from the tail feathers of the bird of paradise.

Tobacco and narcotics are in general use among the sedentary pygmy Negritos of the Upper Rouffaer River area. Mr. Stirling observed infants in arms smoking cigarettes which were offered them by their mothers and nurses. The container in which the cigarette is wrapped is the leaf of the pandanus palm, a supply of which is carried in small tubes made from sections of bamboo stems and carried in the lobe of the ear. Curvilinear and rectilinear designs made by burning are etched on the surfaces of these containers. Tobacco is usually smoked in pipes fashioned either from a tree knot or from an unidentified variety of unusually large acorn. The oak grows in abundance along the Middle and Upper Rouffaer River. To the base of the hollowed pipe bowl there is affixed a short section of stem of orchid ferruled with pitch or wrapped with cord. In two instances the ferrule is an excellent example of continuous braided band similar to that attached to arrow shafts. Tobacco was introduced evidently at an early date and is now cultivated in the community plot in the center of the village, where are also grown all of the other plant products and vegetables. The development of agriculture and the domestication of animals by the Negrito is his own achievement, probably developed on the spot, and not an importation. With but one or two exceptions there seems to be no trace of cultural relationship with the physically related pygmy stocks elsewhere, so that linguistic data obtained by the expedition becomes exceedingly important.

The Andamanese.—The Andamanese likewise are a very primitive people. No satisfactory explanation has yet been made of the large number of exceedingly primitive peoples occupying the coastal fringe of Asia and the mountainous interior of the East Indies. In almost every case these primitive peoples are negroid, diminutive in stature, and distinct physically from the higher cultural peoples forming the bulk of the insular population. Such people, of which the Andamanese are typical, support themselves almost entirely by hunting and fishing. Use of clothing is but poorly developed. As among all negroid peoples with dark skins, a peculiar form of body decoration is practiced by the Andamanese. Tattooing would not be effective, unless some form of white color design could be introduced. This is not done by any known tribe. On the other hand, a bringing into relief of certain parts of the skin is effected wherever elementary ornamental designs are produced. This bruising or scarring of the body is known as cicatrization.

The Andamanese, too, live in constant fear of demons. In such repressive environment art forms can scarcely develop into styles of art. A peculiar form of ancestor veneration may be noted among the Andamanese in common with primitive peoples elsewhere in the island world of southeastern Asia. Necklaces are made of the bones of dead relatives. Even the skull of a friend or relative is decorated and worn as a pendant. A strange coincidence is the presence of a similar custom reaching their somewhat similar stage of development in the island of New Guinea. As opposed to the use of cicatrization on the part of the dark-skinned primitive peoples, the yellow-skinned peoples of southeastern Asia and of Oceania generally tattooed their faces and bodies. Frequently such designs are symbolical; mostly, however, they are purely decorative. Some are emblematic, showing that the one so marked has achieved majority and is now a full-fledged member of the tribe.

The Andamanese and the Negritos, the one living north of Sumatra on a small island group in the Bay of Bengal, and the other in the heart of the Malay country in the interior of the Philippine Archipelago, in Borneo, and in central New Guinea, live like the Australians, under primitive housing conditions, merely a wind shelter. Being nomadic, they accumulate but little by way of a material culture suitable for application for art designs. The Andamanese have been but little affected by foreign influence, partly due to their isolation and to their reputation as fighters and due to their linguistic isolation. But little similarity with Australians may be noted aside from their negroid affiliations, bodily decoration, and the painting of their ornamented objects in red ochre. These may be of practical use or cult objects. Either realism or geometric art patterns are present, however, in minute quantities. It is difficult to include such widely separated peoples as the Negritos, the Andamanese, and the Australian in one art area, although sharing alike in the crudity of their art devices and to some extent in the technic of their application.

The Nicobarese.—If we follow the chain of islands connecting the Asiatic mainland with the larger islands of Malaysia we encounter the Nicobar group, which lies off the Malay Peninsula. The people occupying the Nicobar Islands are apparently distinct from the inhabitants of another small island group in the vicinity of the Andamanese. This primitive tribe has quite a developed art complex and ornaments of several descriptions might be mentioned, such as cylindrical ear plugs of wood. They have also developed a technic of painting figures and figurines on wooden boards. This is perhaps a form of mnemonic writing somewhat similar to the pictographs used in the time counts of the Chippewa Indians. As among the Sinhalese, art is made subservient to the needs of primitive religion.

The entire gamut of artistic expression is applied to the shaping of devices to scare away the demons.

Sinhalese art.—The large island of Ceylon, just off the southeastern coast of India, through the Sinhalese has developed a rather decorative style of art. This may be traced to Brahmanistic and Buddhistic religious influences from India, and the more ancient primitive native religion of the Sinhalese. The so-called devil worship of the Sinhalese reaches an expression in art through the use of grotesque wooden masks, representing for the most part major and minor demons. As in northwestern North America, masks are the accessories of the shaman, and each mask represents one kind of disease. In the Museum collection from Ceylon are several Ceylonese masks.

Elementary decorative art of the Veddah.—Another primitive tribe in Ceylon, the Veddahs, are apparently related to the primitive peoples in the Malaysian Peninsula, the Sakai, perhaps also to the Negrito and black peoples of Indonesia. These peoples apparently are almost devoid of artistic expression through the means of decorative art. In fact not even bodily decorations are practiced, such as scarifications, or even the piercing of the ears for earrings. The same might be said for other primitive tribes in the interior of the islands of Malaysia and Indonesia, except that for each of them a few objects of ornamental art are known, such as wristlets, leg bandages, necklaces, and other rudimentary forms of decorative art.

Cultural affiliations in Indonesia.—No region of the earth is so isolated as Australia and New Guinea, while none is so rich in types, so articulated, and so hybridized as Indonesia.

Indonesia lies at the boundary of South Asia, facing on the one hand Micronesia, on another, Melanesia, and on still another New Guinea. It fronts southeastern Asia as a compact-land mass, and has sent out a tentacle as far as the southeastern coast of Africa, i. e., Madagascar.

It is not attempted in this article to discuss art styles of the several cultural areas of Asia, although a cradleland, so to speak, of insular art styles as found in Indonesia, particularly the Malayan islands of Java, Borneo, and the Philippines. Then, too, the environmental influences of diverse geographical regions of Asia have tended to make for dissimilar art forms and styles. Prevalent use of rattan and bamboo in the insular world off the southwestern coast of Asia likewise has introduced a central motive in Indonesian art that is not found on the mainland.

The Japanese, perhaps more than any modern insular Asiatic people, can trace their art to a direct continental source, but there, too, we find a great divergence from Chinese prototypes. Asia

is the traditional home of the world's great historical religions, the religious art of which has penetrated the entire world wherever Asiatic influence has at all made itself felt. Perhaps the greatest of these influences may be traced to Buddhism in Indonesia. This has made itself felt through the several invasions and migrations which may be traced direct to India.

Biologically and geologically Indonesia is divided according to its relationship with the continental land masses of Asia or Australia. The dividing line is the narrow water passage between Bali and Lombok, two small islands of the southern East Indian Archipelago, and the contiguous Strait of Macassar. The great islands of Sumatra, Java, and Borneo were formerly joined with the continent of Asia, while Celebes, the Moluccas, and New Guinea at one time were a part of the Australian Continent. Animals of the Asiatic mainland, such as the tapir, tiger, rhinoceros, and elephant, are found in Sumatra and Java, while marsupials, such as the cuscus and birds of paradise, are indigenous to New Guinea and Australia.

Borneo and other great islands of the East Indies, as Java, Celebes, and the Philippines, are populated primarily by Asiatic species, although the great animals of Sumatra, as the tiger and elephant, are not represented. The people occupying these islands are decidedly related to the southern Mongoloid group. Their speech is Malayan, and their culture has been repeatedly influenced from Asiatic sources. In thus classifying the population, one must disregard the minority, which is negroid and a somewhat protean population element. In the eastern half of Indonesia, black-skinned, broad-nosed, and wavy or kinky-haired Melanesians and Papuans far outnumber the Malay element, which alone is the indigenous population. The very name Melanesian characterizes the area as the home of a black-skinned race. These negroids of the Malay Peninsula, Andaman Islands, Borneo, Sumatra, and the Philippine Islands, are not identical with the New Guinea and Australian blacks but are loosely related culturally to Malayan tribes of surrounding areas.

Malayan decorative art.—When the island archipelagos of the East Indies were first occupied by the Indonesian immigrants they found them settled by a primitive Negrito stock. These aborigines retreated into the interiors of the larger islands perhaps without attempting contact with the Indonesian invaders. They consequently left but little, if any, mark on the decorative art of the Malayan immigrants. These new occupants of the East Indies have been called Indonesians, Old Malaysans, even Old Polynesians. In the Philippine Islands their descendants are clearly distinguishable from the more recent Malays who have everywhere been much influenced by Mohammedan and the earlier Buddhist and Hindu religious cult

art. The non-Mohammedan tribes of the Philippine Islands, added to the non-Christian tribes, correspond to what might there be called the early Indonesian elements. The hill tribes of Luzon, the so-called Igorots, and of Mindanao are the most important. In East Borneo, in Metwi Island, and in Timor also are found tribes possessing decorative designs typical of what we might call early Malayan or Indonesian art as distinguished from the more recent influences of the historic religions—the Hindu Buddhist, and the Mohammedan. The flat, painted bark cloth which preceded woven textiles in the East Indies is a good example of old Malayan decorative art media. This art was continued in Celebes, where the rectangular sitting mats with their dark colored, angular figures are characteristic. According to Doctor Hough designs on tapa from central Celebes, though geometrical, are clearly traceable to a zoomorphic motivation, representing birds and animal figures.

Among the Battaks of Sumatra, carvings in the round have a vogue. This art here reaches a high development in smaller objects as magician's wands, and realistic carvings of animals, notably the lizard.

Thus in the reciprocal relation of Indian culture traits and a great insular population arose Malaysian or Indonesian art. Influences continued throughout many centuries, the origin of such major achievements as the introduction of weaving, house architecture, and the working of metals antedating the Christian era.

Weaving ornamentation was at first limited to banded designs in perhaps only two colors; later, more colors were added and the space between the bordered bands was filled in with decorative designs. In woven scarfs of the Battaks of Sumatra, and the fabrics of Sumbawa, east of the island of Bali in the smaller Sunda Islands, in Flores, in Timor and other islands do we see the introduction of additional colors and of the blending into the subdued shades of Indian textile decorative art. The foundation color of the tied textile is dark blue or red; patterned designs are in yellow or blue, white or red, even green.

Blending of colors is effected by the tie and dye method, whereby the warp threads and the woof threads are separately tied and then dyed. To achieve the desired color pattern, the process has to be repeated many times, but a complicated loom is not required. Much skill and patience such as only the Malay can put into his labor are prime requirements. Decorated cloths thus ornamented are best known from the island of Bali. Some of the rarest examples of tie and die ornamented textiles and most intricate designs appear on the so-called burial cloths, where a 5-pointed star occupies the central field. This is surrounded by a galaxy of Hindu Buddhist gods and

other religious motives. Precious cloths from Java and Sumatra, from Palembang and Atjeh betray Indian influence. In these textiles, gold threads are woven into the design as in the wonderful Siamese textiles of similar description.

Siamese influence may also be noted in house architecture in Sumatra. Houses of the Minangkabau Malays were originally built upon piles, but are now on stone foundations. The outer walls are covered over with carved decorative designs. These are particularly noticeable on the gable ends, of which there are many. The peculiar swayback roof-tree, the concavity of which extends all the way from gable end to gable end, may be seen also in other regions all the way to the Caroline Islands and Guam on the east and to the Massim region in east New Guinea on the south. This type of house architecture might be termed truly Indonesian. The decorative designs are either geometric or floral. Houses of the Battaks of Sumatra are similarly decorated with carved friezes on the wooden gables. The floral patterns of the Bornean Dyaks alternate with the interlocking dog-tail motive. In this respect Dyak art resembles the curved and recurved carved spirals of the Maori.

Pictorial art is also represented on the decorated gable ends of the Indonesian house. Painted figures of human beings, of animals, of land and sea, of trees, mountains, and other objects illustrate the mythology and historical deeds of the Indonesian house builder. Colors used in this form of pictographic art are mostly red, but white, yellow, and black also occur. These are houses of the Toba-Battaks of Sumatra, of the Toradja of Celebes and of the natives of Palau. It should be noted that this pictorial art bears no relationship with the Australian-Papuan painter's art, as it arrived in Indonesia at a late date from India and elsewhere on the Asiatic mainland. Even at that, this type of decorative house architecture is historically one of the oldest in the world.

In classifying Malayan decorative designs as founded on floral, geometrical and faunal motives, it is well to note that the religious influence of Mohammedanism checked the use of animal motives to a great extent. Hinduism and Buddhism, on the other hand, stimulated the use of the lotus flower motive, although most Malayan artisans fail to recognize the motive as such, merely following the conventional style of wood carving or damascening as the case may be. What has been recognized as geometrical designs in ornamentation may readily be explained as conventionalized floral motives in many instances, particularly in the ornamentation of metal objects, such as the kris guards and ornamentation on brass vessels.

Malay craftsmen use terms to designate simple designs, namely "clove flower," "mangosteen calyx," "Solomon's seal," "Bo-tree

leaf," "bamboo sprouts," and "flying-fox elbows." Certain types of covered metal bowls from Sumatra, covered cups, and trays, cups for holding betel-nut are often designed to represent the lotus flower, the petals of which may be in relief or engraved. The flower of the gourd vine and other flowers are occasionally engraved in the center of metal plates or as a motive for concentric bands. The lotus may also appear on large metal belt buckles, with the petals beaten out in relief and arranged around the central boss.

The so-called fern curves pattern, from the curving of the shoots of the fern frond, is a design applied by the Sumatran Malay and by the Bornean Kayan. This is combined with the conventional "dog" pattern, parts of which end in trifid shoots, the backs of the dog being bent to form a meandered series.

Swastika motives are fairly common and may occur with direct or indirect (counterclockwise) arms. All these designs appear in insular Malayan art and on the Malay Peninsula, even to a limited extent in Siam, as in the niello work of that country.

The fish-tail motive is illustrated in Ceylonese work and in the Malayan type of water dipper in which the coconut bowl has attached to it a handle of wood with cleft or "fish tail" end. In the Sinhalese specimens the coconut bowl has an ivory handle shaped like the fish-tail Malay handle, however, in rather complicated form, as it is usually represented as a fish submerging down the mouth of the whale-elephant, only the tail being visible.

It is frequently difficult to distinguish between Javanese and Hindu or Buddhist art objects. This is particularly the case in carved figurines or decorative friezes. Stone and bronze decorated figurines and vessels are frequently undistinguishable, the Javanese from the Indian and vice versa. The same confusion results in Balinese work, as the island of Bali was in part settled direct from India; also from the introduction of wayang figurines from India, which are used with or without masks in theatrical entertainments in Java and elsewhere in the East Indies. Indian color predominated in one type of wayang, in which pictures are introduced. In the more Javanese types of wayang ("puraa" and "klitik") carving in leather or in wood betrays the more characteristic Malayan preferences in design motivation and technique, as contrasted with Indian love of color. This is seen also in the vivid yellow painting of the Geruda-bird carving, on which is mounted the goddess Visnu (Krishna), a splendid example of Balinese art directly influenced by Indian mythology.

Banded decorative devices of triangles painted or woven into the matting and textiles, the design representing the fern frond or a bamboo shoot, are to be seen everywhere in Malaysia, in Bali,

Lombok, Borneo, Lampong, Minangkabau, Atjeh, everywhere the Hindu kingdom had penetrated. The Hindu kingdom of Majapahit controlled the destinies of the Javanese for more than 1,000 years, but was overthrown by the Mohammedans in the year 1478, just before the arrival of the Spanish explorers and the beginning of European influence. On the island of Bali the Buddhism and Sivaism of its native population remained in power. This is reflected in the decorative art of these island populations to the present day. In Java, the Buddhist art continues among the Sundanese.

The kris (keris) hilts from the Malay Peninsula and from Sumatra have but little decorative work. The human figurine which forms the hilt is not well developed as in krisses from Bali and Lombok, although some of them have small figurines sometimes represented merely by a few transverse cuts in the wood. The typical pommel decoration from the Upper Malay Peninsula is the kingfisher motive. This is closely similar to the typical pommel decoration on the Javanese kris. Although the kris is supposed to have originated in Java, the Bugis type is much more widely disseminated. This is no doubt due to the aggressive Bugis character. Marsden says that Macassar and Bugis people came in trading prahus to Sumatra and that "Malays affect to copy their style of dress, and frequent allusions to the feats of achievements of these people are made in their songs. Their reputation for courage, which certainly surpasses that of all other people in the eastern seas, acquires for them this flattering distinction. They also derive part of the respect paid them from the richness of the cargoes they import."

The introduction of iron to Malaysia dates back to a time before the beginning of the Christian era. It had, however, not yet reached Micronesia or Polynesia at the beginning of the exploration of the Pacific by Europeans in the sixteenth century. Malayan weapons and armor are excellent examples of the thorough penetration of metal working into Indonesian culture complexes, some of the best examples of native Malayan ironwork being fashioned by these interior Indonesian tribes who have not been reached by Mohammedanism. The kris (keris) of the Mohammedan Malay is perhaps the best example, showing both ancient Malayan, Hindu, and Mohammedan art motives. Meandered lotus flower, Naga serpent designs inlaid on the blade, and stylized dog or kingfisher figurines shaped from dugong ivory on the conventionalized pommel, also wayang figures on guard or pommel—all denote separate and distinct culture stratification and influences from Malayan and Indian sources.

Influence of culture stratification on Filipino decorative design.—In the Philippines, for example, are a large number of tribes, both Indonesian and Negrito, exhibiting almost every stage of culture

from the Negrito upward. The civilized tribes, the Visayans, of Bohol, Cebu, Leyte, and others occupy the central islands, while the Tagalog, Ilocano, and Bicol are representative of Luzon. More typically Malayan are the "uncivilized" Manobo, Mandayan, Subanun, and Bagobo of Mindanao, the Bukidnon of Mindanao and the central islands, the Tagbanua and Batak of Palawan, the Bontok, Ilongot, and Ifugao of Luzon.

Several types of culture influence have been dominant in the Philippine Islands. The late Christian influence, which began with Legazpi and his conquest of the Philippines in 1564, is characterized by a Catholic education. The widespread influence of the Christian doctrine provided a widely diffused veneer of European culture. Mohammedanism had been introduced in Mindanao approximately in 1380, and spread rapidly to northern parts of the archipelago. A Mohammedan settlement was established at the present site of Manila, but yielded to Legazpi in 1571. Mohammedan designs are noticeable in the southern islands, particularly in Jolo and in the large island of Mindanao.

Back still further we find a direct influence from India. This may be seen in certain religious design motives engrafted on purely Malay customs. Tavera has traced the survival of hundreds of Sanskrit words. Perhaps the art of metal work as it is still practiced in Luzon, where iron is predominant, and in Mindanao where, as in Borneo, brass work has been developed, shows Indian influence to have penetrated Malayan culture much more deeply than have the comparatively recent Mohammedan and Christian intrusive religions.

Still another influence must be reckoned with in considering Malay art, and that is the Chinese. The Chinese have traditions that they visited the Philippines as early as the ninth century, and from the thirteenth century on their records show trade with the Philippines and with Borneo. Chief among these trade articles were Chinese pottery, brass gongs, and bronzes, weapons and art works, and a vast array of more material objects. Chinese influence was limited to such trade goods and there is no trace of a social or institutional influence, although China is much nearer the archipelago than is India. Back of these influences from without, of course, is that of native Malaysian culture.

In art designs the Filipino has drawn widely on environmental plant forms and animal life, beautifully executed leaf and floral patterns in wood carving or in cast and filigree metal work, which appear with inlay of soft metal in color. The pineapple design, wayang and anito figurines, and carved zoomorphic dog and leech motives are characteristic of those tribes uninfluenced by Christi-

anity. It is only with the introduction of certain Hindu and later Christian symbolism and images that we find a mixture of native Malaysian design and extemporaneous forms. A splendid example of the Malay leech motive is the repoussé design painted over with bitumen on the walls of a miniature wooden coffin box secured by Stirling from the Dyaks.

In Malayan chow pots and bowls of cast brass, also in kettles and lamps, are occasional protuberances. The same technic is noted in Malayan silver betrothal cups. A variation of this may be noted in the fluted pedestal bases to be seen both in silver and brass ware from Malay centers of metal craft. The Malays call the irregular surface an imitation of a pineapple pattern. The protuberances, or "gadrooms," resemble also Siamese work, but the general form of the brass and silver bowls and vases from Borneo and Mindanao closely resemble Javanese forms. The protuberances, or "gadrooms," also resemble the lotus pattern which is found on the base of Buddhist idols.

The Bagobo of Mindanao in full regalia illustrates well the art of a primitive Malay tribe in the exuberant ornamentation of weapons of offense and defense, and of textiles. Embroidery of appliqué beadwork designs on textiles in a technic entirely different from that of the American Indian is the outstanding element of Bagobo decorative design. The carving of geometrical designs in flat relief on wooden shields, also the repoussé ornamentation and applied decoration on metal spears and cutting blades, is excellently done by the artisans of this primitive pagan Malay tribe.

Malaysian basketry.—The basketry of the Dyaks of Borneo is unrivaled for strength, fineness, variety, and skill in construction. Rattan and bamboo, tough and resistant, are materials capable of being readily and evenly divided, and splints of any length can be easily made. The braided or plaited basketry ferrule rarely exceeds one centimeter in width. It is unknown elsewhere in the Tropics, but it is of frequent occurrence throughout Malaysia. Many of the specimens combine joinery work with basket weaving, and the knots, loops, windings, and other fastenings often show marvelous ingenuity. While the Dyaks excel in delicacy of work, they are weak in decorative patterns.

The materials employed are derived from pandanus, which yields baskets of a soft and flexible texture; from leaves of various palms of paperlike texture; and from split bamboo and rattan, which make baskets of a rigid structure. The forms are flat bags of pandanus and palm of artistically twilled weaving in different colors, varied with complicated openwork like lace; flat telescopic baskets, circular and hexagonal in shape; and napiform and globose baskets of

rattan. They are put to an infinite variety of uses: For ornament, for containing small objects, for the storage of food, and for the transportation of articles. As a rule the surface decoration of Malay baskets is the result of the style of the weave more than of the color of the materials.

Malaysian wood carving.—Household gods, shrine images, and other religious objects from southern Malaysia range from a simple billet of wood rudely representing the human figure to elaborately carved and decorated images, which are in many cases costumed. The shrine images are usually fastened together in a row and placed in the neighborhood of the house, where they receive various offerings, the customary one being the blood of a slain animal or a stone which represents food. Larger images are placed in shrines along the seashore. The smaller images, blackened by smoke, are male and female household gods whose headdresses indicate rank. Some of these show great skill in carving, though the faces are expressionless. The hands are brought up toward the chin, and, as a rule, clasp a bowl for the reception of food. The legs are also flexed and the knees prominently shown. The more rudely shaped images and idols are simply hewn out of the crotch of a tree, and a face with human features is cut from one side to form an anthropomorphic representation of one of the many of the ancient gods of Malaysia.

EXPLANATION OF PLATES

PLATE 1

Ethnic areas in Oceania.

PLATES 2 AND 3

Marionettes of cut leather and carved wood from Java.

The small hand and rod operated puppets of the Javanese represent their ancient culture heroes and the creatures of Hindu mythology. Those of cut leather (U.S.N.M. No. 168224), illustrated in Plate 3, are called wayang purwa, while a more recent form of marionette is known as the wayang klitik. The latter is shaped from wood, is rod operated, and is used in puppet shows glorifying historical characters of the ancient Malay kingdom of Majapahit. The wayang figures are used in shadow pictures accompanied by a monologue of the operator. Appropriate music is rendered by an orchestra of bamboo xylophones and brass gongs. The gongs are often exquisite examples of Malay metal craft and decorative art, while the wayang combines decorative art and theatrical amusement. The wayang of carved wood is illustrated as dressed in decorated Javanese batik cloth. U.S.N.M. Nos. 168225, 168227 from the World's Columbian Exposition, Chicago, 1893. Related forms of the marionette occur in Burma, Siam, and southeastern Asia generally. The hulu marionette of the Hawaiian Islands is distinct in symbolism and expressed art.

PLATE 4

Hawaiian royal feather cape.

PLATE 5

Woven cloak of the Maori, New Zealand.

PLATES 6-9

Tapa cloth from Samoa, Hawaii, Fiji, and Santa Cruz Islands.

The stamped decorative designs are based on alligator patterns and other motives taken from life forms. These have been conventionalized and are broken up into their component parts to fit the requirements of the space to be decorated.

PLATE 10

Decorative art of the Maori of New Zealand.

Polynesian art, more particularly that of the Maori, is manifest essentially in wood carving, also in tattoo marks. Mummified Maori heads on which the skin and hair remain intact are in the National collection along with other Maori art objects, such as wooden dressing boxes, carved sections of wooden house posts, carved and inlaid feeding funnels, and carved combs of whalebone. These were collected principally by Lieutenant Wilkes, United States Navy, in 1838.

Maori wood carver's art is illustrated by engraved double spirals in flat relief, also by shell inset. The repeated use of the eye form as a decorative device resembles the art of the Haida Indians of British Columbia and of southeastern Alaska.

The objects of carved wood illustrated are dressing boxes. U.S.N.M. Nos. 3785, 3786, collected by Lieutenant Wilkes, United States Navy, from the Maori of New Zealand.

PLATE 11

- a, End view of a dressing box of wood collected from the Maori of New Zealand by Lieutenant Wilkes, United States Navy, in 1838-1842. U.S.N.M. No. 3787.
b. Cast of feeding funnel. Maori of New Zealand.

PLATE 12

Section of house post belonging to the Maori of New Zealand, collected by A. W. Converse, U.S.N.M. No. 334017. Dimensions: 25 inches long, 9 inches wide.

This wooden slab is typical of Maori decorative design painted with red ochre in shark's oil. It consists of grotesque totemic figurine carvings with protruding tongue, flaring nostrils, and high brow ridges. Nacre of pawa shell oblique inlay represents the eyes of the figurine.

The form of relief engraving generally is that of an incomplete spiral resembling the decorative designs engraved on the lids of work boxes, and tattooed on face and body. In a general way totemic figurines carved on Maori house posts resemble the totemic devices to be seen on carved house posts of the Haida and allied tribes of southeastern Alaska and British Columbia. As in southeastern Alaska, a totemic figure is represented, but in anthropomorphic form, while the carved designs of southeastern Alaska are zoomorphic with only occasional anthropomorphic features.

Structurally there is a wide divergence in the areas compared; this Maori figurine being highly conventionalized, and the figurines of the Pacific northwest coast being realistic in the extreme. In both areas the design is commemorative of some ancestor.

PLATE 13

Objects illustrating the wood carver's art of the Marquesans and the Rarotongans.

Left: Carved wooden stilt, U.S.N.M. No. 3792, collected by the exploring expedition under Lieutenant Wilkes, United States Navy, in 1838.

Right: A carved wooden dagger, U.S.N.M. No. 5345, collected by Captain Aulick, United States Navy.

PLATE 14

A ceremonial adze of black palm wood from Hervey Island, probably the most exquisite example of wood carving known among primitive peoples. U.S.N.M. No. 3719. Collected by Lieutenant Wilkes, United States Navy, in 1838.

PLATE 15

Ceremonial adzes from Hervey Island and the Marquesas illustrating the decorative wood carving technic of the Polynesians, U.S.N.M. Nos. 3719, 3722. Collected by Lieutenant Wilkes in 1838.

PLATE 16

a, A Moro chow pot of cast brass from Mindanao, P. I., collected by Mrs. H. C. Corbin. U.S.N.M. No. 258287.

The diameter is 10.1 inches and the depth 5 inches. A detachable tray serves also as a lid. It is a generally accepted form of Malay metal food container, which in rare instances is duplicated in silver. It has numerous protuberances on the globose walls, forming what is called by the Malay

the pineapple pattern. The base, a flaring pedestal form, is flattened and widespread, detracting from the beauty and harmonious proportions of the vessel. It is said that the reason for the wide pedestal bases on metal food jars in Malaysia is the method of floor construction in Malay houses; the split bamboo sections being exceedingly irregular, causing a vessel with narrow base to spill its contents over the floor. A floral design encircles the upper margin. There is also a linked scroll design resembling a loose plaiting or braid.

- b. Betel nut box of cast brass, U.S.N.M. No. 257654, length 6 inches, height $2\frac{1}{2}$ inches, width 3 inches. Lanao tribes of the Mohammedan Moros, Mindanao, P. I.

The box is provided with hinged lid and handle lugs at the ends. Within are three compartments. In one is kept the leaf of the Piper betel, in another the Bouaa nuts, and in the other lime. In use, a section of the leaf is placed on the hand, and a cut section of the nut and some lime is added. This is rolled and chewed. This habit turns the teeth black, which is fashionable. The box is rectangular, and is in contrast with the numerous crescent-shaped Buyo sets of cast brass designed to be carried at the side under the armpit. Walls are plain. The lid has a meandered double volute filigree design in relief resembling that on the brass tea caddy just described, and the painted volute scroll designs on the basketry betel nut boxes from Celebes.

PLATE 17

Malay vessels of cast brass, and shell inlay on wood.

Upper left: A miniature globose vessel of cast brass, U.S.N.M. No. 257712, $2\frac{1}{2}$ inches high and $4\frac{1}{2}$ inches in diameter, is a typical example of the pineapple design, incorporating on its walls an embellishment consisting of series of protuberances and spurs resembling the spines of the pineapple plant. Two of the flaring brass spurs had been broken off and repaired with brass rivets by the native Malay workmen. Collected by E. A. Mearns from Mindanao, P. I.

Upper right: A decorated wooden trinket box, U.S.N.M. No. 232809, collected by E. A. Mearns in Mindanao, is globose in form and has a wide pedestal base. The characteristic Malay inlay forms a triangular fretted design encircling the base and margin. In this wooden vessel the inlay consists of the nacre of shell. Dimensions: Height, 2.4 inches; diameter, 3.3 inches. Inlay on brass chow pots is in a light-colored metal alloy.

Bottom figure: A teapot of cast brass, U.S.N.M. No. 232779, with a diameter of 8 inches and standing 6.6 inches high. The vessel has a distinct Hindu cast, but incorporates on the decorated walls the Malay pineapple pattern in relief. The flaring pedestal base has a fluted relief embellishment. The pot is provided with a spout, lid, and loop handle, with a meandered cast filigree design in relief encircling the vessel near the margin and on most of the upper surface of the lid. A conventionalized dragon figure connects the end of spout with a lug supporting the looped handle. It is an excellent example of Moro metal work in cast brass from the Lake Lanao country of northern Mindanao, where, in the village of Taguya, brass is still being cast in the form of decorated chow pots, cannon, storage vases, pipes, chains, jewelry, and other objects.

PLATE 18

Upper: Betel nut box from Sirah, Middle Celebes, collected by Dr. W. L. Abbott. U.S.N.M. No. 283958. Dimensions: 8.4 inches long, 2.6 inches wide, 1.2 inches in diameter.

This betel nut box consists of sections of pandanus leaf sewn together and covered over with strips of mica; the mica is brought in praus from Banggai Island on the east coast of Celebes. The box has a twilled basketry lid; a meandered floral design in color is incorporated in the walls under the covering of mica.

Lower: Decorated pommel, ferrule, and scabbard of Malay steel barongs from Jolo, Philippine Islands. The barong at right, U.S.N.M. No. 288361, has a silver-shod handle of lauan wood and a decorated pommel of dugong ivory. The ivory and carved wooden pommels of the barong at the right are excellent examples of the "leech" pattern, a decorative motive widely diffused throughout Malaysia. Stirling found Dyak porters carving objects in this intricate pattern while resting on the journey. The ferrule of plaited silver wire on the handle of the barong at the left is an exquisite example of Malay metal filigree work and resembles the well-known Malay plaited ferrule of rattan. Apparently nowhere else in tropical countries do we encounter this characteristic use of rattan. The braided Malay ferrule, whether of silver wire or of rattan, rarely exceeds 1 centimeter in width.

PLATE 19

Carved wooden spoons: Philippine Islands.

A typical form of Malay design from the Ifugao and Igorot of the island of Luzon consists of figurine or spirit images forming handles of carved wooden spoons. These spoons have plain bowls, but invariably have anthropomorphic figures occupying the handles. They represent "Anitos," or spirits whose qualities, both good and bad, are known only to the primitive Malay.

Some of these sculptures are of interest, others are quite crudely done. Illustrated are two examples fairly typical. One, U.S.N.M. No. 248011, 8.2 inches in length, has a handle representing a spirit or "Anito" in erect posture with arms at the side and touching the knees. He wears a plumed headdress represented by a 2-lobed extension of the crown of the head. The other spoon illustrated, U.S.N.M. No. 35127, has a figurine handle more typical of Igorot wood carving generally. It represents an Anito with flexed knees, and with hands resting on thighs.

Like all primitive peoples, the primitive Malay wood carver represents a life form in the least possible number of planes. A straight line extends from the top of the head to the lip, forming, thus, forehead and nose in one plane. The face is triangular, extending in two divergent planes to the ears, where protuberances are invariably carved.

There is nothing of great interest in these carvings, and the general level of decorative art here seen is inferior to that of Malay etched designs on bamboo or executed in metal.

PLATE 20

A bamboo comb, collected by Gen. Tasker Bliss, U.S.N.M. No. 236341, from Mindanao, has characteristic Malay art embellishment occupying a panel at the base of the comb. Zigzag nucleated circles and fretted designs form

panels set off from one another by incised lines. All of these form a border leaving a central field in plain natural color. This art is perhaps most characteristic of the Philippine-Malay areas.

The tubular container collected by Haskell, U.S.N.M. No. 341501, 7½ inches in length and 7 inches in diameter, also the slightly larger container, U.S.N.M. No. 334538, collected by Miss I. H. Lenman from the island of Luzon, resemble rather closely the etched designs of a tubular bamboo container from Africa, U.S.N.M. No. 334402, collected by R. C. Bielinski. The similarity is to be noted in the triangular and lozenge-shape etched banded designs forming panels covering the entire surface of the containers. Such designs, along with other protean designs, such as V-shape, alternating spurs, are too elementary to be of any value in a study of cultural diffusion.

PLATE 21

Decorative work in bamboo: Malaysia and Melanesia.

Wherever bamboo is grown the tribe or people occupying the region has seized upon it as an effective medium for carrying out their artistic impressions. Some of the best examples of decorative engraving or etching on bamboo come from Malaysia, as shown on the plate, in the form of 6-stoppered flutes. One of these, characterized by lightly etched rather than by the more usual broad banded designs, U.S.N.M. No. 235159, is from the Philippine Islands. It has a length of 31 inches and a sectional diameter of 0.9 inch. As in other examples of Malay art on bamboo, the banded designs tend to the geometric and are symbolic, although they originated in patterns of life forms. Series of V-shapes, rectangles, zigzags in parallel, hourglass devices—all are conventionalized representations of reptilian forms and feature, such as scales.

Five flutes from central Celebes, U.S.N.M. No. 304191, collected by W. L. Abbott, are shown on this plate. They incorporated, along with the decorative design just described in the flute from the Philippines, a number of conventionalized zoomorphic designs, principally of horns and head of the water buffalo. The head of the animal is represented in the form of a lozenge-shape device often split into triangles. There is otherwise little difference from Philippine designs except in the depth or broadness of line etching. The art resembles somewhat the banded burnt etching on blowguns from the island of Palawan.

One of the flutes on this plate, U.S.N.M. No. 394191, Sanggana, slightly smaller in diameter than the other examples illustrated, introduces white and red paint which, alternating with the burnt sections, gives a pleasing effect. The encircling panels covered with red stain frequently have a decorative design realistic in character, differing from the more geometrical lozenge-shape, and line patterns in burnt black. Bird representations are the characteristic theme of the etched panels in red, while the water buffalo is the motive in the burnt line sections.

PLATE 22

A bamboo stem, U.S.N.M. No. 232790, shown at upper right of plate, used as a container, was collected by E. A. Mearns in the Philippines. It is 5½ inches long and 1.8 inches in diameter. Encircling designs etched by burning are in wide zigzags, triangles, and encircling bands alternating with plain spaces, the whole forming a pleasing geometrical pattern.

Two containers at the upper left represent entirely different cultural areas. They were collected by M. W. Stirling from the Papuans of the Central Rouffaer River Valley in Dutch New Guinea. None of them exceed 4 inches in length; the shortest is 2½ inches long. They are stoppered at one end with the uncut nodal diaphragm, the other end being open and, in use, being extemporaneously stoppered with leaves. U.S.N.M. No. 338671.

These decorated bamboo receptacles are used as lime containers in connection with the chewing of betel, also as needle cases, and for other purposes. It is interesting to note that the decorative design is etched on the walls by cutting away the outer cortex in sections, thus introducing by contrast a 2-color pattern, as is the practice of the aboriginal peoples of Central and South America. The outer cortex remaining forms double spirals resembling Maori decorative devices, V-shaped figures, also certain tadpolelike designs. Execution of these designs in Papua is inferior to Malay work, being crudely done and giving an amateurish impression, while the finished work of the Malay artist approaches virtuosity.

A lime container, U.S.N.M. No. 304151, shown at lower right of plate, used in connection with the chewing of betel, is introduced here by way of contrast. It is from central Celebes and was collected at Bada Toeare by H. C. Raven for Dr. W. L. Abbott. It is an elongated cone-shaped gourd, stoppered with a piece of bamboo in which have been inserted several nondescript pieces of colored cloth. The designs are the same as those previously described in connection with the Malay flute from that area. The general effect is pleasing in that each design, each panel, is a perfect example of free-hand etching. Encircling bands of zigzags, triangles, water buffalo horns, and other features, belonging undoubtedly to the water buffalo motif, are harmoniously separated by undecorated panels.

A decorated gourd shown at lower left of plate, collected by W. E. Curtis in Africa, U.S.N.M. No. 280894, 6 inches long and 2 inches in diameter at the base, introduces etched designs consisting of triangles, spurs, V-shaped frets, and encircling lines. Life forms, consisting of man and animal figures, the man holding a saber, and the animal figure resembling a lion are entirely foreign to the more geometrical art just described from New Guinea, Celebes, and the Philippine Islands.

PLATE 23

Examples of Fijian decorative and symbolic art.

Wood carving and painting on tapa bulk large in the art technic of Oceania. A Fijian club with symmetrically carved knobbed striking end may be seen at the left, while below are carved images in palm wood and plaited mats of palm fiber. In the background are bolts of decorated tapa, and at the right are bolts of wrapped sennit cord.

Fijian tapa like the matting shown at bottom have geometrical designs reducible to conventionalized life forms. The frigate bird of the Polynesians and the leech of Malayan designs have likewise become geometrical through conventionalization.

PLATE 24

Arts of the Fijians. Pottery and wood carving.

PLATE 25

Tattooed heads. Maori, New Zealand.

PLATE 26

Tattoo designs, *a, c*, Marquesas Islander; *b*, Samoan Islander.

PLATE 27

Decorated human heads. Papuans of New Guinea.

PLATE 28

Wood carver's art of the Papuans of the island of New Guinea.

A tubular drum with aviform decorative embellishments in high relief. Collected by E. W. Brandes.

PLATE 29

A 2-pronged wooden hook with elongated conventionalized aviform decoration in profile. Used in the men's dormitories of the New Guinea Papuans. Collected by E. W. Brandes.

PLATE 30

Wooden combs from the Papuans of New Guinea. The base of each comb has etched designs in color depicting in a conventionalized manner birds and other life forms. Collected by E. W. Brandes.

PLATE 31

Tubular drum shells of carved wood, U.S.N.M. No. 344961.

An aviform decorative embellishment carved in high relief from the solid represents the hornbill. Other zoomorphic patterns, incised in flat relief, tend to approach the double spiral of the Melanesians, and of the Maori of New Zealand. Collected by E. W. Brandes at Ambunti, Territory of Papua, British New Guinea.

PLATE 32

Decorated objects of carved wood. Papuans of New Guinea.

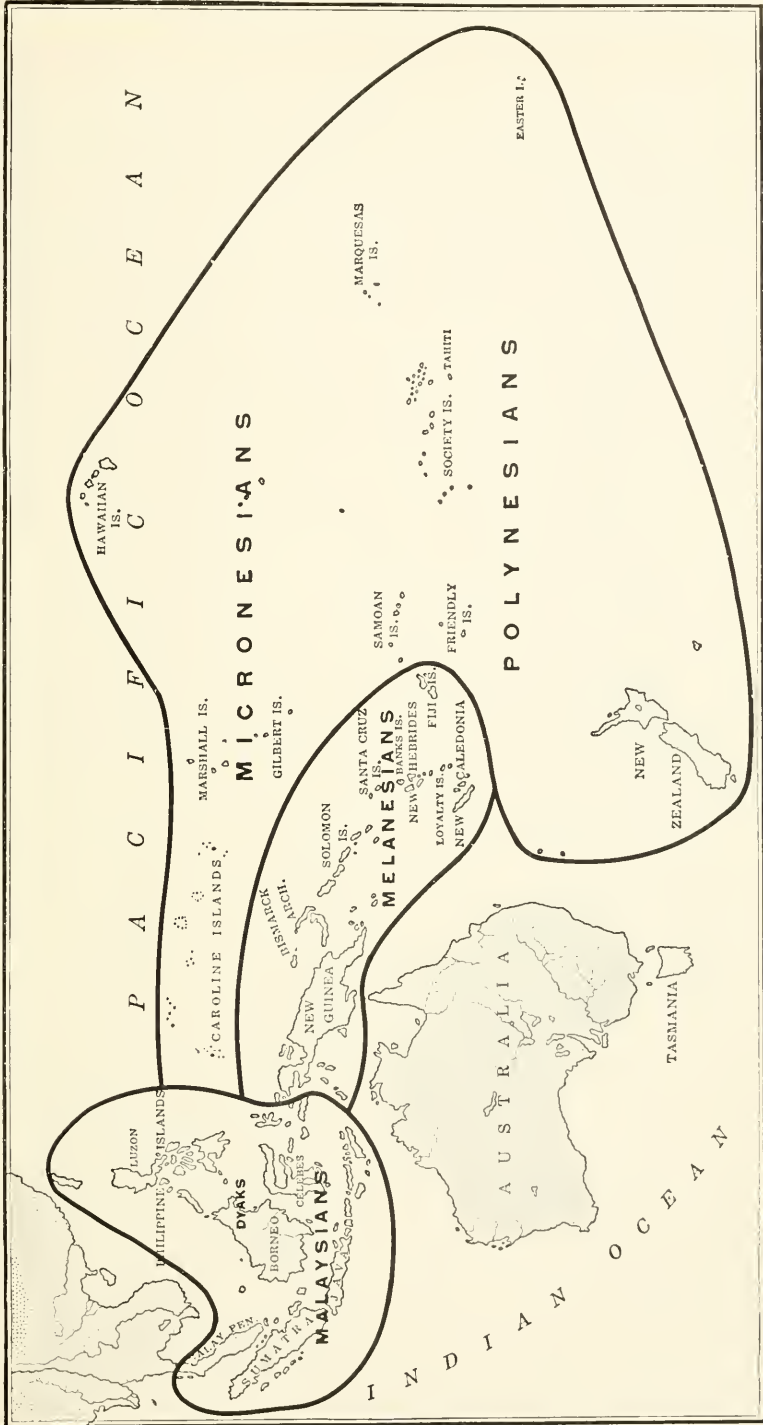
Figurines of carved wood, U.S.N.M. No. 334934, used in the young men's dormitories of Papua, are excellent examples of Melanesian wood carver's art. Carving of human figurines and images in the round is general among the peoples of the Pacific. Collected by E. W. Brandes from a Papuan village located on a tributary of the Sepik River, British New Guinea.

PLATE 33

Decorated arrow shafts. Papuans of British New Guinea.

The surface etchings are filled in with a white color, a decorative technic characteristic of Melanesia. The use of red ochres as a filler in incised decorative work is also typically Melanesian and Papuan.

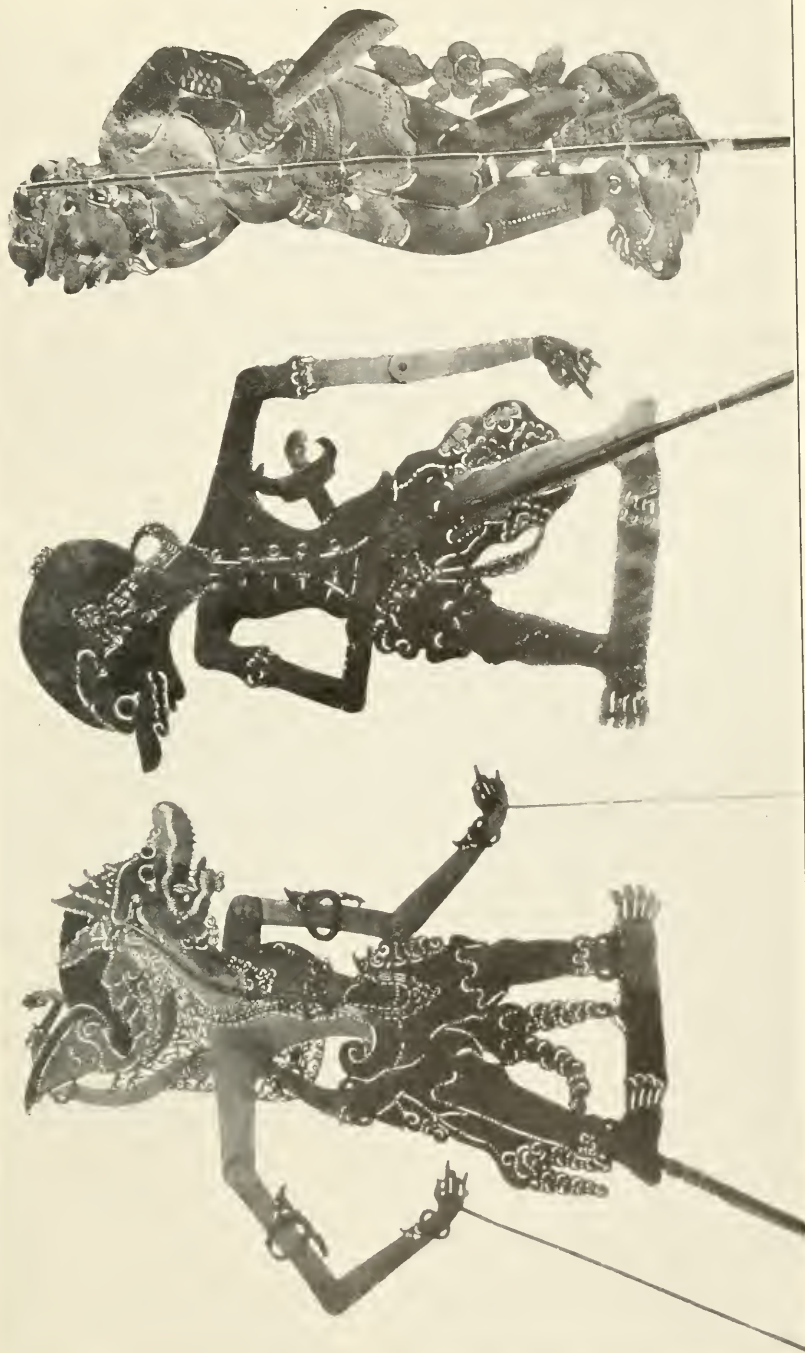




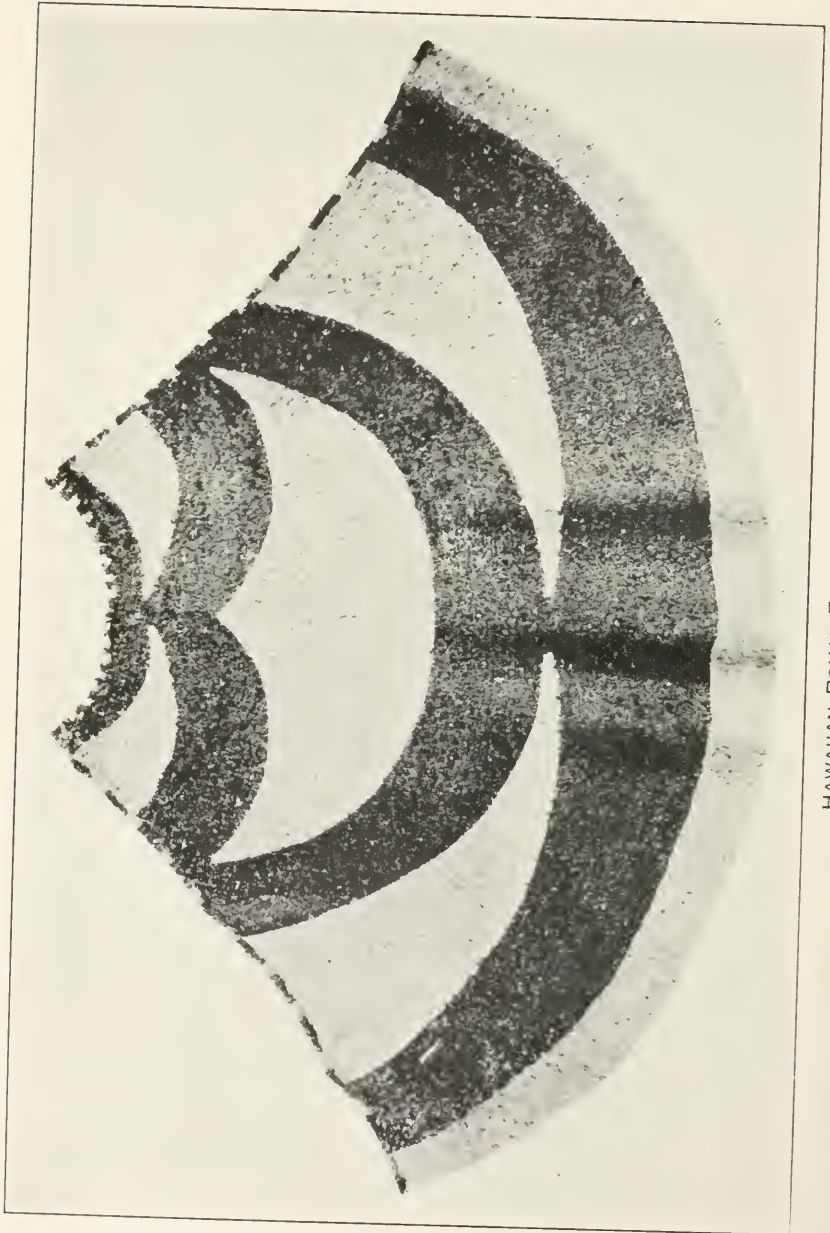
ETHNIC AREAS IN OCEANIA



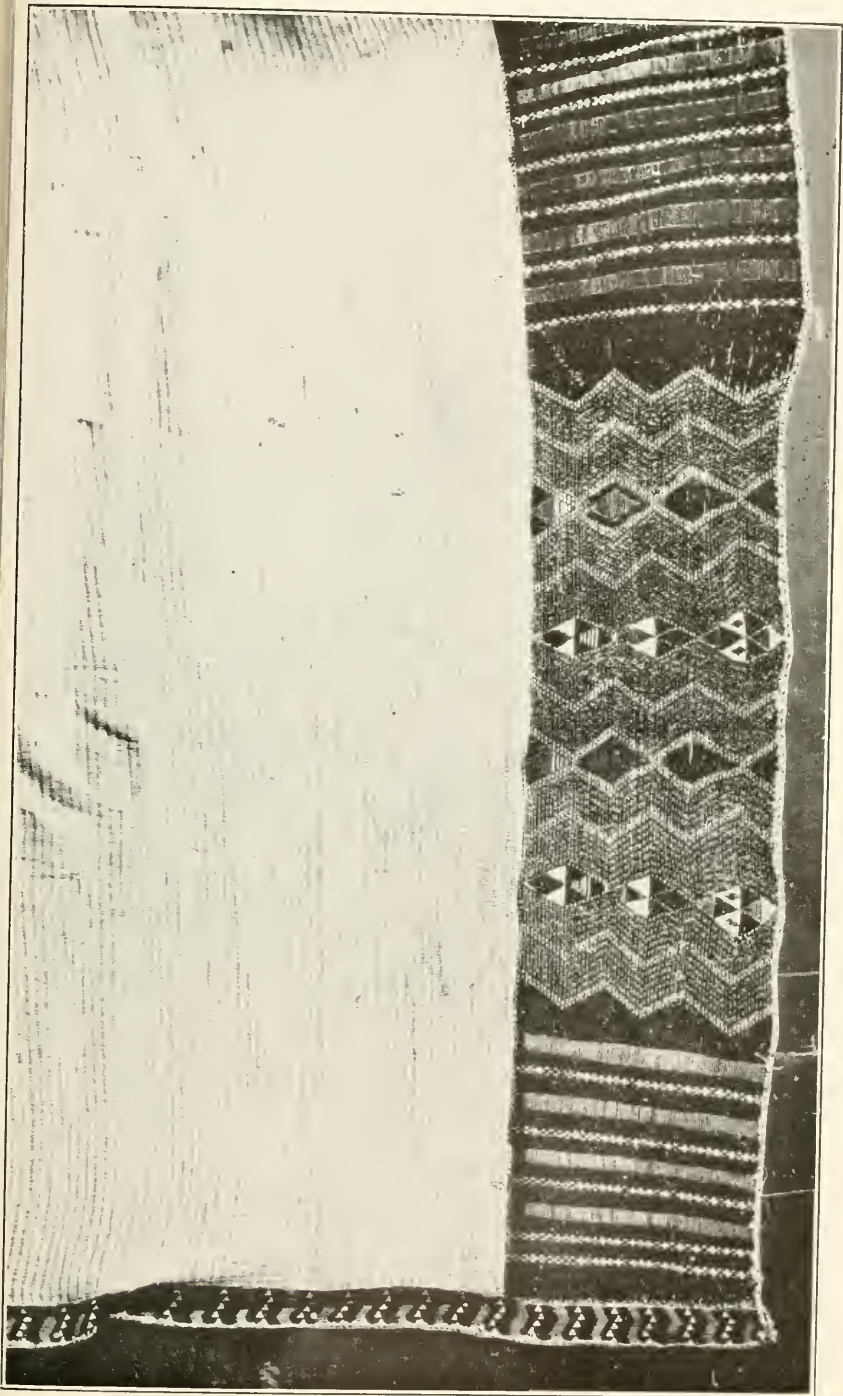
MARIONETTES OF CARVED WOOD. JAVA



MARIONETTES OF CUT LEATHER: LEFT, JAVA; RIGHT, SIAM



HAWAIIAN ROYAL FEATHER CAPE



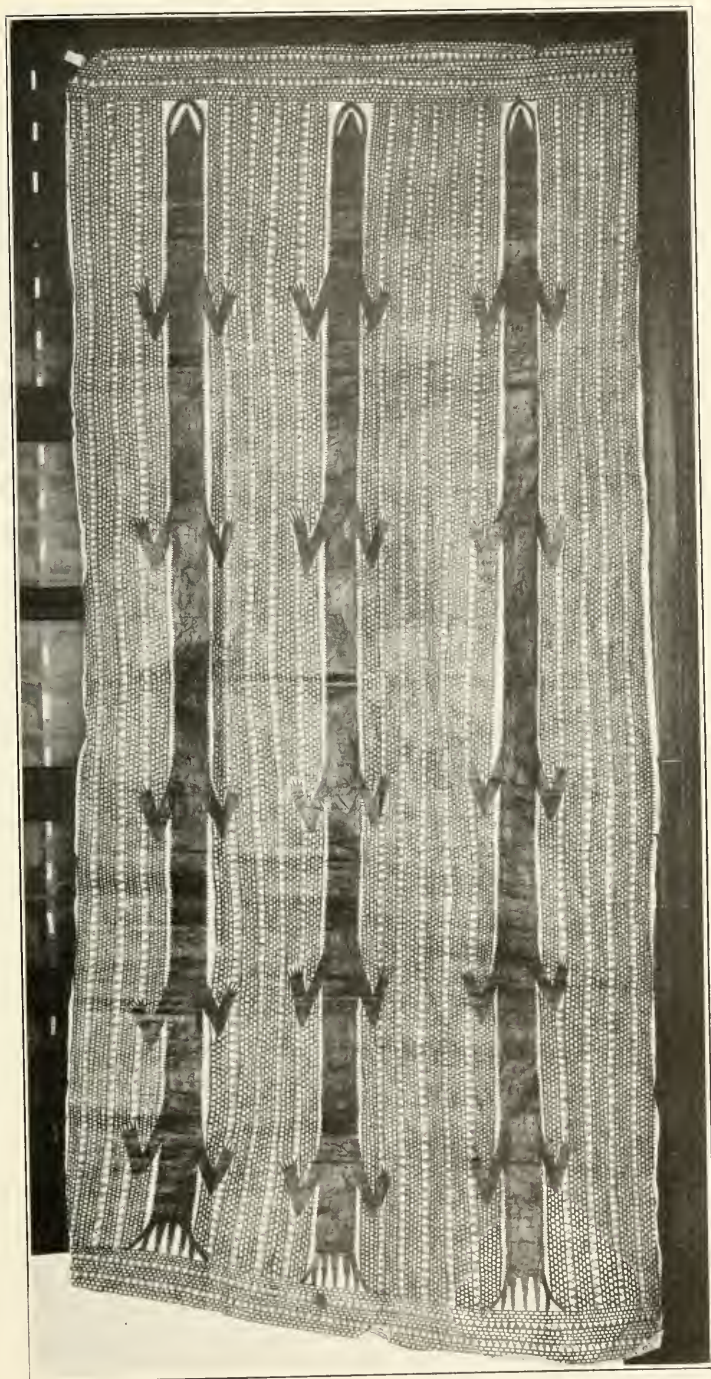
WOVEN CLOAK OF THE MAORI, NEW ZEALAND



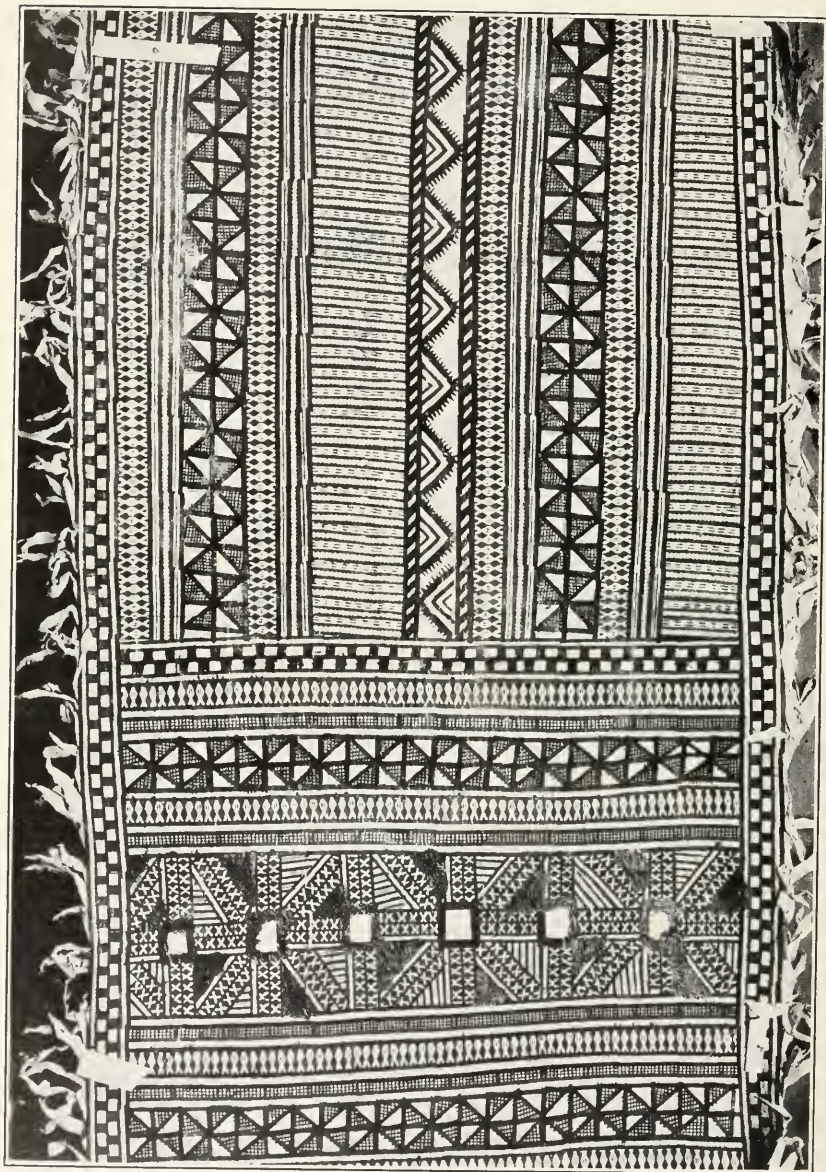
b, TAPA CLOTH. SANTA CRUZ ISLANDS



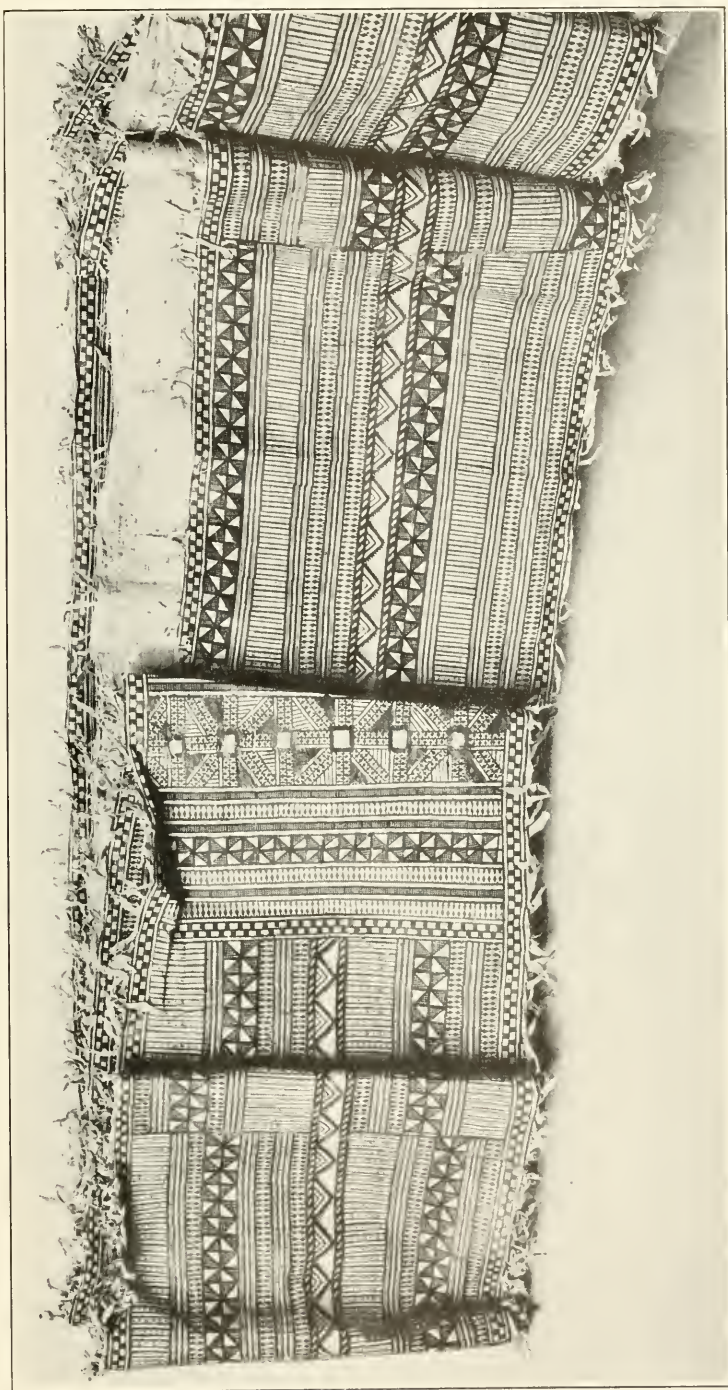
a, TAPA CLOTH. POLYNESIA



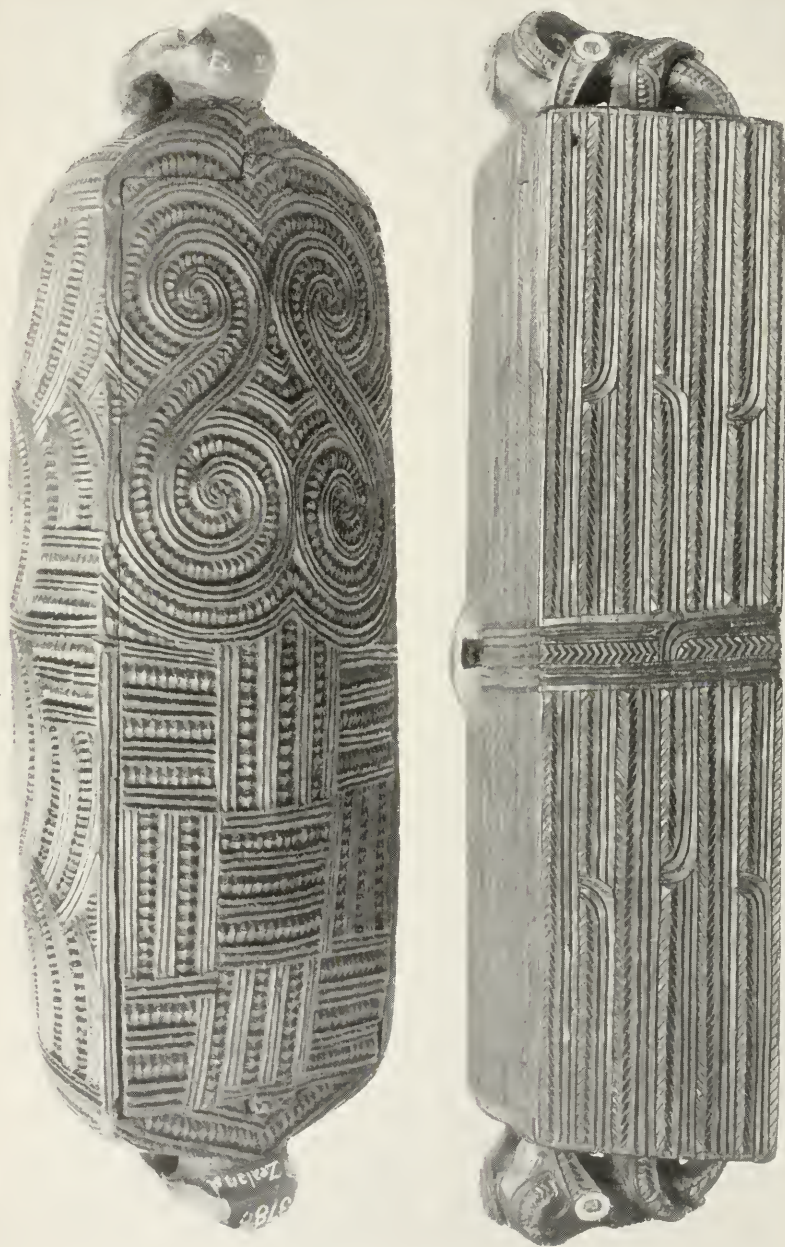
TAPA CLOTH. SAMOA



TAPA CLOTH. FIJI ISLANDS



TAPA CLOTH. FIJI ISLANDS



MAORI DRESSING BOXES OF CARVED WOOD. NEW ZEALAND
Box at top of plate inverted to show carving and joining of lid.



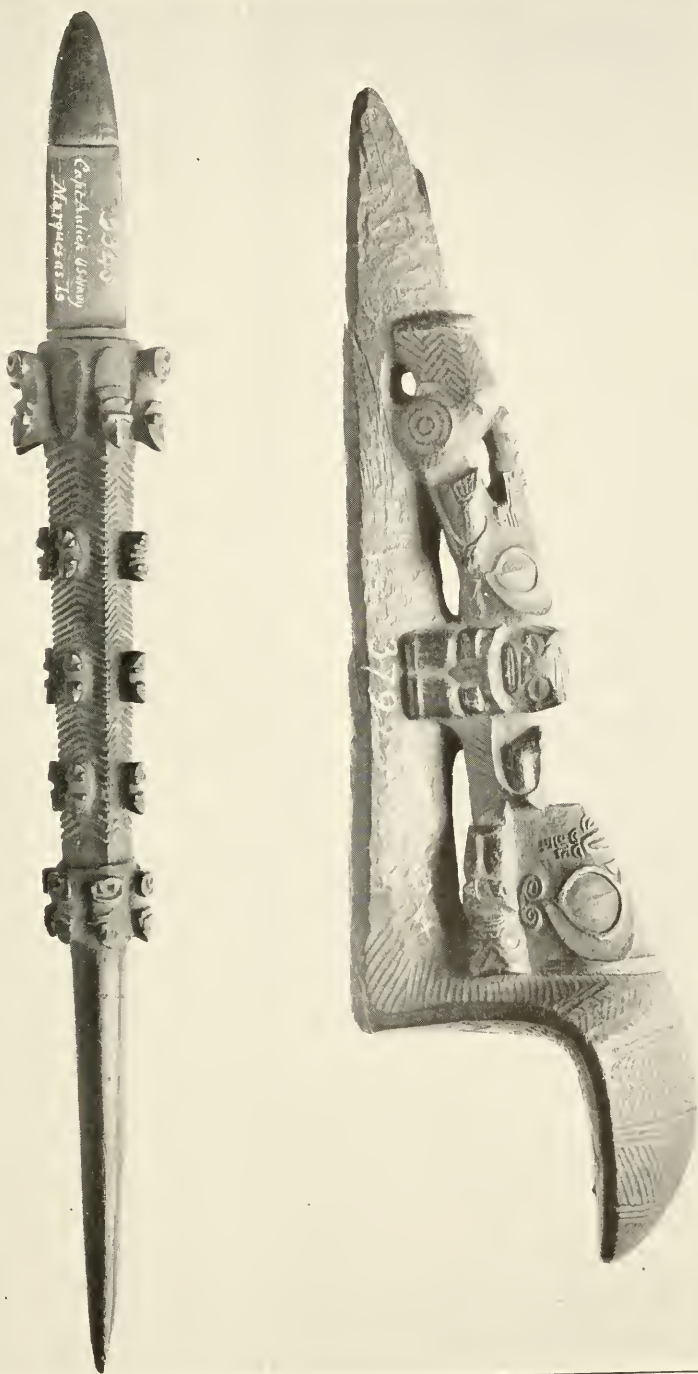
a, DRESSING BOX OF THE MAORI, END VIEW



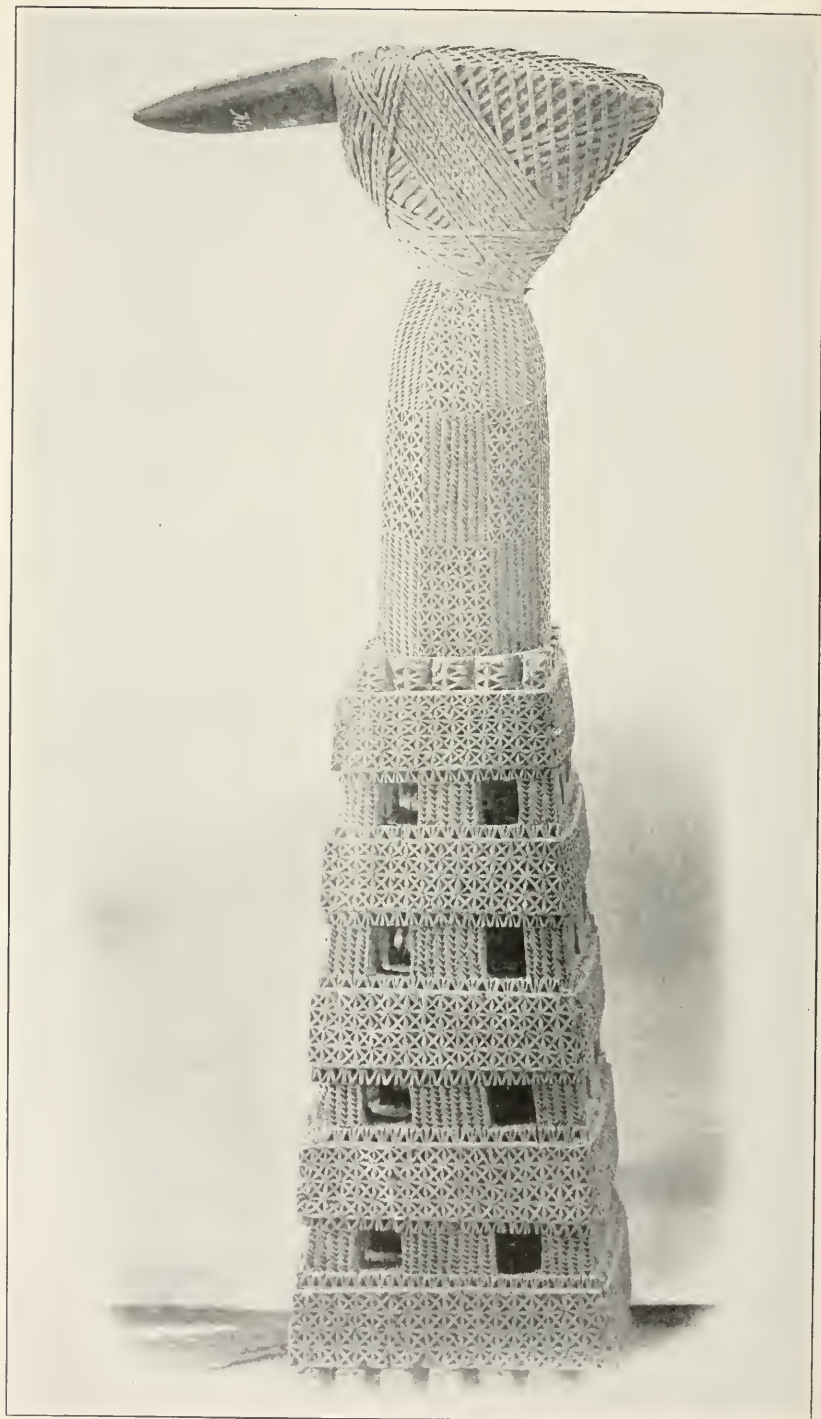
b, FUNNEL USED IN FEEDING A RECENTLY TATTOOED MAORI OF NEW ZEALAND



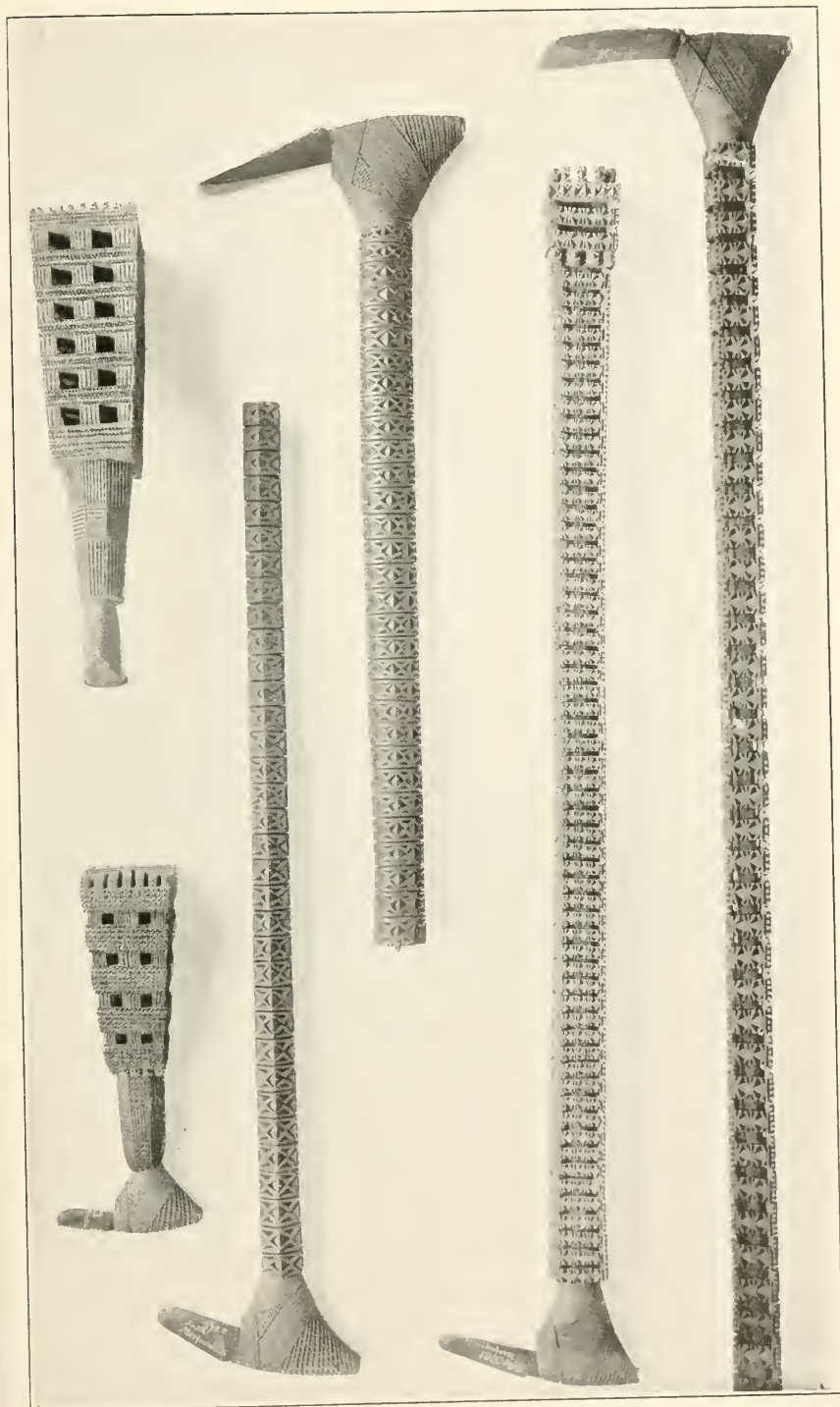
SECTION OF A MAORI HOUSE POST



OBJECTS ILLUSTRATING THE WOOD CARVER'S ART OF THE MARQUESANS AND THE RARATONGANS



CEREMONIAL ADZE. HERVEY ISLAND



CEREMONIAL ADZES ILLUSTRATING THE POLYNESIAN WOOD CARVER'S TECHNIQUE. HERVEY AND THE MARQUESAS ISLANDS



a, A MORO VESSEL OF CAST BRASS FROM MINDANAO, P. I.



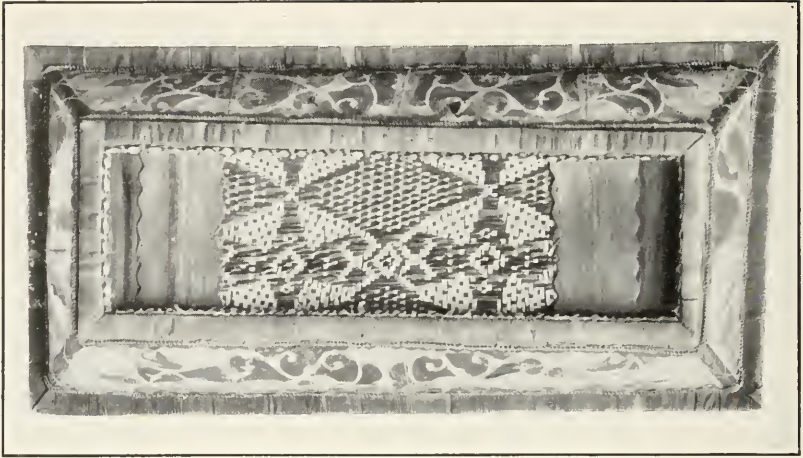
b, MORO BETEL NUT BOX OF CAST BRASS FROM MINDANAO, P. I.



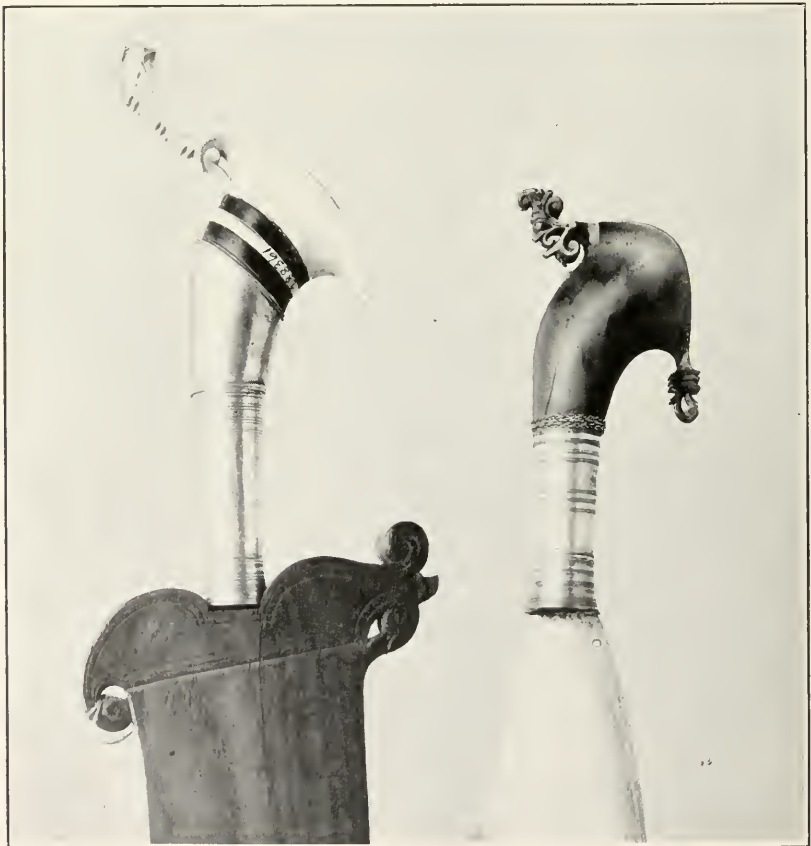
LEFT, MALAY VESSEL OF CAST BRASS; RIGHT, WOODEN TRINKET BOX WITH SHELL INLAY



MALAY TEAPOT OF CAST BRASS



BETEL NUT BOX OF SEWN PANDANUS LEAF. SIRAH, MIDDLE CELEBES



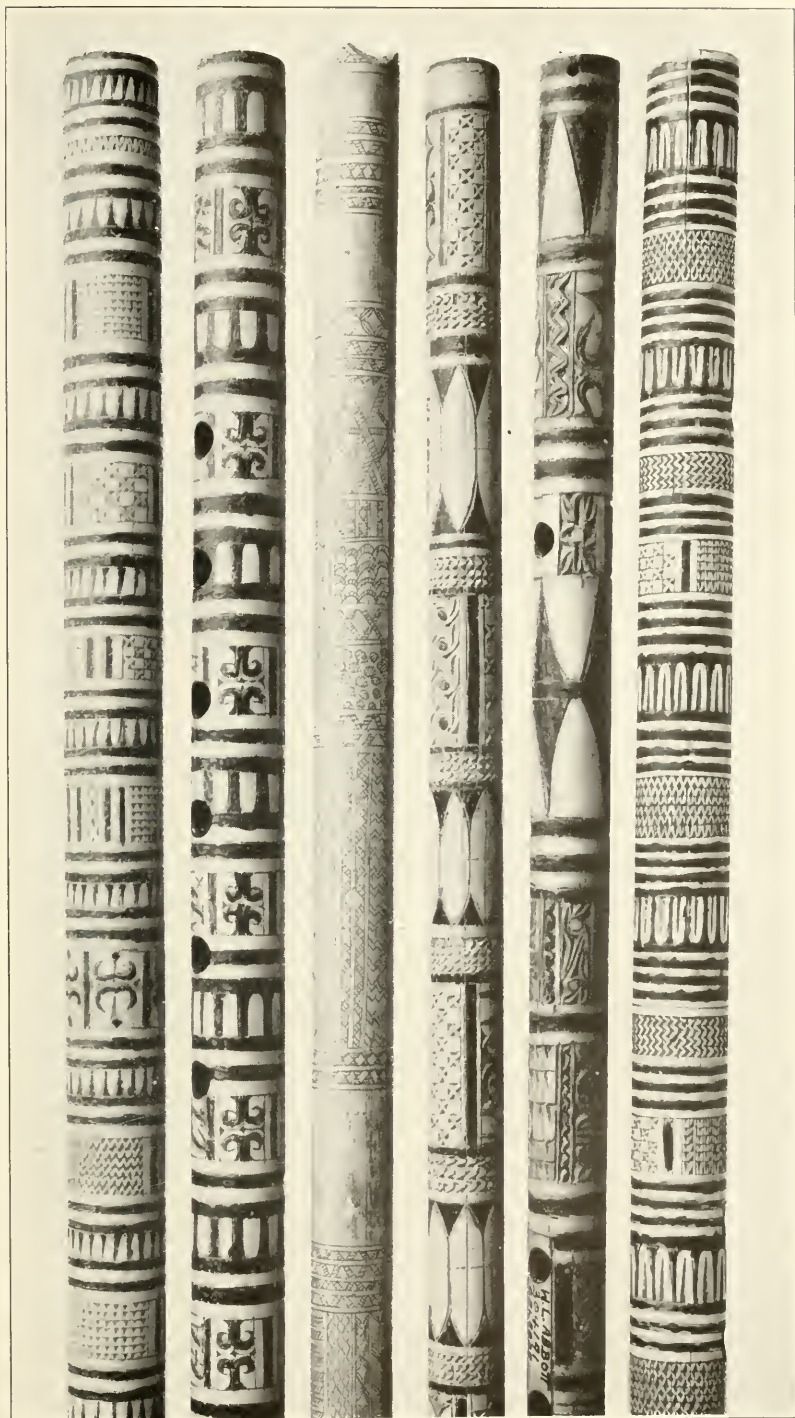
DECORATED POMMEL, HANDLE, AND SCABBARD OF MALAY STEEL BARONGS. JOLO, P. I.



WOODEN SPOONS WITH CARVED HANDLES REPRESENTING "ANITOS" OR SPIRITS. IFUGAS, OF LUZON, P. I.



LEFT, MALAY COMB OF BAMBOO; RIGHT, TUBULAR CONTAINERS OF BAMBOO. LUZON, P. I.



DECORATED BAMBOO FLUTES FROM MIDDLE CELEBES. THE FLUTE, THIRD FROM LEFT, INTRODUCED FOR COMPARISON, IS FROM LUZON, P. I.



a, BAMBOO CONTAINERS AT LEFT AND CENTER FROM DUTCH NEW GUINEA; AT RIGHT, FROM THE PHILIPPINE ISLANDS



b, DECORATED BAMBOO CONTAINERS. LEFT, AFRICA; RIGHT, MIDDLE CELEBES

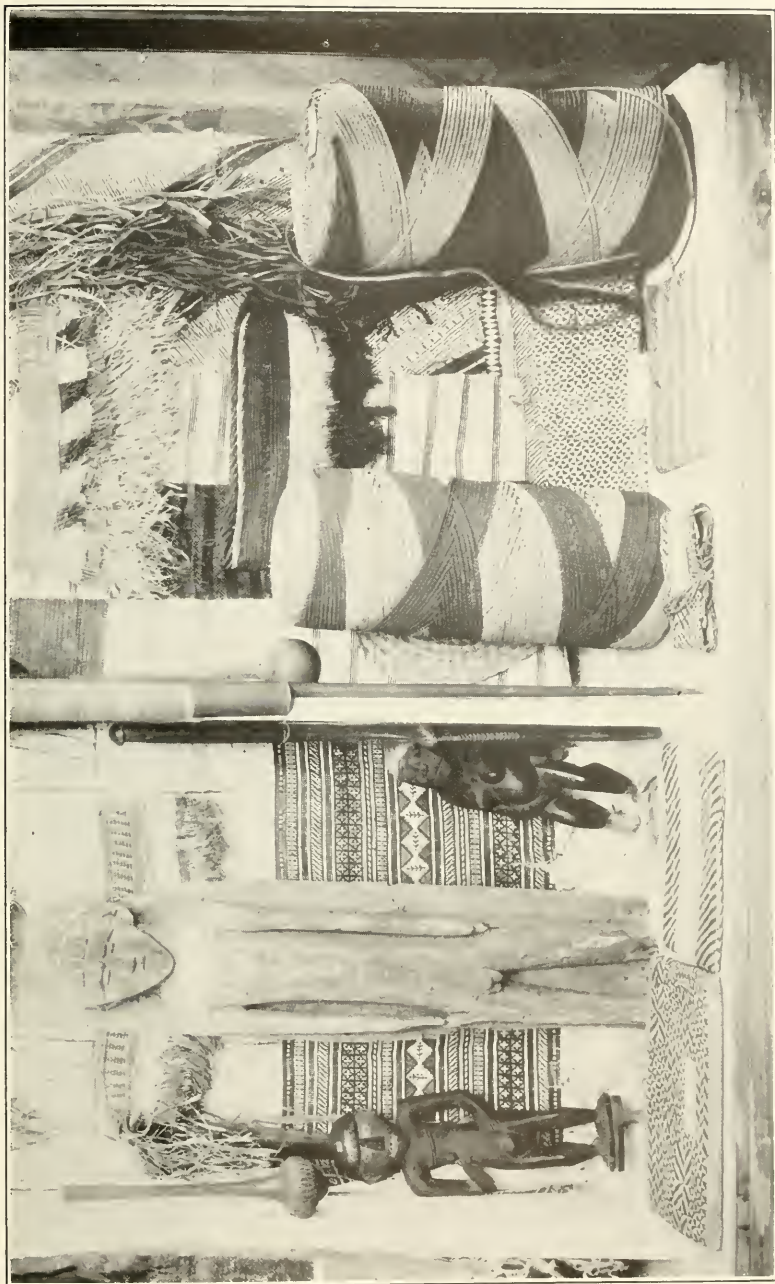
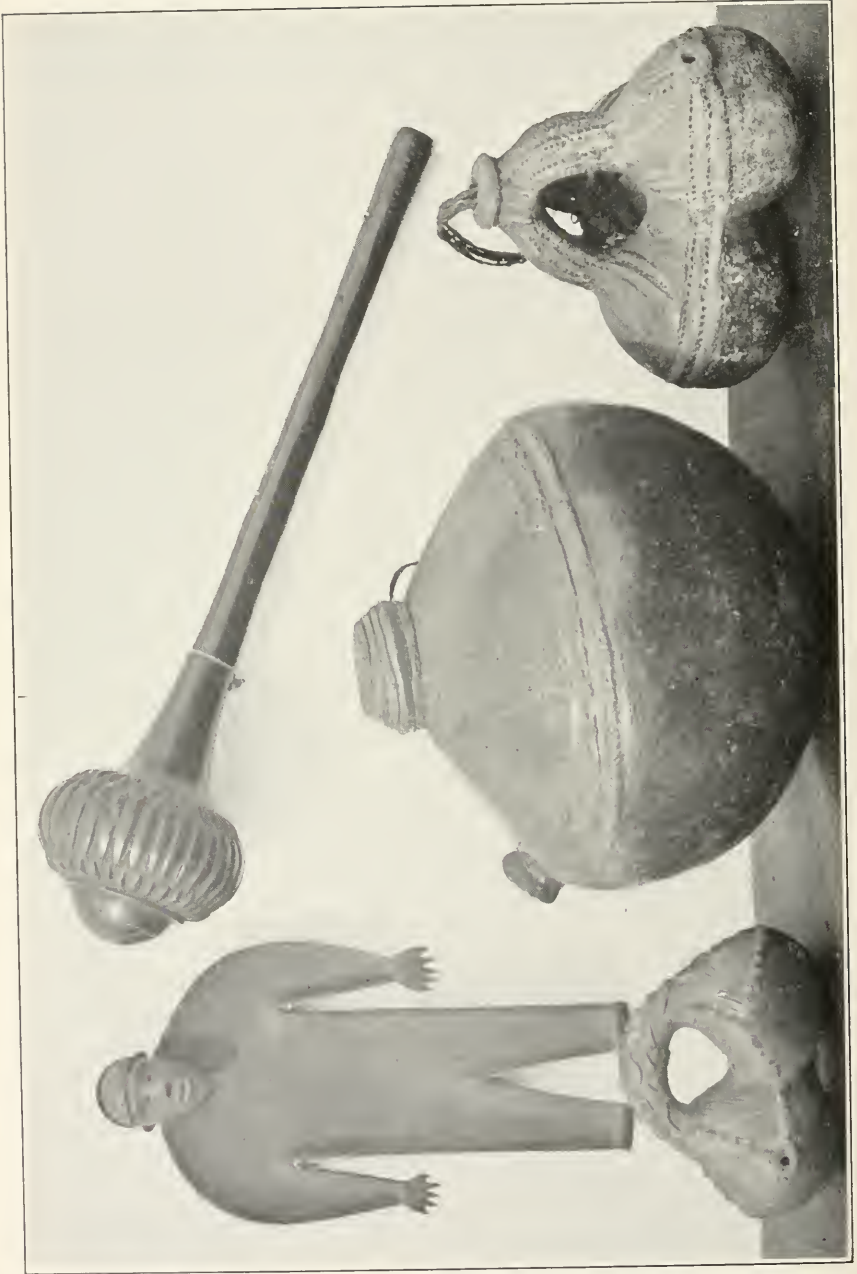
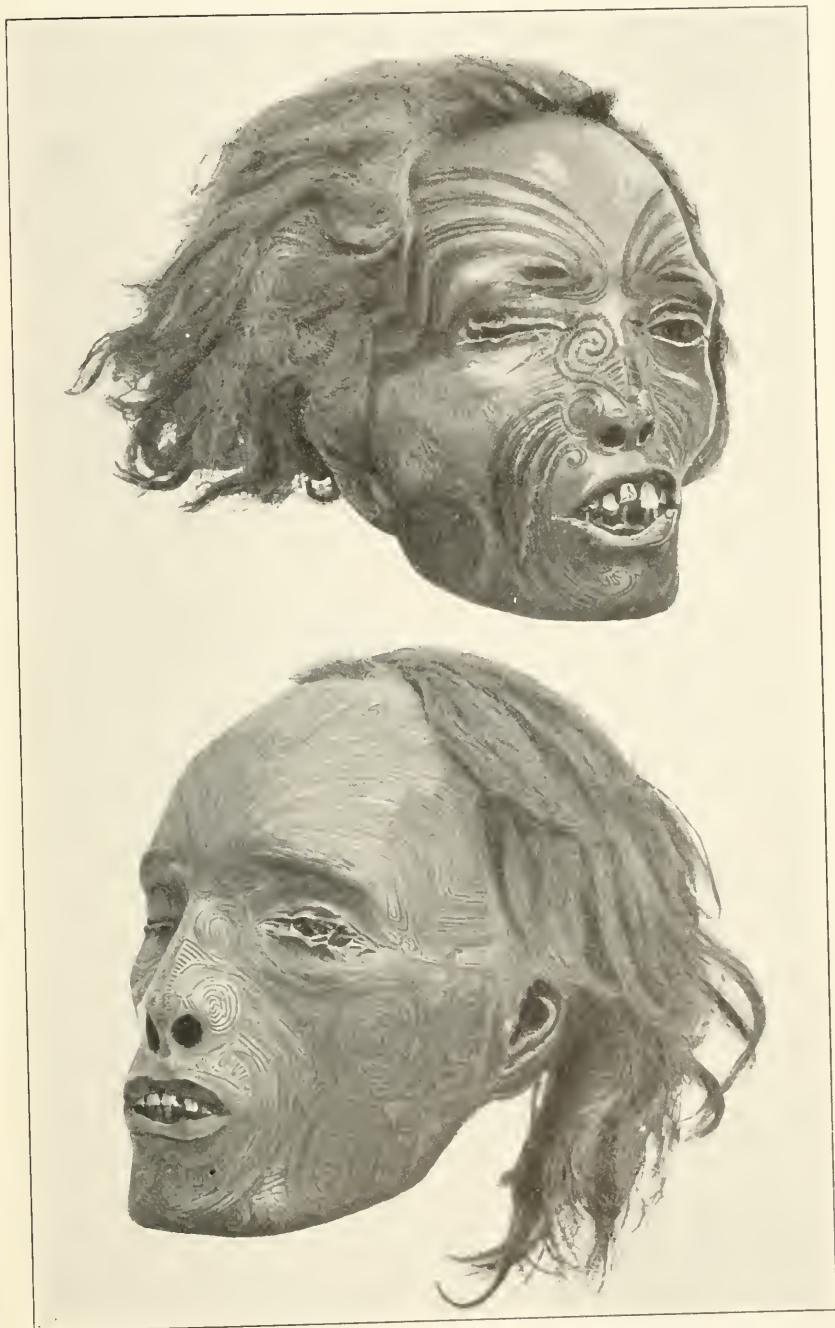


EXHIBIT OF FIJIAN DECORATIVE AND REPRESENTATIVE ART IN THE UNITED STATES NATIONAL MUSEUM



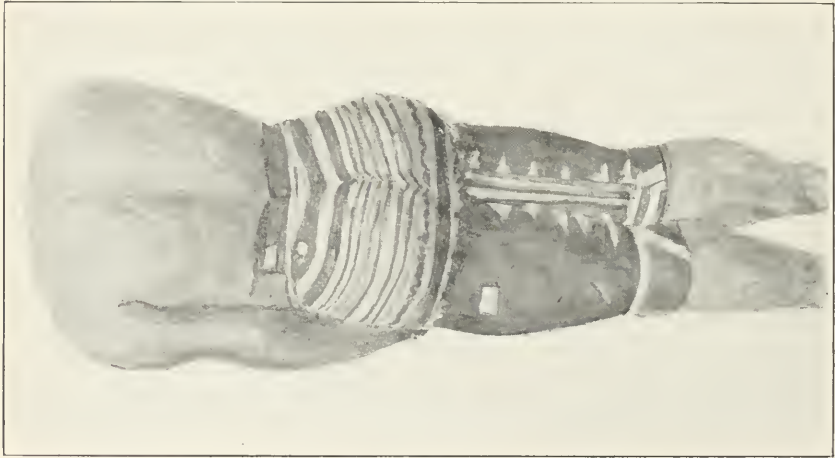
ARTS OF THE FIJIANS. POTTERY AND WOOD CARVING



TATTOOED HEADS OF MAORI. NEW ZEALAND



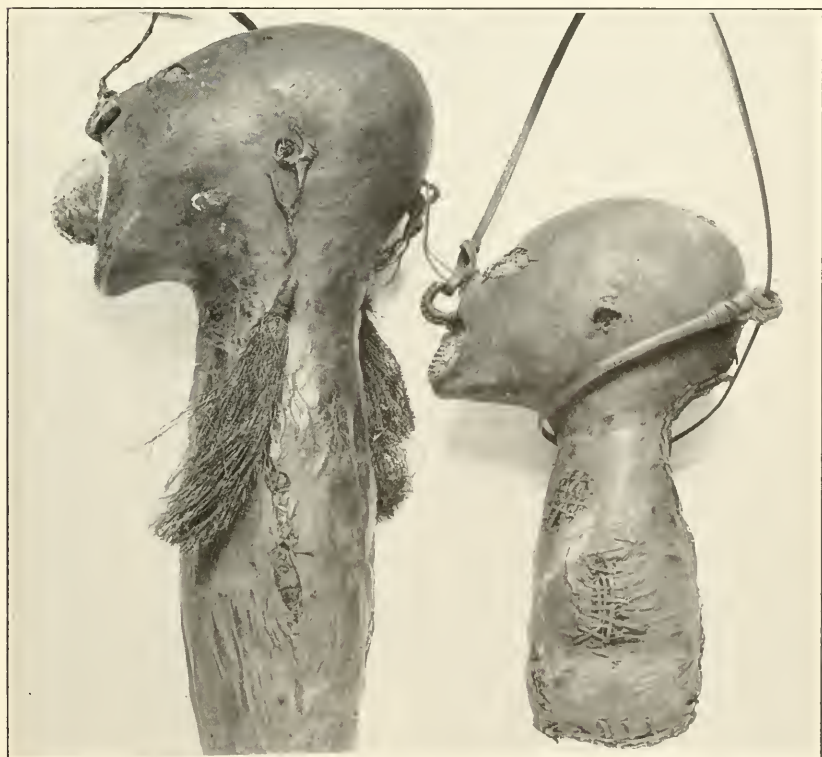
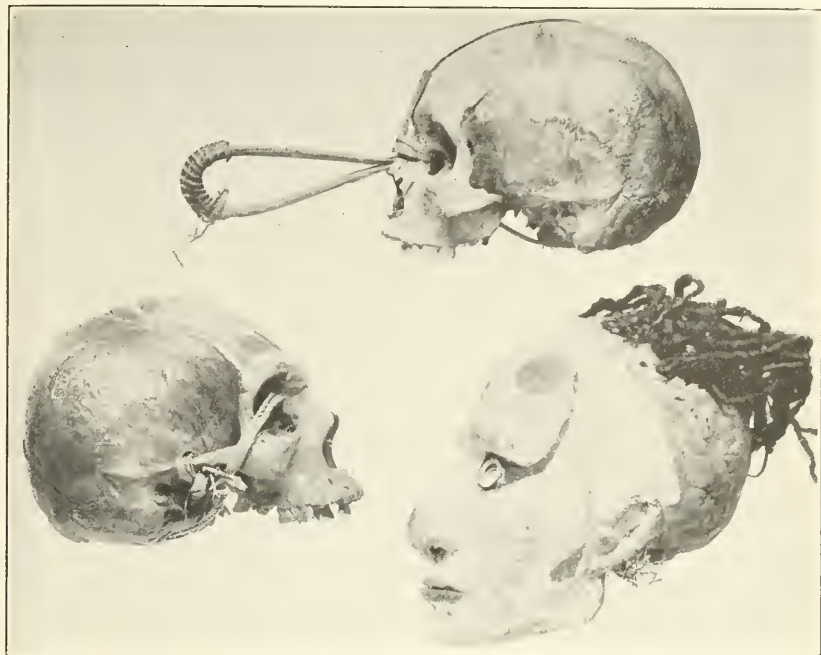
c, Marquesas



b, Samoa
TATTOO DESIGNS.



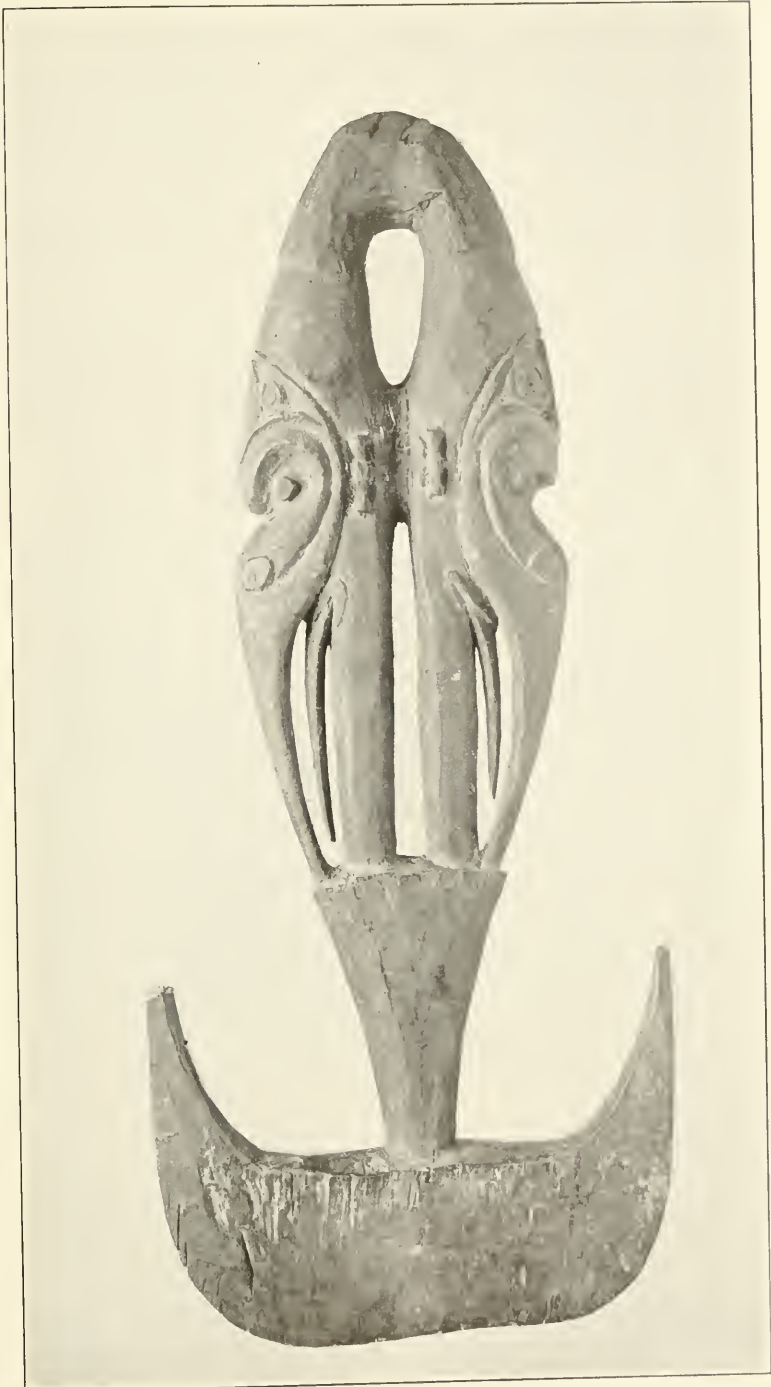
a, Marquesas



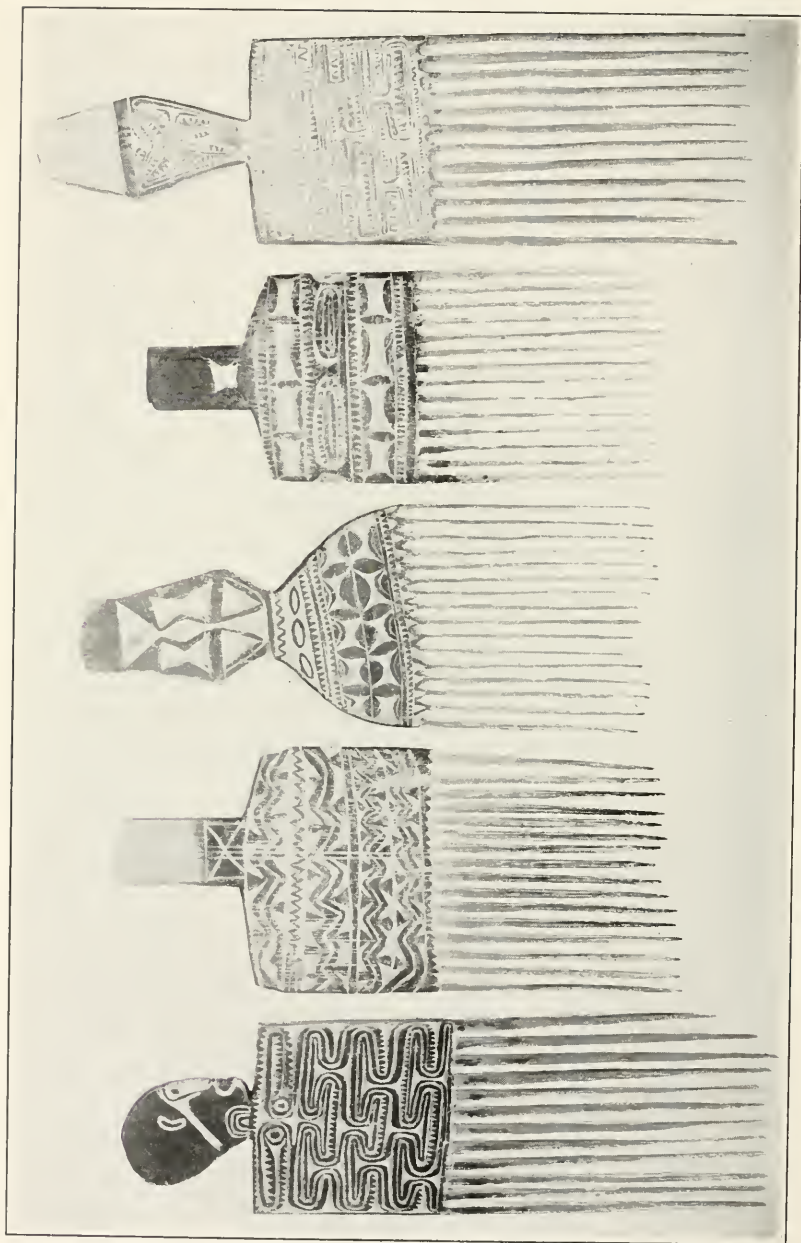
DECORATED HEADS, PAPUANS, OF TERRITORY OF PAPUA, NEW GUINEA



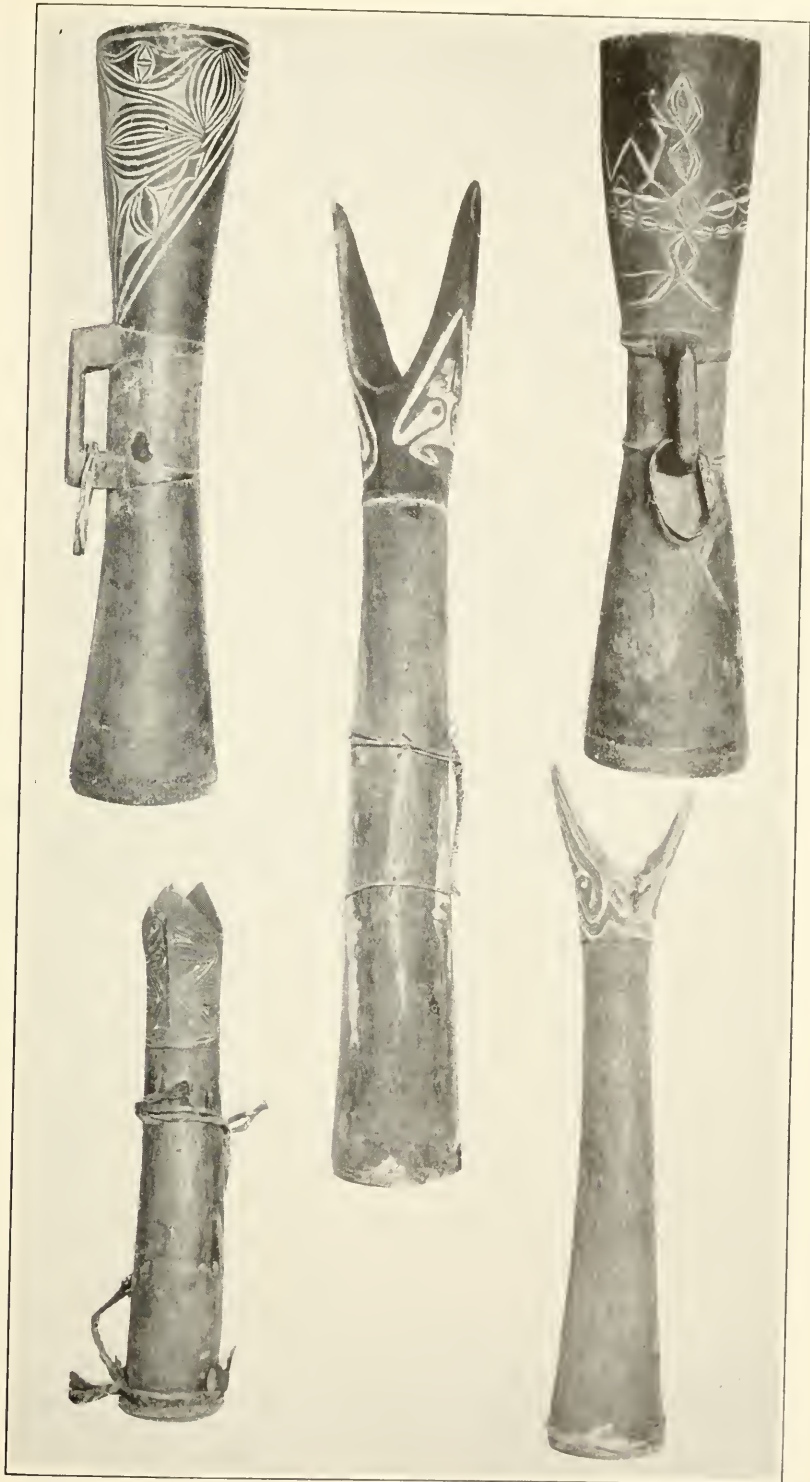
TUBULAR DRUM OF CARVED WOOD. TERRITORY OF PAPUA,
NEW GUINEA



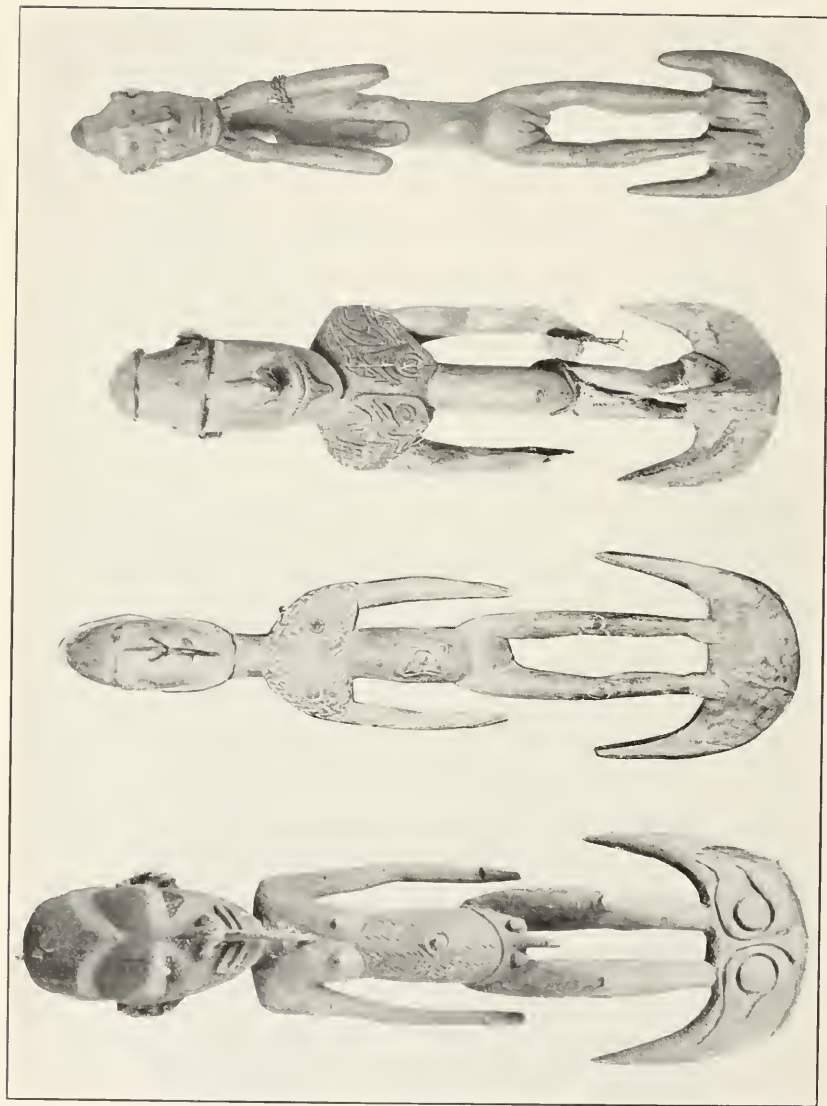
CONVENTIONAL ANCESTRAL FIGURINE CARVING SHOWING BIRD BEAK AND OTHER DETAILS ON PRONGED HOOK USED IN MEN'S DORMITORIES. PAPUANS OF TERRITORY OF PAPUA, NEW GUINEA



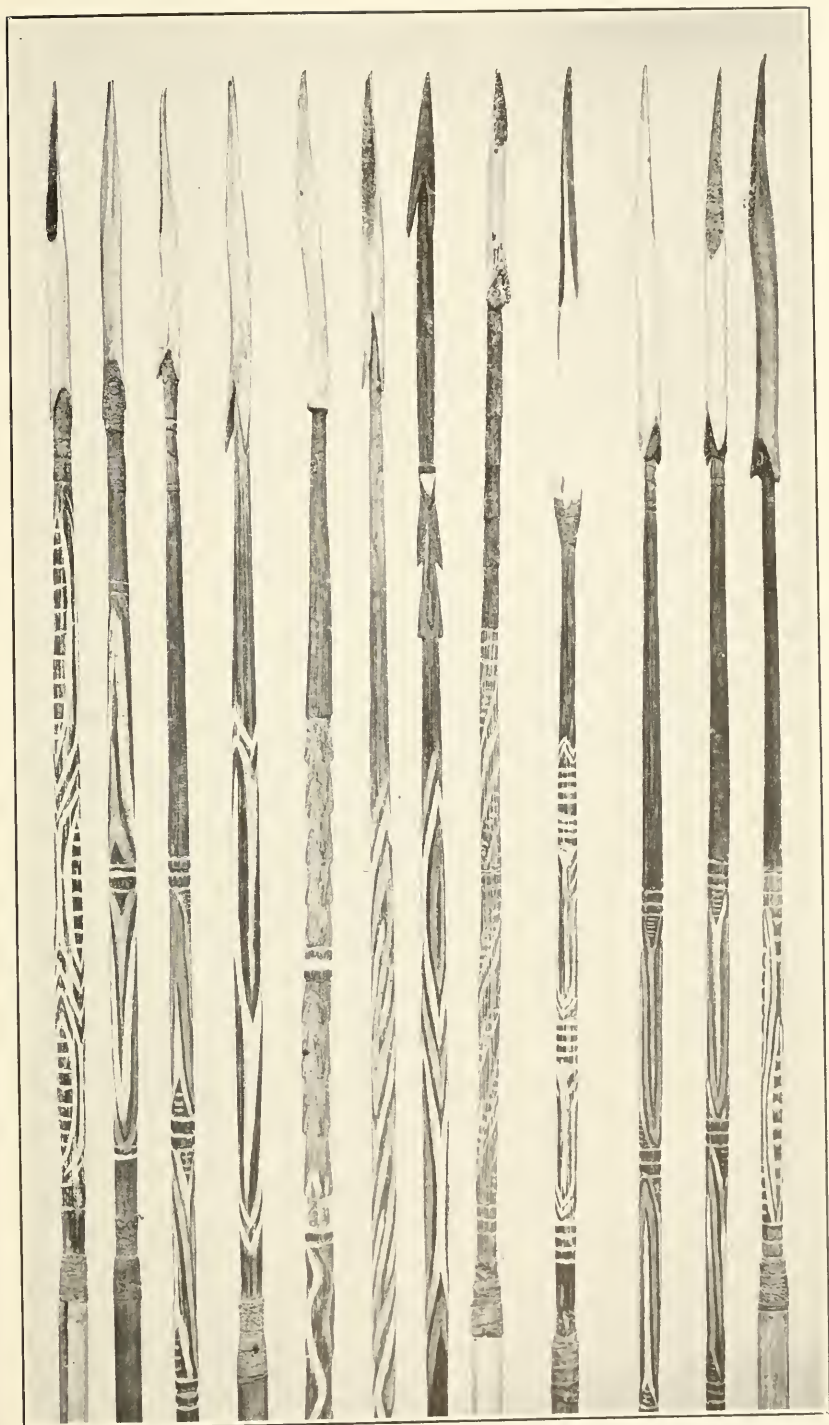
DECORATED WOODEN COMBS. PAPIJANS OF BRITISH NEW GUINEA



TUBULAR WOODEN DRUMS OF THE PAPUANS OF THE TERRITORY OF PAPUA,
ISLAND OF NEW GUINEA



CARVED WOODEN FIGURINES REPRESENTING THE CONVENTIONALIZED ANCESTRAL SPIRIT WITH BIRD BEAK. PAPAUNS OF THE SEPIK RIVER TERRITORY, BRITISH NEW GUINEA



DECORATED ARROWS. PAPUANS OF BRITISH NEW GUINEA

