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COLOMBIA

THE TAIRONA CULTURE

PART II, SECTION 1

OBJECTS OF STONE, SHELL, BONE, AND METAL

BY

J. ALDEN MASON

FORMERLY ASSISTANT CURATOR OF MEXICAN AND SOUTH AMERICAN
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PAUL S. MARTIN

CURATOR, DEPARTMENT OF ANTHROPOLOGY
EDITOR

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ARCHAEOLOGY OF SANTA MARTA, COLOMBIA THE TAIRONA CULTURE

PART II, SECTION 1

OBJECTS OF STONE, SHELL, BONE, AND METAL

INTRODUCTION

The present publication, Part II, Section 1, of the Reports of the Marshall Field Archaeological Expedition to Colombia in 1922-23, consists of a description of the archaeological artifacts secured by the Expedition, with the exception of the pottery. The latter, probably including a study of the skeletal remains, it is hoped before long to publish as Part II, Section 2. Part I, the Report on the Field Work, was published in 1931 as Vol. XX, No. 1, of the Anthropological Series of Field Museum.

In the summer of 1931 I had the opportunity and pleasure of spending about five weeks at Field Museum studying this material. During this time full facilities for this purpose were afforded me in photography, repairing, draughting, and secretarial help, so that the plates were prepared and full notes taken. These have been put into cogent and presentable form in absentia.

The presentation of this material is almost exclusively factual and descriptive, like the Report on the Field Work, comments upon extra-territorial resemblances, distributions, and other scientific conclusions being reserved for Part III. It is felt that it is preferable thus to present the material factually and without extensive comment rather than to delay publication and to present a work of possibly unwieldy bulk. Because of the unique nature of the objects the illustrative material has been made unusually full.

No other monograph upon the general archaeology of this region has, to my knowledge, been published, and only a few individual specimens have been described. Archaeological collections from this region are also very few and small in the museums of the world apart from Field Museum. In 1924 I visited most of the larger museums of Europe and paid especial attention to collections from Santa Marta, taking notes on and sketches of the unusual specimens. The largest collections abroad are those in the Museum für Völkerkunde in Berlin, made mainly by K. Th. Preuss in 1914 and 1915, and in Gothenburg, Sweden, collected mainly by Gustav Bolinder in 1920. The

latter collection consists almost entirely of pottery objects, and in the British Museum are a few pottery vessels. Miss M. Louise Baker, the artist of the University Museum, Philadelphia, made drawings of some of the specimens in the Berlin Museum in 1933, secured photographs of others, and has drawn from my sketches a few objects in the Berlin Museum and also in the Paris Trocadero Museum, which possesses a few specimens. These are incorporated in the present plates.

Even in these above-named museums the collections from this region are very small, and other European museums probably have no, or at the most only one or two, objects from this region. I have received advice that there are none in the museums of Hamburg, Dresden, Leipzig, and Vienna, and I noted none in Munich, Stuttgart and Copenhagen.

Four museums in the United States in addition to Field Museum possess larger collections from this region than any in Europe, but I believe the Field Museum collection to exceed all the others combined. The Carnegie Museum in Pittsburgh has a rather large collection made about 1895 by Mr. H. H. Smith. The American Museum of Natural History in New York possesses a large collection made by Dr. F. C. Nicholas from 1895 to 1901. The Museum of the American Indian, Heye Foundation, in New York, and the University Museum in Philadelphia share the collection made by Mr. Gregory Mason in 1931, and each furthermore possesses a small representative selection from the present collection, received by exchange from Field Museum. The Heye Foundation received its exchange specimens before the present study was made, the University Museum after. The Museum of the American Indian also possesses a few objects, among them some of the finest, that were secured from other sources. The Museo Arqueológico de Bogotá, Colombia, has a few specimens from the Santa Marta region. It is unlikely that any other museums in South America have anything from the Tairona culture.

The only private collections from this region that have come to my attention are small ones belonging to Mr. W. R. Angell of Detroit, Michigan, and to Mr. W. M. Sutherland of Santa Marta.

With the exceptions of the specimens in Bogotá and those in Mr. Angell's and Mr. Sutherland's collections, I have been able to study all the above-mentioned collections, to take notes and sketches of them, and have been graciously supplied with photographs and drawings of the unusual specimens with permission to reproduce

them in this work, for which favors I am duly grateful to the officials of these institutions. The large collections in the American Museum of Natural History and the Museum of the American Indian, Heye Foundation, in New York, and in the University Museum in Philadelphia, were studied with especial care in 1933. Mr. René Granger of Bogotá secured me data on and photographs of the specimens there for which I wish to express my appreciation. Mr. W. R. Angell and Mr. W. M. Sutherland kindly afforded me photographs, drawings, descriptions, and data of the objects in their collections. Some of these were redrawn by Miss M. Louise Baker. To all of these my thanks are due and given. Notes on these extra-Chicago collections, and photographs and drawings of the unique specimens, are included in the present study.

I believe, therefore, that the material herewith presented represents practically the corpus of all the objects of the Tairona culture known to the present. There are doubtless other specimens from the Santa Marta region in museums, but of uncertain provenience. The present work may serve to identify them, but they naturally could not be included herein.

The discussion of the objects is by groups according to material and purpose. Fortunately no double division is required, for all the utilitarian objects seem to be of stone, while the shell, bone, and metal specimens seem to be exclusively of ornamental or ceremonial significance. Objects of stone are therefore taken up first, commencing with the ruder implements of unsmoothed stone and concluding with the ornamental or ceremonial objects of polished stone, and finally the ornaments of shell, bone, resin, and metal. In general, implements are of unsmoothed stone, ornaments and ceremonial objects of smoothed or polished stone. Axheads or celts form an intermediate class, for they were evidently made both for utilitarian and ceremonial purposes and both classes are of smoothed stone. Arbitrarily they have been classed as implements.

Page references refer to Part I, the Report on the Field Work. All measurements are given in centimeters.

OBJECTS OF STONE

NATURALISTIC SCULPTURES AND CARVINGS

Incised pictographs or petroglyphs are neither exceedingly rare nor very common in the Tairona region. The remarkable ones at Donama (Part I, pp. 59, 60; Plates I-IV), and those at Terán, Mandigua and near Dibulla (*op. cit.*, pp. 51, 52, 130; Plate V) have been described and figured. They seem to be of several different styles of art. No clear line of distinction separates incised petroglyphs from incised sculptured stones; the former are carved on bed-rock or boulders, the latter on smaller, generally artificially shaped, stones. These smaller sculptured non-portable stones are very rare in this region, and their virtual absence may be considered as one of the characteristics of the culture.

Almost all the sculptured stones were found near one site, the Cerro de la Campana near Los Cóngolos. Here was found the only sculpture in the round seen by the Expedition, a tall shaft with a rude human head sculptured at the top (*op. cit.*, p. 57; Plate V, Fig. 4). On this and near-by sites many smaller upright interred stones were observed, some of them forming portals at either side of staircases or paths entering sites. The two incised stones shown in Plate LXV, Figs. 2, 3, were probably among these. They were found by Mr. William M. Sutherland of Santa Marta, who removed them to the historical site of San Pedro Alejandrino near Santa Marta where they were reinterred and photographed. Mr. Sutherland says of them:

"This [Fig. 2] was on the northeast slope of the Cerro del Campano. It had been dug up by treasure-hunters before I found it. They told me all that they had secured was a couple of stone chisels which they found buried at its base. The site is surrounded by stone walls and there are evidences of staircases, etc., in the vicinity. Apparently there had been other stones which had been worked but not carved and which were placed upright near this one. The stone is 45 inches over all and very heavy, as it required eight men to bring it out.

"This [Fig. 3] is a stone from the southeastern portion of the Cerro del Campano. It was found on a level spot near a deep quebrada. A road going towards it passed to the left and went up a small hill directly behind it. To the right a number of other uncarved stones were placed on end in line with it. At the foot of

all these stones was an enormous stone which could not have been less than 12 or 14 feet long. It was very rough and unworked but had evidently been placed there by the hand of man. This stone has an over-all length of 48 inches and is also very heavy. The carvings are in low relief, and sight-seers have rubbed lime and charcoal in the lines to make their photographs show up better."

The two stones are carved in similar artistic style, and one rather different from any others found in this region. In both, a human figure is shown in a very characteristic stylized art. In the second stone a radiating head-dress or coiffure is represented; the upper part of the stone is missing in the first figure and the same feature may have been present here. One of the characteristics of both is the triangular mouth and chin. The nature of this is uncertain at present, but it may denote the beak of a bird, the entire figure being an anthropomorphized bird deity.

In the American Museum is a very unusual figure, apparently that of a bird. It is with some hesitation that this sculpture is included here, but it was apparently secured by Dr. Nicholas at Taganga, and it is doubtful if a figure of foreign provenience would have found its way to this little fishing village. It is shown in Plate LXV, Fig. 1. The dimensions are 23 x 12 x 6.5 cm. It is apparently made of granite and is rude, conventionalized, and stylized. The head is disproportionately large, the eye large and round and surrounded by a ridge which may represent eyebrows. The nose or beak is pointed. Wings and feet are shown, the feet joined, the tail short. While the carving is not characteristic of any region, the affiliations seem to point more to the Antilles than elsewhere.

IMPLEMENTS

METATES, MORTARS, AND SIMILAR OBJECTS

The Mexican word "metate," from Aztec *metlatl*, is commonly employed in American archaeology to denote the flat or trenched stone on which corn is ground with the help of a hand-stone known as a "mano" (hand). It is thus less equivocal than the word "mill-stone" or "mealing-stone."

Stone metates were found in most of the localities examined by the Expedition. No variation was noted between localities, nor any type characteristic of certain localities, the variation on any site being probably as great as between any regions on coast, in foothills, or in mountains. Metates were noted as occurring at Gairaca

(pp. 25, 30), Guachaquita (p. 40), Palmarito (p. 43), and Cañaveral (p. 50), on the coast; Matagiro (p. 56), Nahuange Arriba (p. 61), Pueblito (pp. 67, 81, 85, 86, 89, 94, 98, 104, 110, 112), and Pueblo Bernardo (pp. 118, 121), in the foothills; Vista Nieve (pp. 123, 124), upper Don Diego (p. 125), Palomino (p. 126), in the mountains; and Dibulla (p. 130), on the distant coast. Many were found at Gairaca, mostly worn through, employed in walls, and placed in lines or used as pillars; many at Guachaquita, a few at Palmarito, many fragments at Cañaveral, and a fragment at Nahuange Arriba. Many were encountered at Pueblito, many near site 1, on sites 17, 21, and 22, near site 25, and on sites 30, 31, 32, 41, and 44. These are mainly of quasi-rectangular shape, deep with rounded edges, one of a thin lozenge shape with concave upper and convex lower surface and slightly worn depression, others noted as large, small, and crude. Most were found on the surface or at slight depth, some employed in the masonry, and one at a considerable depth. The dimensions of nine were as follows: 53 x 35 x 17, 45 x 30 x 17, 45 x 30 x 14, 45 x 29 x 17, 42 x 27 x 14, 40 x 25 x 14, 38 x 20 x 13, 35 x 25 x 10, and 35 x 22 x ?.

At Vista Nieve a metate was found on almost every one of the many sites. They varied from well-shaped quadrangular blocks to rough unshaped stones, some worn almost through, others shallow and slightly used. The metate found near Dibulla was of good rectangular form, not scoop-shaped, measuring 39 x 26 x 9 cm. The base was slightly convex, the sides straight and the corners slightly rounded. The trough was deep and broken through. Many were seen in the high mountains on the upper Don Diego River.

These data indicate that corn was a staple food of the ancient peoples, whether living on the coast or in the mountains, and that at any given period the culture, in this respect at least, differed little if any at different sites.

Due to their size, weight, and slight intrinsic value, few of the many metates seen were taken to Chicago and these few were, naturally, better made than the average and therefore not typical. Those retained number fifteen. Practically all are of granite and fall into three classes, though the distinctions are not clear-cut and the types intergrade. Four examples are shown in Plate LXVI.

Type A, consisting of six specimens, is large, deep, quasi-rectangular, and well shaped and finished. In every case the bottom has been worn or broken through. These metates measure from 47 to 57 cm. in length, from 35 to 43 cm. in width, and from 11 to 21 cm.

in height. All are from the Bay of Gairaca where some of them were employed as stones in rings or lines. The best made of these, No. 154412 (Plate LXVI, Fig. 3), is quite rectangular, with sides, base, and angles relatively straight, probably more so than shown in the drawing. No. 154409 is nearly as good, No. 154408 slightly less rectangular. The troughs of all are of similar width, 24 cm., and the depths 17 to 18 cm. The front lip has a slight ridge; No. 154413 is well made but not so deep. The largest of all as regards length and width is No. 154410 (Plate LXVI, Fig. 4) but it is shallow, 13 cm. high. Its central trough is wider, 27 cm. The last of this group, No. 154411, is also shallow and slightly oval in shape.

Type B, of which there are three examples, is smaller, more oval and more poorly made. The troughs are not so deep and the bottoms are not worn or broken through, but they are relatively high in proportion to their size. No. 153426, purchased at Taganga (Plate LXVI, Fig. 2), is oval and deep, 39 x 29 x 18 cm. Of unusual length but less depth, 45 x 24 x 15 cm., is No. 153425 (Plate LXVI, Fig. 1). It is also oval and was purchased at Taganga. No. 154414, from Gairaca, is deep and very oval.

Type C is smaller, poorer, and more variant, generally roughly shaped and slightly used, with shallow depressions. The stones measure from 19 to 35 cm. in length, from 15 to 25 cm. in width, and from 8 to 13 cm. in height. No. 153422, from the surface of Pueblito, is quasi-rectangular, and No. 153423, excavated at Pueblito, is moderately rectangular. No. 153427, purchased at Taganga, is roughly shaped, small and oval, and No. 154416, of similar provenience, is similar, with an unshaped base. A small, unshaped stone, possibly not a metate, with a trenched depression, 17 x 12 x 5 cm., of a dark, non-granitic stone, was excavated at Pueblito.

At this point should be mentioned three objects which were considered as mortars. No specimen of this type was brought back by the Expedition. A small mortar was found at Matagirol (p. 56). In the very important site 31 at Pueblito (p. 99) was found "a large granitic block, roughly rectangular, 35 x 30 x 15 cm., with a shallow mortar depression, 15 cm. wide and 4 cm. deep." It may have been an incipient metate, but the shape is relatively square rather than oblong. "A large stone mortar about the size and shape of a metate, but with depressions on both sides" was found above the grave in site 32 at Pueblito (p. 103). "It measures 35 x 28 x 15 cm., one depression being 18 cm. in diameter and 7 cm. deep, the other 13 cm. in diameter and 3 cm. in depth."

Metates and mortars, being heavy and plain, are rare in other museums. The American Museum has several complete and a number of fragmentary metates from the vicinity of Santa Marta, San Pedro Alejandrino, and Taganga. All are of granite; most of those complete enough to be identified are of type C, but both other types are represented, the specimens ranging from apparently unworked boulders to perfectly shaped rectangular specimens. One of type C is larger than any in Chicago, 45 x 30 x 22 cm., and a very fine broken specimen of type A is smaller than any in Chicago, 21 cm. wide by 10 cm. high. Those of type A are almost, but not quite, worn through. There are, furthermore, fragmentary specimens from Tubara, near the mouth of the Magdalena River, which are relatively rectangular, approaching type B, and from the Salina de Camarones and San Ramon, near Rio Hacha, to the east of the true Tairona region, which seem to be ruder and apparently of type C. A mortar, possibly a metate, from Don Amo (Donama?), which was not studied, is catalogued in the Pittsburgh Museum.

MANOS AND SIMILAR OBJECTS

"Mano" (Spanish for "hand") is the term employed in American archaeology for the hand muller or mealing-stone used in connection with the metate for grinding corn. The form differs greatly in different localities. Unless found in indubitable association with metates, the identification of a stone as a mano is of course uncertain. No such unequivocal cases were found in the present investigation, and all rubbing stones of a suitable size are considered as manos. Some of them may have been employed in finishing stonework and for similar purposes.

Large numbers of manos were found, the field notes citing finds at Gairaca, one of them in an urn (p. 30), many at Palmarito (pp. 44, 45, 48), Cañaveral (p. 51), Nahuange Arriba (p. 61), Pueblito, many of them in a cave (pp. 87, 104), and many at Pueblo Bernardo (pp. 17, 113). Most of those found were taken to Chicago where they total sixty-six, distributed as follows:

21	purchased at Taganga, and unknown localities
18	Gairaca
3	Nahuange
7	Palmarito
2	Cañaveral
5	Pueblito
8	Pueblo Bernardo
2	Vista Nieve

The large number found on the coastal sites is noteworthy, also the larger number at Pueblo Bernardo than at Pueblito. Certain types appear predominant at certain localities, but no types were found exclusively at certain sites.

The most characteristic form is very well made, generally of a coarse-grained igneous rock, of general oval form. Both upper and lower faces are markedly convex on one axis and nearly flat on the other. The upper surface is convex on the short axis, the lower surface convex on the long axis (Plate LXVII, Fig. 4). Other variants of this type are seen in Figs. 2 and 3.

Almost all of the eight manos from Pueblo Bernardo are of this pronounced characteristic shape, generally large, heavy, thick, and very well made and finished with all sides regular. They vary from 14 to 18 cm. in length, from 9 to 11.5 in width and from 6 to 8.5 in height. They were found rather close together. Several are of whitish crystalline rock, others of a darker rock, a few of granite. Six of them show red coloring, sometimes in patches, sometimes over the entire surface, generally on the upper side but often on the lower, and never on both surfaces. All are of a shape and size easily grasped by one hand; all manos in this region are one-hand implements. The Museum numbers are 153445 to 153452. A typical specimen is shown in Plate LXVII, Fig. 2. In Fig. 5 is shown a slightly variant type.

The Gairaca manos, eighteen in number, are mainly of the same type, but usually longer and thinner, and generally of granite like the metates. They run from 13 to 21 cm. in length, from 7 to 10 in width, and from 3 to 5.5 in height, all being thinner than any of the specimens from Pueblo Bernardo. The shapes are from lozenge to oval. The surface with the convexity on the longer axis was probably the lower and principal side, and this is generally the smoother, but the other upper face is so smooth that it may also have been used. The polish of the under surface runs high at the two ends. The specimens vary from perfectly to poorly shaped, but none is rude; several are broken. The Museum numbers are 154447, 448, 450, 451, 453 (Plate LXVII, Fig. 7), 456 to 458, 460, 462, 463 (Fig. 3), 466, 467, 468 (Fig. 1), and 471 to 474.

The three Nahuange manos are of similar type and material but show much differentiation in form, from thin to thick, and from oval to lozenge shape. The thickest one is like the Pueblo Bernardo specimens. The Museum numbers are 153461 (Plate LXVII, Fig. 4),

464 (Fig. 6), and 465. The specimen shown in Fig. 6 varies greatly from the norm.

The Palmarito specimens are of less typical shape, not so well made and of poorer quality. The shapes are more oval than lozenge and they are generally large, heavy, and thick. The material is generally granite. The four most typical ones are from 14 to 17 cm. in length, from 9 to 10 in width and from 5 to 8 in height. Two are quasi-cylindrical, with blunt round ends, and were apparently used as pestles as well as manos. Another is of an unworked pebble. The Museum numbers are 154449, 452, 455, 459, 475, 477, and 478.

The two manos from Cañaveral are oval, one of them thick. This, No. 153453, is shown in Fig. 8 of Plate LXVII.

The group purchased at Taganga, from various sites, is naturally very variant, ranging from irregular, natural, and oval, to lozenge and quasi-rectangular shapes. A few are of the thick, very characteristic Pueblo Bernardo type. Several are irregular and poorly worked, and some apparently are unworked large pebbles, but the average is good. None is of peculiar shape or size, but one of these, No. 153463, is the smallest of all, 9 x 6.5 x 3.5 cm. The Museum numbers are 153429 to 439, 444, 454 to 456, 458, 463; 154454, 468, 470, and 476.

The Pueblito group is small but extremely variant, all of granite, from quasi-rectangular and oval to quasi-cylindrical in shape, from large to small in size. Some approach the thick Pueblo Bernardo type, but none is so pronounced. The most unusual one, No. 153461, is very long and narrow, the convexity very marked, but the opposite planes are very flat. It measures 24 x 9 cm. and is 4.5 cm. high. The others are Numbers 153440, 443, and 460.

Two manos were collected at the mountain site of Vista Nieve, but one of these, No. 153462, recorded as one of the largest and best, was not located for study. The other, No. 153459, is of medium size, of granite, and is not well made. Both faces are equally convex.

"Mullers" and "hand-stones" from Gairaca exist in the Pittsburgh collection, and a typical mano from San Pedro Alejandrino is in the University Museum. Eight complete or fragmentary specimens are in the American Museum. Five from the vicinity of Santa Marta are typical and of oval section with one very convex face. One from the Arroyo Julian, back of Dibulla, is similar. Two from the Salina de Camarones and San Ramon near Rio Hacha, regions farther east, differ in no great respect, having oval cross sections.

PESTLES

Pestles are distinguished by having a used convex grinding surface on one end. Apart from the presumption that they were used for grinding, no theory as to their specific purpose is advanced for want of sufficient evidence. A few of those collected also show some grinding surfaces on the sides and were apparently used also as mullers. They are of irregular, cylindrical, and conical shapes. Almost all the better-shaped ones are from coastal sites, those from the foothill sites being in the main large, poorly made, and irregular. Nos. 153492, 493, and 499 are small and poor, the last one from Pueblo Bernardo, the others from Pueblito. Nos. 153476 and 478, both from Pueblito, are very irregular and have grinding surfaces on the sides as well as on the end. A large and irregular specimen (Plate LXVIII, Fig. 1), from Pueblito, No. 153501, 19 x 8 cm., shows use on both ends.

Coastal pestles are generally small, well made, and quasi-conical, from 6.5 to 13.5 cm. long, and from 3.5 to 6 cm. in maximum width. These are No. 154485 (Plate LXVIII, Fig. 4), No. 154508 (Fig. 3), and No. 154510 from Gairaca (p. 30); No. 154527 (Fig. 6) and No. 154528 from Nahuange; Nos. 153494 (Fig. 5), 154532 and 534, purchased at Taganga.

Long, cylindrical pestles are difficult to distinguish from bars, to be considered later, especially when broken, but the latter have well-finished sides, those of pestles being unfinished. Typical long cylindrical pestles are No. 154525 from Nahuange and No. 154512 (Plate LXVIII, Fig. 2) from Gairaca. The latter measures 25 x 5.5 x 4 cm.

WEIGHTS AND PERFORATED STONES

Stones perforated so that they might be used as weights are very common. They vary greatly, however, in size, shape, and finish, and probably implements of several different purposes are included in this classification. Some of the smaller ones may even be ornaments, ceremonial objects, or games. Most of them are from the coastal sites, indicating that, as presumed, their use was maritime, but some typical specimens were found in the foothill sites (see pp. 30, 67, 90, 94, and 99).

Five of these, shown on Plate LXIX, are quasi-oval in shape, with a perforation near one end, and a groove connecting the two sides of this hole around the end, certainly to assist their suspension on ropes. The three largest of these are very well made and were

presumably canoe anchors. The largest and best, No. 154417, found at Gairaca (Plate LXIX, Fig. 1), measures 35 x 33 x 14 cm. The other two (Figs. 2 and 3), Nos. 153503 and 153504, were bought at Taganga. Their dimensions are 26 x 16 x 11 cm. and 32 x 11 x 9 cm. Fig. 4, No. 154419, also from Taganga, 23 x 18 x 7 cm., is smaller and less well made. The last, No. 153509, 14 x 9.5 x 3.5 cm. (Fig. 5), is smaller but well shaped and typical. It was excavated at Pueblito.

Most of the remainder of these weights or sinkers are unshaped, merely discoidal or irregularly shaped pebbles or stones with drilled perforations which are either central or placed towards one end. This drilling is always from both sides. All are either from the coast or from Pueblito, which village is close enough to the coast so that the inhabitants probably frequently descended to fish. Most of them were bought at Taganga.

One group is of a pear, heart, or flat-iron shape with the base thicker and heavier and the perforation near the upper thin edge. These are No. 154421, from Gairaca, 12 x 10.5 x 6.5 cm. (Plate LXX, Fig. 5); No. 153514, from Pueblito, 8.5 x 7.5 x 4.8 cm. (Fig. 10); No. 153521, from Pueblito; and Nos. 154429, 439, and 153524, from Taganga. The two illustrated are wider than they are high; the others are higher than wide.

The majority are of discoidal shape with the thickness relatively even throughout. The perforation is generally in the center, less frequently near one end.

Six specimens from Pueblito are of unusual quality and unusually large size. The largest of all these, No. 153506, 26 x 24 x 6 cm., excavated, is well shaped but not well finished (Fig. 1). No. 153510 (Fig. 6), 13 x 10.5 x 4 cm., is unusually well made. No. 153512 (Fig. 7), 9.5 x 8 x 2.5 cm., is also well made, with a groove connecting the holes near one end. The others are Nos. 153511, 513, and 516.

The many specimens from the coastal sites are generally smaller and less well made. In size they range from 22 x 16 x 5 cm. to 5 x 4.5 x 1 cm. Purchased at Taganga were Nos. 153507, 508 (Fig. 2), 515, 517, 518 (Fig. 13), 519, 520, 154420, 428, 433, 435, 436, 437, 438, 441, 442 (Fig. 8), 443, 444 (Fig. 12), and 445. Two from Palmarito, 154426 and 427, and two from other coastal sites, 153522 and 523, are of no especial merit. A unique specimen from Gairaca, No. 154431 (Fig. 11), is a pear-shaped piece of coral with an orifice that may be natural near the pointed end. The base is

rounded like a pestle, but it is too soft to have been used for this purpose; it may have been an ornament.

Another group of similar stones is of identical shape and character, but hemispherical depressions on both sides take the place of perforations. They are too numerous and well finished to be unfinished holes, and it may be presumed that these stones served a similar purpose, whatever that was, but that they were attached or suspended by a different technique. These are thirteen in number; most of them are of large size and thick, only one being small. In size they range from 13 x 16 x 8 cm. to 4 x 5.5 x 1.5 cm. One, No. 154424 (Fig. 3), is from Palmarito; No. 154423 is from Gairaca; No. 153529 (Fig. 4) is of uncertain provenience. Two, Nos. 153528 and 530, are from Pueblito, and the remainder, Nos. 153525, 526, 527, 154422, 425, 430, 432 (Fig. 14), and 446 (Fig. 9), were purchased at Taganga.

Objects of this type are found in the collections in the American, University, Carnegie, and Berlin Museums. "Sinkers" are noted from Gairaca in the Pittsburgh collection, apparently of usual types. Six specimens in Philadelphia from Cinto, Pozos Colorados, Pueblito, and other localities merit no especial remark. Fourteen specimens are in the American Museum, all but one from the vicinity of Santa Marta, the exception being from San Ramon near Rio Hacha. All but two are of usual types. One is a large, heavy "anchor-stone" like those on Plate LXIX, and, like most of those, from Taganga. This is of oval shape, 24 x 16 x 8 cm. One face is somewhat flat, the other convex. In place of holes, there is a depression on each side near one end of the oval. The other is small, 6.5 x 4.5 cm., and is of especial interest because of its association, having been found with gold ornaments in an urn. This indicates clearly that the smaller specimens of these stones were used as ornaments, and that all are not of the same category. The perforation is like those of Plate LXX, Figs. 5, 6, eccentric on the shorter axis.

SMALL ROUND OR SQUARE STONE OBJECTS

Like the metates, manos, axheads, and other stone implements of this region, the smaller stone tools were well made and generally symmetrical. In fact very few rudely shaped artifacts of any kind were found.

A number of small stone objects of cubical, cylindrical, spherical, discoidal, or oval shapes were found. The purposes of these are uncertain, but they are presumed to have been tools of some sort,

probably for grinding or rubbing, although they may have been employed in games or for some other utilitarian or ceremonial purpose. Perfectly shaped, symmetrical, and well-finished objects of each type were found as well as others more irregular and less well made, and all types intergrade so that intermediate forms are found. Practically all are of grayish, moderately coarse-grained granitic rock.

Seven specimens may be classed as cubical. The largest and best, No. 153477, from Pueblito, measuring 8 x 8 x 7 cm., shows wear on all six faces (Plate LXXI, Fig. 1). The edges are slightly rounded. Four others are slightly flatter with the edges more rounded. Two, Nos. 153471 (Plate LXXI, Fig. 2) and 153484, are from Pueblito, and the other two, Nos. 154494 and 154487, from Gairaca. Two others, No. 154489, from Nahuange, and No. 154482, from Gairaca, have their sides more rounded and the latter has a depression on one face.

Through intermediate gradations cubical tools vary to spherical, cylindrical, and discoidal.

Large, spheroid stones are characteristic of Pueblito. Most of them have from one to three flattened faces showing evidences of use. The sizes vary from 10 x 10 x 10 cm. to 7.5 x 6 x 5.5 cm. Nos. 153472 to 475, 479, and 483 were excavated at Pueblito, 154483 secured at Gairaca. A large, spheroid-oval stone, without evidence of use, No. 153485, 12 x 14 x 11 cm., was excavated at Pueblito (Plate LXXI, Fig. 10).

Eight small spherical to oval stones were collected. Three, from Pueblito, are very regular but without certain traces of use; they may be natural pebbles, varying from 5 to 6 cm. in length, from 4.5 to 5 cm. in width, and from 4 to 4.5 cm. in height. These are Nos. 153488, 489 (Plate LXXI, Fig. 7), and 491 (Fig. 11). The others, of spheroid to ovoid form, show one or more smoothing faces, and often an end of the ovoid ones is rounded, evidently for use as a pestle as well as a rubbing stone. Pestles may be considered as developing from this point. The smallest is 3.5 x 4 x 4.5 cm., the largest 5 x 6.5 x 9 cm. Nos. 153487 and 490 are from Pueblito, No. 154484 is from Gairaca, and Nos. 153500 and 154536 (Plate LXXI, Fig. 3) were purchased at Taganga.

Four oval stones have very rough surfaces and show little or no evidence of use; they may be entirely natural and possibly slightly used as manos or pestles. These are Nos. 153495 and 496 from Pueblo Bernardo, 497 from Pueblito, and 498 from Cañaverál.

Cubical or spheroidal shapes flattened to discoidal characterize the types from Gairaca. These show two principal wearing faces, but the circumference is generally smooth and regular, either from manufacture or use. The most spheroidal one, No. 154488, 9 x 9 x 6.5 cm. (Plate LXXI, Fig. 5), and the most discoidal one, No. 154496 (Fig. 8), are both from Gairaca. The smallest one (Fig. 9), 3.5 x 1.7 cm., No. 155017, is of uncertain provenience. Intermediate types are Nos. 154479 to 481, 486, and 497, from Gairaca; Nos. 153465 and 154533, purchased at Taganga; Nos. 153408 and 153470 (Plate LXXI, Fig. 4), from Pueblito.

Spheroid stones lengthened towards cylindrical are few and of scattered localities; they may be considered as incipient pestles. The widths and heights are from 8 to 9 cm., the circumferences circular, and the ends convex. No. 153481, from Pueblito, and Nos. 154490 and 153482 (Plate LXXI, Fig. 6), from Taganga, are typical.

A stone resembling Fig. 5, Plate LXXI, is in the American Museum, from Taganga. It is well made, with slightly concave faces and periphery. An unusual stone object, which may be considered as falling in this group, from Pozos Colorados, is in the University Museum. It is of granite, perfectly shaped, about 9.5 x 8 cm. In shape it is like a short thick pestle, the circumference slightly concave, the ends convex.

MISCELLANEOUS STONE IMPLEMENTS

It might be apropos here to call attention to the absence of all chipped and flaked artifacts. Flint was apparently rare or missing in the region, but the absence of this material would not have necessitated the absence of such objects; they were evidently foreign to the culture. The only flaked stone object from this general region known to me is a typical flint arrowhead in the American Museum from the Salina de Camarones, between Dibulla and Rio Hacha, east of the true Tairona region.

Grooved implements are almost equally rare, but not entirely missing. They are a very variant group, no two being alike, and probably were used for different purposes. It is peculiarly a coast type, all of the few specimens found being from the coastal bays. All are rude implements, generally unshaped and with shallow grooves or notches. Possibly they were another type of net-sinker or fishing weight.

Five specimens are natural stones of discoidal shape with the opposite edges slightly notched for tying on a cord. Such are Nos.

154492 and 154518 from Gairaca; No. 154526 from Palmarito; No. 153131, 13 x 11 x 4 cm. (Plate LXXII, Fig. 15), and No. 153133, 6 x 5 x 3 cm. (Fig. 14), from Cañaveral. No. 154504, 7 x 5 x 2 cm. (Fig. 13), from Gairaca, is apparently similar, but shaped in a quadrangular form. Another, No. 154507, from Gairaca, is a stone of peculiar natural shape with a natural groove on one edge and an artificial groove on the other.

On four other specimens, incipient or encircling grooves connect the notches on the edges. These are No. 153130 and No. 154535 (Fig. 10), 4 x 3.5 x 2.3 cm., from Taganga; and No. 154493 and No. 154495 (Fig. 11), 3 x 2.7 x 2.2 cm., from Gairaca.

A peculiar, cigar-shaped stone with encircling grooves on both ends, No. 153132, was found on the surface at Guachaquita. It measures 15 x 5 x 4.5 cm. (Fig. 16).

Pebbles and other natural stones of suitable shapes were probably employed as rubbing stones. Some show evidences of use, and others, found under circumstances implying use, show none. No. 153466, of uncertain provenience, and No. 153502, from Cañaveral, were evidently employed as pestles. Four others, from the coast, may never have been used. Two, Nos. 154524, from Palmarito, and 154537, from Pueblo Viejo, are small, natural, unworked pebbles of smooth stone.

Rubbing-stones and polishers from Gairaca, Don Amo, Minca, and Rio Jordan are mentioned in the catalogue of the Carnegie Museum, and similar objects from Donama, Nahuange and other places are in the University Museum. Others from Taganga and a chamber grave at San Pedro Alejandrino are in the American Museum. Large pebbles, apparently found under conditions indicating that they had been selected and kept, if not utilized, by the ancient peoples, are in the same collections, from Gairaca (in burial urns), Pueblito, Taganga, the chamber graves at San Pedro Alejandrino, and other localities.

Circular disks are evidently related to flattened spheroid stones, and, like the latter, are characteristic of and peculiar to Gairaca. Probably most of them were utilized as covers for small pottery vessels. Many or most of them, especially the smaller ones, are probably naturally flat pebbles, selected on account of their shape; such occur in numbers on the beach at Gairaca. Most of them show no evidence of shaping or use. In size they range from 10.5 cm. in diameter and 3.5 cm. in thickness to 4.5 cm. in diameter and 1 cm.

in thickness. Only one, No. 154496, is worked, this showing a shaped circular edge and a slight pecked depression on each face. Other specimens are Nos. 154498 to 503, 505 to 506, 516, 517, and 519.

Naturally there are a number of objects, probably implements, of unsmoothed stone, of unusual shapes and uncertain uses, which cannot be placed in any category. Most of these specimens are shown in Plate LXXII.

Five of these unclassified objects are from Pueblito. Fig. 18 shows a small irregular stone, No. 153139, 4.5 cm. thick, with four main faces, each with a slight depression in it. No. 153120 (Fig. 6) is a cigar-shaped object with rounded used ends, the body being smooth and relatively cylindrical, but probably natural. It is 15 cm. long and 4.5 cm. thick and was probably used as a pestle. No. 153124 (Fig. 9) is a long, natural, smooth pebble with one end sharpened to a point like an awl. It is 12.5 cm. long and 3 wide and was excavated under a slab in site 31 at Pueblito. No. 153127, also excavated on a ceremonial site, is a long flat pebble. A broken implement of gray stone, No. 153125, excavated at Pueblito (Fig. 7), is well shaped and smooth. It is thin and rectangular with almost flat sides, 18.5 x 5 x 1.2 cm.

In Pueblo Bernardo was excavated a chip of a rough pebble with one edge sharpened to be used as a blade, No. 153128.

A most peculiar implement of black basaltic stone, of long, irregular shape, well polished, was purchased at Taganga. This (Fig. 5), 23.5 x 4.5 x 3.5 cm., is No. 153123. It has two thin, flat and two broad, convex surfaces. One end converges to a blunt point; the other is beveled on one side to a sharp eccentric blade.

Nahuange supplied three of the unusual specimens: No. 154530, a natural flat stone, possibly unworked but with one end rounded; No. 154531, a small flat smooth pebble with one edge sharpened; and No. 154520, associated with gold objects, a long piece of mica-schist of poor quality with one edge straight and beveled on both sides to form a straight, rather sharp edge. This specimen (Fig. 8) measures 16 x 4 x 1 cm. A similar object, 10 x 2.5 x 0.6 cm., found in a chamber grave at San Pedro Alejandrino, is in the collection in the American Museum.

From Gairaca came No. 154514, a natural long pebble with an incipient groove.

Two unusual objects were purchased at Taganga: No. 153138 (Fig. 12), a small natural pebble, 6.5 x 4.5 x 3 cm., with a trough in

the upper surface, causing it to appear like a miniature metate; No. 153129 (Fig. 17), an oval stone with battered ends, 6 x 4 x 3.5 cm.

Possibly here may be mentioned many stone disks from Pueblito. These are of two types, large and small. The larger ones served as "markers" and were buried near the surface of site 31 (p. 97), apparently to indicate the location of a cache of ceremonial objects beneath. Only one of these, the smallest of the well-made ones, was retained. This is No. 153531, 22 x 21 x 6 cm., made of coarse gray granitic rock. The smaller type served as the covers for buried ollas in the same site. Those retained, Nos. 153532 to 538, are small, irregular, thin stone slabs, ranging in size from 6 x 1 to 14 x 3 cm. They are roughly circular and poorly made, one of granite, the rest of slate or shale.

Two perfectly shaped and finished flat stone disks are in the collection of the University Museum. One is thin, 10 cm. in diameter and 1.5 in thickness, the circumference and faces slightly convex. Made of basalt, it was found by Gregory Mason at Cinto Arriba. The other is thicker, of polished black slate, from Bonda Sabana, 13 cm. in diameter and 3 cm. in thickness, the faces perfectly flat, the periphery slightly convex. It is an admirable specimen, and is said to have been the cover to a long and high narrow vase of "flower-pot" type, covered with a black vase. The larger vessel contained a monolithic ax. Disks are also mentioned in the catalogue of the Carnegie Museum.

Lumps of quartz crystals, of which many were found at Nahuange and in sites 31 and 32 (pp. 97, 99, 104), at Pueblito, may also be mentioned here. Quartz crystals were also found by Dr. Nicholas in a grave near Santa Marta, and are now in the American Museum. A quartz crystal from Las Tres Cruces is in the Carnegie Museum.

As a general thing, Tairona implements are of unsmoothed stone, the ornaments and ceremonial objects of smoothed stone. Those considered up to this point belong to the former class. Ax-heads, a large group, of smoothed stone, will be considered later. A few miscellaneous objects, some considered as implements of smoothed stone, and some as ornaments of unsmoothed stone, will now be described.

Cylindrical stone bars may have been of ceremonial rather than of utilitarian importance. Practically all are broken and their original length uncertain. All are of fine-grained basaltic rock, well shaped and smoothed, of circular or oval cross section. They are characteristic of the coast. Three are from Gairaca: No. 154511,

probably complete, 22.5 x 5.5 x 3.2 cm. (Plate LXXII, Fig. 4), not well smoothed, of flattened lozenge-shape cross section; No. 154513, very well made but broken (Fig. 3), 17 x 5.2 x 4 cm.; and No. 154509, a fragment of 5.2 x 3.5 cross section. No. 153118, from Taganga, is probably complete but chipped, with a slight groove around one end; it is 18.5 cm. long, with a circular cross section, 5 cm. in diameter. A broken specimen from Cañaveril, 11 cm. long with a circular section 4.5 cm. in diameter, No. 153117, is of gray stone with one end flat. No. 154529, a typical fragment from Nahuange, is 9.5 cm. long with an oval section 5.5 x 4 cm. A small fragment from Vista Nieve, No. 153121, is of doubtful original form and probably not a bar.

In both the Carnegie and American museums are long bars or pestles much superior to any in the Field Museum collection. In the Pittsburgh catalogue "pestles" and "clubs" are noted as from Gairaca, and "pestles" from Don Amo, and my notes on these refer to one very long pestle or bar, and a number of long stone bars. The longest one is about 54 cm. long and 5 cm. in diameter. A drawing of it is shown in Plate LXXXIV, Fig. 1. It seems to be of very regular, symmetrical shape, straight, with one end slightly and one markedly convex. The bar or pestle in the American Museum is considerably shorter, and with oval cross section, measuring 30 x 5 x 4 cm. It is of black stone, straight, regular, and smoothed, slightly tapering. The wider end is moderately convex, the smaller end more so. It is from the "Serrania de Santa Marta."

Two somewhat similar objects, but apparently not bars, are illustrated on Plate LXXII. No. 153119 (Fig. 1), excavated at Guachaquita, is an implement of dark stone, well shaped but not polished, of almost circular section, 24 x 4.5 x 5.5 cm. One end is beveled to a blunt edge, the other convex with a shallow incised groove 4 cm. from the end; the purpose is dubious. A chisel or wedge, of unpolished stone of oval section, 22 x 5 x 3.2 cm., No. 153158 (Fig. 2), purchased at Taganga, is quasi-cylindrical, with one end convex and the other sharpened to a blunt edge like the preceding specimen but without the groove.

A slightly larger wedge than No. 153158 is in the University Museum. This measures 26 x 5 x 3.5 cm., with a dull blade at the end.

Among the unusual objects may be mentioned a "small stone cone-like object" from near Masinga, "cupstones" from Gairaca, and a small stone with many perforations, in the Carnegie Museum. In the American Museum is a very unusual stone, from a surface

burial back of Santa Marta. This is of smooth black stone and resembles a thick blunt-pointed punch. The section is trapezoidal with flat faces, but it is not carefully shaped. One end is convex; at the other the four sides come to a blunt point in the center. The dimensions are 7 x 2.6 x 2.2 cm. It is shown in Plate CXIX, Fig. 14.

AXHEADS AND CELTS

The commonest and most typical objects found in the Tairona region are axheads and beads; both of them were evidently made in great quantities. About 720 bladed implements which probably served as axheads, celts, chisels, and possibly wedges were found. Many of these were broken fragments, most of which were purchased for a few cents at Taganga, where the supply, sought for by children, seemed so inexhaustible that finally no more fragments were accepted. Those excavated, however, probably a majority of the total, are mainly unbroken or very slightly chipped. Most of these complete ones were evidently employed for ceremonial or mortuary purposes, such celts having been found in burial urns, stone-lined graves, and ceremonial enclosures. Those of obvious mortuary use, however, seem to differ in no respect from the fragments found and purchased, which, presumably, were of utilitarian purpose.

The field notes refer to finds of axheads or celts at many places as follows: Taganga (many fragmentary ones purchased) (p. 24); Gairaca (in urns, around bases of urns, or in open; no broken ones) (pp. 19, 28-30); Nahuange (none found in principal grave) (p. 37); Cinto (p. 39); Guachaquita (p. 40); Cañaveral (p. 50); Sabana de Limon (p. 52); Terán (p. 54); Pueblito (sites 1, 17, 18, 23, 28, 29 [grave], 31, 32, 35, 41) (pp. 67, 81, 87, 90, 91, 92, 97, 98, 103, 104, 109, 110); Cincinnati and Vista Nieve (mainly broken) (p. 16). While fine unused axheads were found in the large burial urns at Gairaca, they were not found associated with ceremonial objects in smaller vessels either at Gairaca or elsewhere; few were found in the stone graves or associated with ceremonial objects in caches, although many were found nearby in the same sites. They were generally found buried apart from the ceremonial objects in the sites.

Like practically all the Tairona implements, celts are carefully made. All are of polished or smoothed stone and with one exception all are ungrooved. The typical shape, and that of the great majority, is of rectangular cross section, with flat or slightly convex broad faces and similar narrow faces with sharp right-angled edges between, and with sharp, straight or curving blades. Almost all are of a dark

basaltic stone, probably diorite, a very few being of reddish stone, probably jasper. The blunt, battered blades and butts of many of the broken ones indicate that after the blade became chipped and useless they were often used as hammers.

The classification of these many axheads or celts into types is most difficult, since all types intergrade, and forms can be found showing any possible combination of the various criteria; probably the shape of the available stone determined the shape of the finished implement.

The finest, largest, most artistic, and apparently most prized form is that of the celts shown on Plate LXXIII, Figs. 1 to 5. They are relatively large and long, medium thin, the broad faces slightly convex, the side faces concave and narrow, the maximum thickness being near the blade. The blade is sharp and curved with a point where it meets the side faces; the butt is typically of two straight thin faces meeting in an obtuse angle. They are perfectly shaped and smoothed. The type was found on practically all sites, both coast and foothill. The largest and widest, and one of the finest, No. 153260, 17.5 x 8.8 x 2.8 cm., was purchased at Bonda (Plate LXXIII, Fig. 1). The shortest and one of the thinnest is from Mandigua, No. 154341 (Fig. 4), 11.2 x 5.5 x 2 cm. The narrowest in proportion to the length is No. 153256 (Fig. 2), bought at Bonda, 13.5 x 5.8 x 2 cm. The one showing the most pronounced widening flare at the blade, No. 154311 (Fig. 3), was also purchased at Bonda and measures 15.5 x 8 x 3 cm. One of this pronounced type, No. 154314, from Matagirol, is of red stone. Slightly less pronounced in form is No. 154128 (Fig. 5), from Gairaca. Others of this type are from Gairaca, Nos. 154142, 143, 152, 185, 186, 188; Nahuange, No. 154216; Bonda, No. 154373; Terán, No. 154349; Pueblito, Nos. 153254, 262, 269.

From this characteristic form modifications occur in all details and with all combinations. The butt varies through curving to straight-across in place of being angled. The flare of the blade becomes less until the celt becomes rectangular, and even, in a few instances, less wide at the blade. The faces become either less convex and perfectly flat or else, less commonly, thicker and more convex.

Similar to the first group in all respects except that the butt is curving instead of an obtuse angle are Figs. 6, 7, and 8 of Plate LXXIII. Fig. 6, No. 154116, is from Gairaca, excavated from an urn; Fig. 7, No. 154130, 13 x 6 x 2.2 cm., is also from Gairaca; and Fig. 8, No. 154348, 14 x 7.5 x 3 cm., is from Terán. Others are from

Taganga, Nahuange, Gairaca, Bonda, and Pueblito. Fig. 10, No. 153276, 11.2 x 6.6 x 2.7 cm., from Pueblito, exemplifies another slightly variant type in which the butt is angular, but the flare of the blade less. Others of this type came from Taganga, Gairaca, Nahuange, Palmarito, Pueblito, and Bongá. The latter, from a distant site, is important; although fragmentary, it seems to be of the same type. Another slightly variant group, with rounded butts and a slightly thicker and more convex section, is exemplified by specimens found at Nahuange, Cañaverál, Bonda, Terán, and Pueblito.

Forty-six specimens comprise this first characteristic group. They may be tabulated by proveniences as follows:

Taganga (bought).....	5	Bonda (bought).....	8
Gairaca.....	12	Mandigua.....	1
Nahuange.....	4	Matagirol.....	1
Palmarito.....	1	Terán.....	3
Cañaverál.....	1	Pueblito.....	9
Bongá.....	1		

The next sub-group, not markedly different from the first, is exemplified by Fig. 9, of Plate LXXIII, No. 153266, from Pueblito, 15.5 x 8.5 x 2 cm. The butt is curved and the blade slightly flaring; the surfaces are relatively broad and flat, the side faces thin. The largest of this type, No. 153267, bought at Taganga, is 17 x 10 x 2.5 cm.; the smallest, No. 154294, from Los Cóngolos, measures 7.9 x 6 x 2.2 cm. Seven others of intermediate size are from Pueblito, Bonda, Gairaca, and Nahuange, with the coastal sites in the minority.

The trend towards less flaring blades, broader faces, and straight butts is shown in Figs. 11 and 12 of Plate LXXIII. Both, Nos. 154154, 12.5 x 7.7 x 2.3 cm., and 154117, 14.3 x 8.7 x 2 cm., are from Gairaca. Broader and more rectangular forms are shown in Figs. 10, No. 153281, and 11, No. 153384, of Plate LXXIV. Both are from Pueblito, the former measuring 10 x 8.3 x 2 cm., the latter 9 x 6.3 x 2 cm. Others came from Pueblito, Gairaca, and Mandigua. All are of a medium gray-green color, very well made, the coastal and foothill specimens being indistinguishable.

In the next group the flare of the blade has almost disappeared, and the butts tend from convex to flat. Fig. 9 of Plate LXXIV is typical, No. 154321, from Mandigua, 7.7 x 7.7 x 2 cm. Others are from Pueblito, Mandigua, Terán, Taganga, Gairaca, and Nahuange.

A large number of specimens are of types closely related to the preceding, the characteristics being similar but less pronounced. They are relatively long with flat or slightly convex faces, slightly flaring blades, and with the butts generally convex, varying from

slightly angular to nearly straight. Both coastal and foothill sites are represented, the former in the majority, but no distinctions are noted between them, and no types seem to be characteristic of any locality, except that those from the foothill sites are generally more grayish in color, those from the coast more black. They may be tabulated as follows:

Taganga (purchased).....	9	Pueblito.....	5
Gairaca.....	13	Mandigua.....	2
Nahuange.....	1	Bonda.....	2
Dibulla.....	1	Los C6ngolos.....	1

In the next group the curving flare has disappeared, the side faces diverging towards the blade in a straight line. Most of these are relatively long but some are broad; the butts are generally convex but some are straight; the faces are generally flattish but some are markedly convex. Coastal sites are in the majority, but those from foothill sites are of the same type but generally of more grayish stone than those from the coast. A number of these are shown in the accompanying plates. Such are No. 154167, from Gairaca (Plate LXXIV, Fig. 5), 9 x 5.8 x 3.2 cm., very thick and convex, found in an urn; No. 154172, also from Gairaca (Plate LXXV, Fig. 6), 8.7 x 3.7 x 2.1 cm.; No. 153357 (Plate LXXIV, Fig. 2), from Taganga, 7 x 5.5 x 2.3 cm.; No. 154228 (Plate LXXV, Fig. 7), from Nahuange, 9.7 x 5 x 2 cm., poorly made with rough convex surface and ovoid cross section; No. 153362 (Plate LXXIV, Fig. 1), from Pueblito, 6.5 x 4.8 x 3 cm., with very convex faces. Including these, the celts of this rather variant group may be tabulated as follows:

Gairaca.....	8	Pueblito.....	5
Taganga (bought).....	14	Bonda.....	1
Nahuange.....	3	Mandigua.....	4
Palmarito.....	1	Bong6.....	1
Arecife.....	1		

Another group of celts is practically rectangular, the sides diverging very slightly if at all. They are generally broad, the faces flat or slightly convex. There appears to be a slight regional characterization:

Taganga, all black, thick and rather large.....	4
Gairaca, medium gray, medium thin, rectangular, well made, flat surfaces.....	5
Nahuange, large, gray green.....	2
Bonda, light gray.....	4
Mandigua, gray.....	2
Pueblito, gray, thick.....	3

One of this type is illustrated in Plate LXXIV, Fig. 7, No. 154165, from Gairaca, 12.2 x 6 x 2.4 cm.

In the next sub-group the divergence of the sides has completely disappeared, the surfaces being practically rectangular, the butts relatively thick, the blades relatively thin. In some cases the butt is nearly as convex as the blade; in others the blade is curved, the butt straight. The specimens tend to be large, long rather than square, and are generally well made. The largest, 16 x 9 x 2.5 cm., No. 153292, bought at Taganga, is shown in Plate LXXIV, Fig. 13. Fig. 15 of the same Plate, No. 153294, 13.8 x 6.2 x 2.5 cm., from Pueblito, is another. The group is small, but other specimens were found at Bonda, Mandigua, Nahuange, Arcife, and Cañaverál.

The next sub-group consists of smaller, relatively rectangular forms, without flaring blades or converging sides; they are not particularly flat, broad, or well made. Both coast and foothill sites are represented, but the latter are in the majority. Three examples, all excavated at Pueblito, mainly in site 32, are represented in the Plates: No. 153364, 7.7 x 3.7 x 2.2 cm. (Plate LXXIV, Fig. 3); No. 153369, 12.5 x 5 x 2.8 cm. (Plate LXXV, Fig. 9); No. 153376, 7.8 x 4.7 x 2 cm. (Plate LXXIV, Fig. 4). The latter may be of marble. The specimens of this type are of the following proveniences:

Gairaca, grayish, well made.....	3
Taganga (purchased).....	2
Palmarito, dark.....	1
Arcife, dark.....	1
Dibulla, gray, markedly convex.....	1
Pueblito, light to medium gray, proportions variant.....	8
Mandigua, same remarks.....	6
Bonda, gray.....	2
Curinquita, gray.....	1

A variant specimen is shown as Fig. 8 of Plate LXXV. This, No. 154223, 10.7 x 5.1 x 2.5 cm., excavated in site 3, Nahuange, is of black stone with an oval section, tapering from the convex butt to the rounded, blunt, but finished blade end.

The next group to be considered is a large one, apparently characteristic of the coastal sites. Many of them are broken or show use, indicating that it was a utilitarian type. They have no unusual characteristics, the specimens being generally rectangular or tending towards square, the faces flattish or slightly convex. They are neither markedly thick nor thin, and are of medium size and generally of dark stone. The type is shown in Fig. 12 of Plate LXXIV, No. 154328, from Mandigua, 7.8 x 5.7 x 2 cm. Others are:

Taganga (purchased).....	19
Gairaca, mainly dark.....	9
Nahuange, mainly dark.....	5
Palmarito.....	1
Guachaquita.....	1

In the celts of larger size the tendency continues towards gray stone in the foothill sites and black stone in the coastal sites. This group is relatively broad and thin, the faces relatively flat with little convexity, the sides relatively parallel with slight convergency from the blade, the blades generally sharp and unchipped. Both gray and black types are often of a naturally pitted stone.

A group of six relatively large, broad, thin, gray specimens in rather poor condition was excavated at Pueblito; another small specimen was secured at Bonda.

Five gray specimens, a little thicker and longer, were secured at Pueblito, Terán, Los Cóngolos, and Gairaca.

Five gray celts, all long, thin, and better made than the preceding, were excavated at Pueblito. One of them is shown in Fig. 11 of Plate LXXV, No. 153235, 11 x 4 x 1.2 cm.

Eight large, longer and thicker, gray specimens came from Pueblito (3), Mandigua (2), Gairaca (2), Taganga (1). Two of these are shown in the Plates: No. 153170, from Pueblito (Plate LXXV, Fig. 5), 10.5 x 3.7 x 2 cm.; No. 154125, from Gairaca (Plate LXXIV, Fig. 8), 12.3 x 6.8 x 2 cm.

Of black celts, four relatively broad and thin specimens were secured at Gairaca, Palmarito, and Taganga.

Six of the black specimens are relatively long and thin: three from Nahuange, and one each from Taganga, Bonda, and Pueblito. The type is shown in Fig. 14 of Plate LXXV, No. 154222, excavated in site 3 of Nahuange, 7.5 x 5 x 0.8 cm.

Two relatively large, broad, and thick examples were purchased at Taganga.

Of relatively large, long, thick, black specimens, six were purchased at Taganga, two excavated at Gairaca, one at Nahuange, and one of uncertain provenience, a total of ten. These are generally rather poorly made or preserved. The example from Nahuange, one of the largest, 13.8 x 9.8 x 2 cm., No. 154219, is shown in Plate LXXIV, Fig. 14.

The massive thick celts, although varying greatly in detail, are thrown into one group because only one or two of each type were found. About half show no signs of use. They come about equally from coast and foothill sites. Their proveniences and characteristics are as follows:

Taganga, purchased (10); mainly of dark stone and showing evidence of use. Six of these are shown in Plate LXXVI: Fig. 4,

No. 153320, 14 x 8 x 4.2 cm.; Fig. 6, No. 153319, 17.5 x 7 x 3.3 cm.; Fig. 7, No. 154390, 14.3 x 6.3 x 3.2 cm.; Fig. 8, No. 153323, 10 x 5 x 3.5 cm.; Fig. 9, No. 154232, 12 x 4.3 x 3.5 cm.; Fig. 10, No. 154392, 11.3 x 6.2 x 4 cm.

Cañaveral, purchased (1); very large and wide; No. 153318, Fig. 3, 17.5 x 9.5 x 4 cm.

Gairaca (2); black, used, utilitarian type.

Pueblito, excavated (1); thick utilitarian type.

Los Cóngolos, excavated (2); one with blade of flaring type, but thicker and in good condition.

Curinquita, excavated (1); gray.

Mandigua, purchased (1); rectangular type, but thicker.

Bonda, purchased (3); one unusually large and fine, probably the largest of any, 21 x 8 x 4.8 cm., No. 154281, Plate LXXVI, Fig. 1.

Terán, excavated (4); one unusually large and thick, probably the thickest of all, 18 x 9.3 x 5.1 cm., Plate LXXVI, Fig. 2, No. 154362; Fig. 5, No. 154351, 14 x 7.3 x 4.5 cm.

A small variant group, with the sides diverging from the blade, is, according to my notes, represented by six specimens, four of which are supposed to be shown in Plate LXXV. Two of these, however, appear with converging sides; I am unable, in absentia, to explain the discrepancy between these drawings and my notes, but these two illustrated specimens are incorrectly classified and probably wrongly identified below.

Pueblito (2); No. 153234, 9 x 4.2 x 2 cm. (Fig. 10); No. 153367, 5.5 x 4.5 x 1.5 cm. (Fig. 2).

Bonda (1); No. 154378, 7 x 5.8 x 2.5 cm. (Fig. 3).

Taganga (2); No. 153366, 7.3 x 4.3 x 2.5 cm. (Fig. 4).

Nahuange (1).

Only one grooved ax, shown in Fig. 1 of Plate LXXV, was found. This, No. 153388, 10.5 x 5.5 x 2.3 cm., was excavated in site 31 at Pueblito. It has two notches at the side edges but no groove across the face. An incised line around the butt resembles an animal's mouth; this may have been the purpose, and, with the side notches, the whole somewhat resembles an animal's head. It may have been primarily an ornament, but it has a blade like a celt.

Possibly to be considered as intermediate between typical celts and chisels are a few objects which resemble chisels in being small, narrow, and relatively long, but which resemble celts in having the

blade parallel to the broader and more convex sides. This type seems to be characteristic of coast sites. All are of dark stone, probably diorite. Three are very long, narrow, and thin, two from Gairaca, one from Taganga. The Gairaca specimens are shown in outline in Plate LXXVII: No. 153220, 6.7 x 2 x 0.7 cm., in Fig. 5; and No. 153221, 5.5 x 1.1 x 0.5 cm., in Fig. 6. Four thicker ones which more resemble typical celts consist of one from Gairaca and three from Taganga. Two of the latter are shown in Plate LXXVII: No. 153172, 8.5 x 2.5 x 1.3 cm., in Fig. 1; and No. 153168, 5 x 2.5 x 1 cm., in Fig. 2.

From this point, and even including the last group, celts intergrade from smallest to largest size with all possible combinations of size, thickness, proportion of length to width, and other characteristics. They range from light gray to shiny black stone, but apparently both are phases of one material, probably diorite, as in the same specimen the stone may vary from gray to black.

The smallest celts are shown in the upper half of Plate LXXVII. They may be summarized as:

Relatively narrowest, Fig. 10, No. 153176, 5 x 2 x 0.8 cm., from Pueblito.

Thinnest, Fig. 11, No. 153179, 5 x 2.2 x 0.5 cm., from Pueblito.

Relatively broadest, Fig. 8, No. 154360, 3.3 x 3.5 x 0.7 cm., from Terán.

Shortest, Fig. 7, No. 153204, 2.6 x 2.2 x 0.7 cm., from Pueblito.

Another specimen of this type is shown in Fig. 9, No. 153173, 3.5 x 1.5 x 1 cm., purchased at Bonda. Others were bought at Terán, Pueblito, and Taganga, those of the first two localities being of gray stone, those of the latter two black.

Five relatively small, narrow, thin, gray celts were excavated at Pueblito, and one near Bonda. Probably of the same type, but broken and of indeterminate length, are five excavated at Pueblito and one bought at Taganga.

A small group of poorly made, thin, gray celts of similar size with the side faces converging may be characteristic of a restricted region. Three were excavated at Mandigua, one at Matagirol, and one at Los Cónqolos.

Fig. 12 of Plate LXXVII, excavated at Guachaquita, No. 153200, 5.8 x 4.8 x 1.1 cm., illustrates the type of small, broad, thin, gray celts. Four were excavated at Pueblito, one at Terán, one at Curinquita, and one at Guachaquita.

Of the thicker, small, gray, long or broad type, four were secured at Pueblito, and one each at Bonda, Mandigua, Curinquita, and Taganga. Fig. 4, Plate LXXVII, from Pueblito, No. 153175, 5.5 x 2.5 x 1.3 cm., illustrates the type.

Rather long, thick, gray specimens were found at Pueblito (4), Mandigua (2), Terán (3), Los Cóngolos (1), and Gairaca (1). The Terán specimens are all small and very fine. Two of the Pueblito specimens are shown in Plate LXXVII, Fig. 15, No. 153162, 7 x 2.5 x 1.5 cm., of unusual shape; and Fig. 13, No. 153230, 4.8 x 4 x 1.2 cm.

Small celts of black stone come, by a large proportion, from coastal sites. Four from Taganga, two from Gairaca, and one from Bonda are fragmentary and therefore of indeterminate shape.

Long, thin, black celts were secured at Taganga (10), Gairaca (2), Cañaveral (1), and Pueblito (1). The Cañaveral specimen is very thin, 5 mm.

Moderately long, thin, small, black celts were secured at Pueblito (2), Bonda (2), and Nahuange (1). The type is illustrated in Plate LXXVII, Fig. 14, No. 154382, from Bonda, 4.2 x 3.5 x 1.2 cm.; and Plate LXXV, Fig. 13, No. 153316, from Pueblito, 8.2 x 4.2 x 1 cm.

Long black celts of thicker quality are more numerous. Their proveniences are as follows: bought at Taganga (6), excavated at Gairaca (5), Nahuange (1), purchased at Bonda (2), excavated at Pueblito (1). Two are shown in Plate LXXV, Figs. 15 and 16. The former, No. 154225, from Nahuange, is 8.7 x 3.3 x 1.2 cm.; the latter, No. 153214, from Taganga, 6 x 3.5 x 1.2 cm.

Moderately long, thick, black specimens are from Taganga (4) and Gairaca (1). One of the former is shown in Fig. 3 of Plate LXXVII, No. 153169, 5.5 x 2.5 x 1.5 cm.

Rather broad, thin, black specimens came from Gairaca (2) and Taganga (1), thicker ones from Taganga (2).

An unusual, thin celt, apparently of schist, shown in Fig. 16 of Plate LXXVII, No. 153232, 4.6 x 2 x 0.7 cm., was excavated at Pueblito.

About fifteen celts of reddish jasper were secured, thirteen of which were examined, a few having been disposed of by exchange previously. These seem to be restricted to foothill sites. There is no great variation in size or shape. They are generally relatively long in proportion to width and are generally broad with slightly convex faces.

A few have perfectly flat faces with sharp angles, especially the specimen shown in Plate LXXV, Fig. 12. The lengths vary from 7.5 to 12.5 cm., the widths from 3.1 to 6 cm., and the thicknesses from 1.1 to 2.2 cm. with the exception of one specimen, which is 2.7 cm. in thickness. This specimen, No. 154379, from Bonda, is of unusual shape, very convex and thick and resembling the end of a petaloid celt, with the thin side edges slightly marked. Unfortunately it is incomplete. Almost all of these were excavated at Pueblito (10); one was excavated at Los Cónogolos, one bought at Bonda, and one at Taganga. Two of the Pueblito specimens are shown in the Plates: No. 153246, 9 x 5 x 2 cm., in Plate LXXIV, Fig. 6; and No. 153251, 10.5 x 3.5 x 1.2 cm., in Plate LXXV, Fig. 12.

Small blades of chisel type are very characteristic of this region. They are here termed "chisels" without implying the purpose to which they were put. Their characteristic is that they resemble a thin longitudinal section of a celt, the blade being short, the thickness from face to face very great as compared to the width of the blade. The sides are generally perfectly flat and broader than the convex faces, so that when the celt lies in normal position, the blade is vertical. They are generally small, thin, and of rectangular, oblong cross section, though some are square, and those of a small group are of circular or lozenge-shaped cross section. In this group the difference in coloration is especially marked, the grayish specimens being generally from the foothill sites, the black ones from the coast. Typical specimens are shown in the lower part of Plate LXXVII.

The foothill specimens, of grayish stone, are generally very well made, with perfectly flat straight sides and sharp blades, unchipped and evidently unused. All are relatively thin, but the sizes vary from comparatively large to very small. Eight were excavated at Pueblito, two at Terán, and two at Mandigua, and three were secured at Bonda, a total of fifteen. The largest is 25 x 5 x 3.3 cm., No. 153141, from Pueblito (Plate LXXVII, Fig. 23). The butt is much narrower than the maximum width; in all the other examples the butt is but slightly compressed, if not equal to the maximum width. The thinnest specimen is 1 cm. thick, the narrowest 2 cm. wide, the shortest 6.5 cm. long. Fig. 18, No. 154338, from Mandigua, 7.4 x 2.2 x 1.4 cm., and Fig. 21, No. 153142, of Plate LXXVII, from Pueblito, represent this group.

The twelve specimens from the coast sites, generally of smooth black diorite, are less carefully made with the blades not so sharp.

Seven were secured at Taganga, three at Nahuange, one at Gairaca, and one at Guachaquita. In Plate LXXVII, Fig. 17, No. 153154, 6.5 x 2.2 x 1.6 cm., and Fig. 20, No. 154272, 9.7 x 2.3 x 1.5 cm., from Taganga; and Fig. 24, No. 154226, 9.6 x 3 x 1.4 cm., from Nahuange, are typical.

Five chisels are of a sub-type in which the section is rounded or oval, though never perfectly round; the four faces can always be distinguished. Two are from Pueblito, one from Bonda, and two from Taganga, the latter being of black stone like the usual coastal celts. The type is illustrated in Fig. 19, Plate LXXVII, No. 153159, 7.5 x 2 x 1.7 cm., from Pueblito.

Probably here should be noted a tiny stone object with a sharp point, possibly a drill. It is from Mandigua, No. 154339, 4 x 1 x 0.8 cm., and is shown in Fig. 22 of Plate LXXVII.

Under No. 153240 were catalogued 142 broken axheads, of the following proveniences:

Taganga.....	126	Guachaquita.....	1
Pueblito.....	8	Vista Nieve.....	1
Cañaveral.....	2	Unknown.....	3
San Pedro Alejandrino.....	1		

The great majority were purchased from children in Taganga and were probably found on the surface in that bay, indicating the quantities which were aboriginally made and used. All are of common types, generally rectangular and all smoothed or polished. Doubtless all were made for use, broken, and discarded. The one from the high mountain site of Vista Nieve shows no peculiarity.

Another large group, to which individual numbers were assigned, consists of celts the edges of which were broken, but which were evidently continued in use as hammers. Generally both blade and butt ends were employed as hammers so that the two ends are now indistinguishable, but generally the smooth sides can still be distinguished. A few have been worn to a perfectly discoidal shape. One, purchased at Taganga, is unusually thick, 5 cm., with a width of 6 cm. These objects were classified in two groups, relatively long and relatively round, of the following proveniences:

	Long	Round		Long	Round
Taganga.....	8	12	Cañaveral.....	1	1
Gairaca.....	6	1	Bonda.....	1	1
Nahuange.....	2	..	Pueblito.....	4	3
A coast bay.....	1	..	Dibulla.....	1	..

A few other fragments were too badly broken for classification. Among these are several from the distant site of Bongá. These are

small fragments, but unusually well made as regards smoothness and angles; they are also of lighter-colored stone.

The great abundance of axheads in the Tairona region is attested by the fact that they are found in all the other collections, and generally in considerable numbers. Almost all are of the typical shapes already described and illustrated. About forty specimens are in the Trocadero in Paris, of which two are typical, and one resembles greatly an Antillean Carib type, like those from Grenada. As proveniences are not accurately given, it may be ignored. A dozen typical specimens are in Bogotá, including some of the "chisel" type. Ten typical specimens are in Berlin, one from Palomino, and nine from Chorrera Cordoncito, about fourteen leagues south of Rio Hacha, indicating that the axheads of this region are of the same type. A large quantity of axes and chisels from Las Tres Cruces, Jirocasaca, Escalera de los Indios, Bonda, Gairaca, Masinga, Jiraca, Mamacasaca, La Escalareta, Don Amo, Rio Goachaca, Rio Jordan and Rio Dibulla are in the Carnegie Museum. One of these is catalogued as a "double-bladed ax." Many specimens from San Pedro Alejandrino, Taganga, Gairaca, Nahuange, Bonda, Cinto Arriba, Las Tinajas, Pozos Colorados, Pueblito, Pueblo Viejo, and Dibulla are in the University Museum, and require no comment.

Many axheads of typical shapes are in the American Museum, a great many from the shaft graves near San Pedro Alejandrino, others from many sites between Dibulla and Santa Marta. Some from more distant places, which probably are not Tairona in culture, are of especial interest. A number from Tubara, fifteen miles southwest of the mouth of the Magdalena and eight miles from the sea, are identical with many Santa Marta specimens, but as a group are broad, short, and thick. Most of these are chipped from use, in contradistinction to the many fine, unused specimens found in the graves and urns in the Santa Marta region, and many are battered to the shape of hammers.

Three specimens from El Cerro, five leagues below Calamar, are slightly variant from the characteristic Tairona type, being less rectangular and tending towards a petaloid shape. The most unusual group, however, is composed of four specimens from the Salina de Camarones, on the flat arid seacoast between Dibulla and Rio Hacha. The flaked arrowhead from this place, the only one known from this general region, has already been mentioned, and these very unusual objects, unknown in the Tairona region, indicate that they belong to an entirely different culture. One of these

specimens may be a rubbing-stone, the other three are celts of a variant type. They are poorly shaped and finished, irregular and asymmetrical, but with good, sharp, curving blades. The material is a coarse greenish stone, smoothed but not polished. The cross sections are oval instead of rectangular, and the butt end of each is narrowed suddenly and roughened, obviously for insertion into the shaft handle. The largest measures 21 x 6.5 x 4 cm., the smallest 6.5 x 3.5 x 1.2 cm.

In the Gothenburg Museum is an unusual axhead from Atanquez, on the southern slope of the Sierra Nevada de Santa Marta. This is a long celt of cylindrical cross section, of light stone with a slight groove. If typical of this region, it would indicate that, in this respect at least, the culture on the southern slope of the mountains was different from that on the north.

An axhead of very unusual shape, a drawing of which is given in Plate CLVII, Fig. 6, is in the private collection of Mr. W. R. Angell of Detroit. This was secured at La Tigrera in the Santa Marta region. It is of normal size and thickness, about 8.5 x 7 x 2.5 cm., with curving faces which taper from the thick butt to the broad, curving, sharp edge. But the sides, instead of being straight or slightly curving, as usual, break sharply inwards at about the middle of the ax, and then continue straight to the butt, producing a long tenon of approximately square cross section, which apparently set into the wooden handle. It is the only celt of this type that I have seen, but has some of the characteristics of those from the Salina de Camarones mentioned above.

CEREMONIAL AND ORNAMENTAL OBJECTS

Since both ceremonial objects and objects of personal adornment are likely to be interred with the dead in graves, it is not always easy to distinguish between them. Certain objects, such as monolithic axes and batons, must be purely ceremonial; others, such as gold ornaments, must be purely ornamental. Objects found in caches in sites, such as the nine caches in site 31 at Pueblito (pp. 97, 98), are almost certain to be purely ceremonial, and the contents of these should be studied to obtain an impression of the nature of such objects. Certain of these, such as monolithic axes and batons, were never found in graves; others, such as the broad-winged objects, are found both in caches and in graves. The latter, it will be noted, are capable of suspension on the person and may be considered as partaking both of ceremonial and ornamental

natures. Beads probably fall in a like category as they are found both in sites and in graves. Objects unadapted to suspension on the person or attachment to the clothing may probably justly be considered as purely ceremonial, those drilled for suspension probably intended primarily for ornament. Due to this lack of clear-cut distinctions, ceremonial objects and ornaments have not been intentionally segregated.

Ceremonial objects are typically made of a light green, fine-grained stone, probably slate, now relatively hard but possibly softer and more easily carved when first quarried. The stone is occasionally used for other purposes, and a few ceremonial objects of other stones are found, but on the whole the distinction holds.

Three classes of objects are especially typical of Tairona ceremonial specimens: monolithic axes, batons, and broad-winged ornaments somewhat resembling those of jade from Venezuela which the Germans have termed "klangplatten." The three are found associated in ceremonial caches, under slabs or in large pottery vessels, the latter generally of a certain specialized type, and the first two groups only under these circumstances. The broad-winged ornaments, far more numerous, are, however, also found in graves.

Since practically all the batons and monolithic axes, and most of the other ceremonial objects, were found in the three largest circular sites at Pueblito, and since each of these sites yielded many separate caches, I now believe that the cache of ceremonial objects, containing batons and monolithic axes, which was excavated by a workman digging clandestinely, was not secured in site 29 as I stated on page 87. This site was of lesser size, and yielded little else of interest. These objects probably came either from one of the three large sites or from one unknown to me.

BATONS

A group of ceremonial stone objects is termed "batons"; they are apparently peculiar to this region and there are no criteria from which to determine their use. Practically all were excavated from circular sites where they had evidently been interred, almost always together with other ceremonial objects, and undamaged; they are therefore obviously of ceremonial and not of utilitarian nature. They have the general form of clubs, generally with one end enlarged and decorated, evidently the butt, and with the adjacent part constricted, evidently for grasping in the hand. The shaft is with one exception plain, and in most cases diverges slightly toward the

end. None has any drilled hole or other method for suspension, and it may therefore be presumed that they were carried in the hand in aboriginal ceremonies. Hence they are considered as batons. They were frequently associated with monolithic axes and evidently had a similar use.

Thirty batons were found; except for a fragment purchased at Taganga, all were excavated at Pueblito, and with the exception of one of uncertain exact provenience, all from three circular ceremonial enclosures. All are well shaped and smoothed, and all are of greenish, grayish, or brownish stones, probably slate, except for one small unique specimen of black slate. Several were found in pottery vessels, but the majority under stone slabs, under or near ollas, or in the loose soil; most of them are too large to have been placed in ollas.

The exact proveniences of twenty-three of the thirty were recorded. These are:

Pueblito	Page
1, site 1, in soil.....	67
1, site 31, cache 2, near boulder.....	97
5, site 31, cache 3, under slab.....	97
3, site 31, cache 4, under slab.....	97
1, site 31, cache 5, under slab.....	98
3, site 31, cache 6, under slab.....	98
1, site 31, cache 7, under slab.....	98
1, site 31, cache 9, under slab.....	98
2, site 31, in soil.....	98, 99
1, site 32, in soil.....	104
4, site 32, in ollas.....	104

Twenty-six of the thirty are shown on the four Plates LXXVIII-LXXXI. The other four were sent in exchange to the Museum of the American Indian, Heye Foundation, New York City. Most of them are of large size, the longest, No. 152621 (Plate LXXIX, Fig. 4), being 44 x 6.5 x 1.8 cm., but the most massive and rudest is No. 152613 (Plate LXXIX, Fig. 1), 40 x 8.5 x 3 cm. The smallest complete one is No. 152628 (Plate LXXX, Fig. 7), 9 x 3.3 x 0.6 cm. No. 152641, a fragment of a butt, is not illustrated.

The typical shape is long, narrow, thin, and flattish, broadening slightly at the end with the narrowest part near the enlarged handle butt. The smallest ones are the broadest in proportion to length, especially the black stone specimen, No. 152629 (Plate LXXX, Fig. 8), 12.5 x 3.5 x 0.8 cm. Maximum width and thickness are found in the most massive specimen, No. 152613 (Plate LXXIX, Fig. 1), which is also the second longest. The broadening at the end is not great, the maximum widths being 5.5 and 5.3 cm. at

the end compared with widths of 3.1 and 3.2 cm. at the neck. Many are of practically the same width throughout, and two are narrower at the end, especially No. 152614 (Plate LXXVIII, Fig. 3) with a width of 3 cm. at the end as opposed to 5 cm. at the neck; the constriction is rapid, close to the end, and 3.5 cm. would be a more logical measure of the width. The ends vary from semi-circular to straight, generally slightly curved. The cross sections are flattened oval, generally more flat than oval; many approach rectangular, very oblong and thin, but none approaches circular. The butts are enlarged and carved in various forms, no two being alike, but in every case with a notch in the center. Only the finest one, No. 152640 (Plate LXXXI, Fig. 5), does not display this notch; one of the halves was broken away and, in my opinion, should have been mended so as to leave a deep slot from the top to the orifice.

The simplest forms are those shown in Plate LXXVIII. The butt is flaring or winged with a central notch in the rim. Some of them resemble a mechanical wrench. In this group should also be included No. 152615, sent to the Heye Foundation. Fig. 6, No. 152623, is slender and very well made, of brownish stone. The butt is crescentic, and has an incised horizontal groove at the neck.

Seven more relatively simple examples are shown in Plate LXXIX. The first four have lateral as well as terminal notches, the last three are more ornate, with lateral notches and incised lines. Fig. 7, No. 152625, has seven incised notched lines on its thin edges.

Plate LXXX presents eight specimens of more unusual character. Figs. 5, 6, and 8 might have been included in the last group. The first two of these latter are fragmentary, and the first, No. 152631, is decorated with fine incised lines, rather irregular but generally parallel and crossing in chevron design; both sides are similarly decorated. Fig. 6, No. 154086, a fragment of brownish stone, was purchased at Taganga. No. 152629 (Fig. 8) is small and broad, 12.5 x 3.5 x 0.8 cm., of black stone. The smallest of all, No. 152628 (Fig. 7), 9 x 3.3 x 0.6 cm., is dainty and possibly should not be considered a baton; the central notch is very slight. Figs. 3 and 4 are of very simple shapes. The first, No. 152630, has no lateral notches, but the terminal notch is in the form of a W with incised lines on its wings. Fig. 4, No. 152627, is thin and light with a rather ornate incised and carved decoration at the distal end. This is similar on both sides, and is shown in a drawing on Plate XCV, Fig. 2.

When the terminal notch is enlarged, deepened, and made more quadrangular, it becomes very wrench-shaped. Such are Nos. 152633 (Fig. 2) and 152634, the latter of which was exchanged to New York. A variant form is seen in Fig. 1, No. 152632, in which the notch is deepened and constricted to a fork shape. This is not well finished and the technique of manufacture can be noted. At the base of the notch for the fork, perforations, not drilled, were made, and from this point the groove was made by sawing on either side until the incisions met in the middle. These two grooves are asymmetrical, being to the left side on each face.

The five most ornate specimens are shown on Plate LXXXI. The handle ends are carved in stylized naturalistic or highly conventionalized twin profile faces, animal (monkey) or demoniacal, in which incised teeth and eyes of drilled depressions are the characteristic features. The most naturalistic are No. 152637 (Fig. 4) and 152636. Fig. 1, No. 152635, is smaller, not so well made, and much more conventionalized. No. 152639, a fragment of brownish stone (Fig. 2), is similar but even more conventionalized and larger. Fig. 3; No. 152638, is a very fine specimen, with twin profile faces on each side, very conventionalized, and other incised line decoration. The last specimen, No. 152640 (Fig. 5), is a delicate and beautiful example of fretwork. The faces are so highly conventionalized that the identification would not be made were not the prototypes so obvious. One of the broken halves should probably have been restored so as to leave a slot running from the top to the central orifice. The profile faces are modified into sixteen notched frets; the dots, which in the other specimens represent the eyes, are here not in their proper places, being conventionalized and decorative.

Specimen No. 152636 is similar to Fig. 4 but smaller, 28 cm. in length, of slightly different shape, and less naturalistic. It was exchanged with the Museum of the American Indian, and is shown as Fig. 1 on Plate CXVII. Fig. 2 on this plate was also received in exchange from the Field Museum collection, and probably brings the total up to thirty-one. It is the handle of a very large baton of this last type, 7.7 cm. in width. The stone is reddish brown, but gives the impression of the same material as the others, slightly burnt. As in Fig. 1, the side edges are thick, and the carving of the conventionalized mouth and teeth is continued on the side.

These batons are apparently new to archaeology and virtually unknown outside of the present collection. In addition to these thirty odd, I have been able to discover only two others. One of

these is fragmentary, in the American Museum, secured by Dr. Nicholas. The data are indefinite, but it seems to have been found with gold ornaments in an urn. It is almost identical with Fig. 5 of Plate LXXVIII, but somewhat larger, more than 23 cm. in length, the end being broken, and of the usual material, a dark green stone.

The second one is the largest and one of the finest known to me and should have been mentioned in archaeological literature long ago, since it has probably been in the Berlin Museum for some time, apparently secured by either Sievers or de Brettes, the exact provenience not stated. It is 54 cm. in length, of a darker and apparently harder greenish stone than my specimens, and perfectly shaped and finished. The handle is non-naturalistic and in a class by itself, though following the general type in having a deep notch in the central line of the handle. It is more ornate than any of my non-naturalistic specimens. A drawing of this is shown as Fig. 3 of Plate LXXXIV.

MONOLITHIC AXES

Monolithic axes are ceremonial objects of stone in which both head and handle are represented, carved of one piece of stone. They are uncommon objects, although of wide distribution in America, and have been made the subject of several studies on distribution.¹ The Tairona region seems to be the only one in which they may be considered as one of the typical objects of a culture, more having been found by the present Expedition than all heretofore known from America.

Thirty complete monolithic axes were found, all in perfect condition, as well as two fragmentary ends of handles. Twenty-four of the thirty are shown on Plates LXXXII and LXXXIII, five others having been previously sent to the Museum of the American Indian, Heye Foundation, in New York.

These objects were interred as ceremonial, probably as mortuary, offerings, and in ceremonial sites, generally in association with batons and broad-winged ornaments. They were undamaged when buried. Two unbroken specimens were excavated at Nahuange, twenty-eight intact and two fragmentary ones at Pueblito. The two Nahuange specimens were excavated on site 3 (p. 37); one of them,

¹Marshall H. Saville, *Monolithic Axes and their Distribution in Ancient America: Contributions from the Museum of the American Indian*, Heye Foundation, II, p. 116, New York, 1916; Clark Wissler: *The Relation of Nature to Man in Aboriginal America*, New York, 1926.

No. 152588, is of red stone, the other, No. 152582, of greenish stone. Of those found at Pueblito, two are of reddish stone, probably tuff, eleven of black stone, probably slate, and seventeen of greenish stone, probably slate.

The thirty specimens found at Pueblito were excavated in the three largest circular sites. In site 1 a total of twelve was found, three in a pottery olla, one in another olla, four under a stone, one under an olla, and several more, probably three, loose in the soil (pp. 66, 67). In site 31 eleven were excavated, one in cache 2 near a slab, two in cache 3 under a slab, two in cache 4 under a slab, two in cache 6 under a slab, three in cache 9 under a slab, and one in olla 2 (pp. 97-99). Five were excavated in site 32, two in a pottery olla, two in another olla, and one loose (p. 104). Two others, found by a workman, probably came from one of these three sites (p. 87). It may be a significant point that none was found in any stone-lined grave.

No two of the monolithic axes are alike and they are difficult to classify, falling into no obvious groups. The common features are that they are very well made and smoothed, the handle long, of oval to rectangular flat cross section; the head occupies the upper two-fifths to one-quarter; the blade is sharp, and the upper end of the handle always projects beyond the upper edge of the axhead.

Seven of these fall into the first group, the simplest in form. No projection of the butt of the axhead is seen on the opposite edge of the handle, and no groove or relief separates the handle from the axhead. This type is shown in the first six figures of Plate LXXXII. The simplest of all is Fig. 1, No. 152588, of red stone, probably tuff, from Nahuange. Nos. 152589 (Fig. 2) and 152590 (Fig. 3) have the haft slightly broadened near the butt of the axhead. No. 152583 (Heye Foundation) is of similar form and one of the largest, 25 x 14 x 2 cm. Nos. 152590 and 152587 (Fig. 4) have axheads of thinner nature. No. 152582, from Nahuange (Fig. 5), has its handle curved outwards at the upper end. The last, No. 152585 (Fig. 6), has its upper part broadened and the top notched.

In the next group of six, shown in Figs. 7 to 12 of Plate LXXXII, a vertical incised groove represents the separation of the axhead from the handle. The butts of the axheads are represented by slight enlargements of the haft. All are of green stone, probably a slate, and from Pueblito, and are better shaped and made than those of the preceding group. The simplest is No. 152596 (Fig. 7).

No. 152597 (Fig. 8) has a horizontal groove around the top of the haft. No. 152601 (Fig. 9) and No. 152595 (Fig. 10) each have two horizontal grooves on the edge of the haft at the butt of the axhead to represent its projection. No. 152598 (Fig. 11) has eight notches around the top of the haft, and No. 152600 (Fig. 12) has a notched base, inclined and angular top, and other peculiarities.

The third group is of equal simplicity with the preceding but the axhead is differentiated from the haft in a different and more naturalistic manner; instead of being separated by a groove, the head is of less thickness than the haft and with an abrupt thickening at the edge of the haft. The butt of the head is not represented, but its presence is indicated by a slight enlargement of the haft or by some similar modifications. The last specimen on Plate LXXXII, No. 152600, might be considered as belonging to this group; in addition to this there are six others, four of which are illustrated in Figs. 1 to 4 of Plate LXXXIII. All are from Pueblito and all are of green stone except Fig. 3, No. 152599, which is of red stone. The simplest ones are No. 152593 (Fig. 1); No. 152591 (Fig. 2), one of the largest, 25 x 13 x 2.5 cm.; Nos. 152592 and 152586, now in the Museum of the American Indian, Heye Foundation. Fig. 3, No. 152599, of red stone, has the upper end of its haft carved artistically, and No. 152594 (Fig. 4) has the approximate form of the axhead indicated by raised ridges.

In the next or fourth group, the projection of the butt of the axhead is portrayed, but the axhead is not otherwise differentiated from the haft by grooves or by reduced thickness. Fig. 5, No. 152584, of red stone from Pueblito, is variant from the others, the butt being shown by a rounded knob. The other eight form a very characteristic group. They are generally small, all of black slate, thin and flat. The butts, while well shown, are not continuous with the heads, and the objects are in general stylized, often resembling asymmetrical crosses. Two fragmentary haft handles, No. 152612, and one with a broken butt, No. 152604, belong to this type as well as two exchanged to the Heye Foundation, Nos. 152605 and 152606. These five specimens are not shown in the Plates. Three typical specimens are shown in Figs. 6, 7, and 8, on Plate LXXXIII, Nos. 152607, 608, and 609. No. 152609 is very small. Its dimensions are 10 x 4.2 x 0.8 cm.

The specimens in the last group of four, shown in Figs. 9 to 12, are the most perfect, the blades and butts of the axheads being of less thickness than the haft and the butts shown in their proper

positions. Three of these, Nos. 152610, 603 and 611, Figs. 9 to 11, are of black slate, but the last and best, No. 152602, is of green stone. Fig. 10, No. 152603, is the smallest of all, 7.7 x 4.3 x 1 cm.

In recapitulation, monolithic axes were found only at Pueblito and at Nahuange; at the latter place only two were found, of the simplest type. Examples of green and of red stone were found at both places, those of black slate only at Pueblito. Red tuff specimens are in the great minority. Those of black slate are the most naturalistic and found only in the last groups, which consist almost exclusively of black specimens, often very stylized.

Outside of the present collection, five monolithic axes are known to me from this region. Two of them, in the American Museum, have been mentioned in archaeological literature. These came from a grave near Don Diego. In size and material they are very similar to those in Field Museum, and most resemble one of the simpler forms, Fig. 2 of Plate LXXXII. In the Trocadero Museum in Paris is a third specimen, also from Don Diego. Although among the largest known, 25 cm. in length, in type it most resembles the specimens of group 4, which are, in my collection, generally small and of black slate. My notes do not mention the material. The butt of the axhead is shown projecting beyond the handle but is not continuous with the blade part on the opposite side. The base of the handle is different from any in Field Museum, ending in two projections connected by a concave section. There is also a notch in the base. A sketch of this specimen is shown as Fig. 2 of Plate LXXXIV.

A fragmentary ax secured by Gregory Mason at Bonda Sabana and now in the University Museum is the fourth. It was found in a pottery vessel covered by the very fine thick stone disk mentioned on page 156. It is also large, 24 cm. in length, and of black slate. Although both blade and butt are broken, it seems most to resemble the finest specimen of the Field Museum collection, Fig. 12 of Plate LXXXIII, the butt being continuous with the blade, and both separated from the handle. The last specimen is in the collection of Mr. Angell in Detroit. This is apparently a fragment containing the upper end. I have been able to see only a drawing of this, but apparently it belongs with the simplest class. The axhead is short and not distinguished from the haft, which is widened to represent the butt of the axhead. The haft is of circular or oval cross section. It was found, together with a broad-winged stone ornament, in an olla at the Cerro del Cementerio near Minca.

BROAD-WINGED PENDENT STONE ORNAMENTS

Broad stone ornaments, drilled for suspension at the upper center, are one of the most characteristic features of Tairona archaeology, but the type varies so much in detail that it is difficult to propose a descriptive term which would apply to all types. Somewhat similar objects, characteristic of Venezuela, have been named by the Germans "klangplatten," but this term implies a use as bells, a purpose which is unproved and doubtful as regards the Venezuelan specimens, and almost certainly incorrect for the Colombian objects, which are generally smaller and thicker. It is probable that they are extremely conventionalized representations of bats. Those from Venezuela are typically of jade, while few of the Tairona specimens are made of this material. Similar objects are found in Central America, especially on the Pacific Coast, and specimens almost identical with some of those from Santa Marta are found in Guerrero and Oaxaca in Mexico.

A very large number—nearly one hundred and fifty—objects of this type were found by the Expedition. The purpose was doubtless ornamental and ceremonial, and practically all were found in graves and caches together with batons, monolithic axes, and similar ceremonial objects. Although their regular association with these other ceremonial objects indicates that they belong in the same category, yet they are much more numerous and occur under a wider variety of conditions. Thus a large number were found in the two "richest" stone-lined and stone-capped graves, which contained no batons or monolithic axes; they are also much more numerous in pottery vessels and found in a larger number of sites.

The great majority were excavated from sites 1, 29, 31, and 32 at Pueblito (pp. 66, 67, 87, 92, 97-104), in graves, in ollas, under stone slabs, and in the soil, ranging in quantity from single specimens to seventeen in the large stone-lined and slab-capped grave in site 29, fourteen of these in one olla. Only one was found at the neighboring site of Pueblo Bernardo and four were bought at Bonda, their former provenience therefore being doubtful. These are practically all of the same relatively soft light greenish stone, probably slate, of which the batons and most of the other ceremonial objects are made; one or two are of dark blackish slate, one of a crystalline white stone, one of soft limestone, and one of jade.

In the grave at Nahuange (p. 34) nearly thirty specimens that might be ascribed to this type were found, of which about half are of soft greenish stone and similar to those found at Pueblito, the

other half of jade and variant in form and method of drilling. Though these latter suggest a zoomorphic origin for the general group, of which the more typical ones may be conventionalizations, yet the more common forms will be considered first.

Four main types are distinguished on the criterion of methods of drilling; however, although intergradations are found, there is a correlation between shape and methods of suspension.

In Type A, the most characteristic form, there is a raised section at the upper center which is drilled from either end with conical longitudinal holes which meet in the center. An incised line, normally curving, occasionally triangular, separates this extension from the body on one side, considered as the front. Specimens of this type are generally gracefully curvilinear in outline, broad in proportion to height, and with an oval section. Forty-two of this type were found, thirty-five at Pueblito, six in the grave at Nahuange, and one at Pueblo Bernardo. The largest, No. 152651 (Plate LXXXV, Fig. 5), measures 44 x 5.7 x 1.5 cm.; the smallest, No. 152681, 9.7 x 1.8 x 0.8 cm. Eighteen of these are shown on Plates LXXXV and LXXXVI.

Type B is rare, being represented by only two specimens, from Pueblito. Both objects are figured on Plate LXXXVI, Figs. 9 and 10. They have no upper extension, but the twin conical drillings are made into the upper edge, meeting in the center within the stone. They are of relatively rectangular shape and section. Fig. 9, No. 152688, measures 14.8 x 2.5 x 1 cm., and Fig. 10, No. 152689, 12 x 3 x 1 cm.

In Type C the suspension extension is generally narrower and higher than in Type A, and the drill hole or holes are small and transverse. The shapes are typically thin, flat, and relatively rectangular, widest in the center. Forty-four are of this type, thirty-seven from Pueblito, three from Nahuange, and four bought at Bonda. The longest, No. 152727 (Plate LXXXVII, Fig. 10), measures 31.5 x 3 x 1 cm.; the shortest, No. 152831 (Plate LXXXVIII, Fig. 6), 2.8 x 1.7 x 0.2 cm. Twenty-five specimens of this type are shown in Plates LXXXVII and LXXXVIII.

The specimens of Type D lack any central extension for the drill-holes, these being made close to the upper edge of the object. They are typically long, thin and rectangular in shape and section. There are thirty-one specimens of this type, twenty-five from Pueblito and six from Nahuange, the longest, No. 152751 (Plate LXXXIX, Fig. 12), being 29.2 x 2.4 x 0.7 cm., the shortest, No. 152750 (Plate

LXXXIX, Fig. 6), 7.2 x 2.5 x 0.6 cm. Fifteen selected specimens are shown in Plate LXXXIX.

No two of these hundred and fifty objects are identical as regards size, and few as regards shape. Ten sub-varieties of Type A may be distinguished, the first, A1, being the most characteristic form, with base flat or practically so, and sides and top in a pronounced and graceful curve as shown in Fig. 1, No. 152655, and Fig. 2, No. 152662 of Plate LXXXV. The latter is of a whitish, somewhat crystalline stone. Nine specimens are of this pronounced type, apparently all from Pueblito.

Seven specimens of Type A2 have the wings less curved, as shown in Fig. 3, No. 152673, 27.4 x 3.8 x 1 cm.; Fig. 4, No. 152663, 16 x 2.8 x 0.8 cm.; and Fig. 5, No. 152651, 44 x 5.7 x 1.5 cm., of Plate LXXXV. All are from Pueblito except one, from Nahuange. One is of a very soft and much eroded white limestone.

Type A3 is similar, relatively wide with flat bases and rounded ends, but with wings slightly curved or almost straight. Thirteen specimens are of this type, eleven from Pueblito, one from Nahuange, and one from Pueblo Bernardo; three are shown in Plate LXXXV, Fig. 6, No. 152675, 24.5 x 4 x 1.2 cm.; Fig. 7, No. 152653, 40 x 6 x 1.1 cm.; and Fig. 9, No. 152666, 14.3 x 2.2 x 0.8 cm.

An unusual form with a concave base, Fig. 8, No. 152686, 24 x 5.5 x 1 cm., of Plate LXXXV, is considered as Type A4; and a small specimen with a convex base, Fig. 10, No. 152687, 10 x 2.7 x 0.9 cm., of the same Plate represents Type A5. Both are from Pueblito.

In the remaining five types, shown in Plate LXXXVI, the forms are more rectangular, the specimens thicker, and the wings but slightly curved. Type A6 is represented by four specimens, three of them from Nahuange, the type apparently being more characteristic of this locality. They are long, thin, and not very wide, the upper edges slightly curved, the ends relatively rectangular. Fig. 1, No. 152787, 21.5 x 2.6 x 1 cm., and Fig. 2, No. 152685, 20 x 3.3 x 1 cm., of Plate LXXXVI illustrate this type.

Type A7 is very similar but more rectangular and with incised lines at either end. Two specimens from Pueblito, shown in Plate LXXXVI, Fig. 3, No. 152679, 23 x 2.6 x 1.1 cm., and Fig. 4, No. 152680, 15.5 x 2.5 x 1 cm., are the sole examples of this type.

Two specimens, both from Pueblito, compose Type A8, one of which is shown in Fig. 5, No. 152683, 27 x 2.4 x 1.3 cm., of Plate LXXXVI. They are relatively rectangular with incised lines at the

ends, but are longer, narrower, and thicker than the preceding type, and with oval sections.

In Types A9 and A10, the widths diminish towards the ends, which are slightly rounded; the bases are relatively flat. Those of Type A9 have thin or oval sections: Fig. 6, No. 152678, 16.2 x 2 x 0.7 cm.; and Fig. 7, No. 152786, 20.5 x 2.8 x 1 cm., of Plate LXXXVI. The latter is from Nahuange. The solitary specimen representing Type A10, No. 152684, 17.5 x 2.1 x 1.4 cm., from Pueblito, Fig. 8 of Plate LXXXVI, is similar, but with an almost circular section.

Eight varieties of Type C are distinguished. One specimen, from Pueblito, representing Type C1, is atypical, and may be considered as intermediate between A and C, inasmuch as the single drill-hole is longitudinal. The edges are also markedly curved, resembling an Eskimo woman's knife. This, No. 152690, 15 x 3.8 x 0.8 cm., is shown in Fig. 1 of Plate LXXXVII.

The specimens of Type C2 are more common, eleven of them, all from Pueblito, having been collected. They are generally of very green stone, thin and rectangular with straight upper and lower edges and practically vertical straight ends. The suspension extensions are generally rectangular, and ten of the eleven have single drillings. Five of them are shown in Plate LXXXVII: Fig. 2, No. 152730, 28 x 5 x 0.7 cm.; Fig. 3, No. 152717, 21.2 x 4 x 1 cm.; Fig. 7, No. 152723, 10.6 x 3 x 0.6 cm.; Fig. 8, No. 152706, 4.8 x 2.5 x 0.3 cm.; and Fig. 9, No. 152719, 6.3 x 2.7 x 0.3 cm.

Type C3 varies very slightly from the preceding, the principal difference being in the more rounded ends. The suspension extensions are diverse but all except one have a single transverse drill-hole. Eight specimens compose the group, of which three are from Nahuange, the others from Pueblito. Four are figured in Plate LXXXVII: Fig. 10, No. 152727, 31.5 x 3 x 1 cm.; Fig. 11, No. 152724, 11.6 x 3.1 x 0.8 cm.; Fig. 12, No. 152713, 17.8 x 4.5 x 1 cm.; and Fig. 13, No. 152728, 20.4 x 4 x 0.5 cm.

Specimens of Type C4 are hardly to be distinguished from C2 and C3, but the bases are more curved. Seven are of this type, all from Pueblito. Four of them are figured in Plate LXXXVII: Fig. 4, No. 152709, 19.5 x 4.5 x 1.2 cm.; Fig. 5, No. 152711, 23.3 x 6 x 1 cm.; Fig. 6, No. 152720, 9.4 x 1.6 x 0.3 cm.; and Fig. 14, No. 152705, 16 x 6.5 x 0.6 cm.

Type C5 is represented by one unusual form from Pueblito, shown in Plate LXXXVIII, Fig. 1, No. 152696, 22.8 x 5 x 1 cm. The base is flat, but the upper edge a double crescent.

Type C6 is similar to the above but with the upper edge much less curved. Three specimens compose the group, two from Pueblito, one purchased at Bonda. Fig. 2, No. 152722, 17.5 x 4.5 x 1 cm.; and Fig. 3, No. 152708, 10.5 x 3 x 0.6 cm. of Plate LXXXVIII represent this type.

In Type C7 the lower edge is convex, the upper edge parallel to it. Otherwise they are quite variant. Twelve specimens compose this type, nine from Pueblito, three bought at Bonda. Seven are shown in Plate LXXXVIII: Fig. 4, No. 152697; Fig. 5, No. 152693; Fig. 6, from Dibulla, No. 152831, 2.8 x 1.7 x 0.2 cm.; Fig. 8, No. 152698; Fig. 9, No. 152699, 21.4 x 2.8 x 0.6 cm.; Fig. 10, No. 152701; and Fig. 11, No. 152703.

The last variety, C8, is represented by one fragmentary specimen, No. 152691, 12 x 6 x 0.6 cm., Fig. 7 of Plate LXXXVIII, from Pueblito. The base is extremely convex, the upper edge crescentic.

Type D is subdivided into five varieties, which are shown in Plate LXXXIX. All of these intergrade and no exact distinctions can be made. Many of the specimens might be placed in either of several varieties. Specimens of D1 are relatively rectangular and of even width with straight sides and angular corners; six of the ten have double drillings. Two are from Nahuange, eight from Pueblito. Four of this variety are shown in Plate LXXXIX: Fig. 1, No. 152788; Fig. 2, No. 152745; Fig. 6, No. 152750, 7.2 x 2.5 x 0.6 cm.; and Fig. 11, No. 152756, 22.4 x 2.6 x 0.7 cm.

Type D2 is similar but generally thinner, relatively rectangular but with rounded ends. Six are of this type, four from Pueblito, two from Nahuange. Two are figured in Plate LXXXIX: Fig. 7, No. 152743, 13.8 x 2.3 x 0.4 cm.; and Fig. 12, No. 152751, 29.2 x 2.4 x 0.7 cm.

Specimens of D3 type are slightly tapering toward the ends, which are slightly rounded. There are eleven of this type, of which two are from Nahuange, nine from Pueblito. Six have double suspension holes. Four of those shown in Plate LXXXIX are of this type: Fig. 3, No. 152742, 14.4 x 2.8 x 0.7 cm.; Fig. 4, No. 152753, 19 x 1.9 x 0.5 cm.; Fig. 8, No. 152749, 10.5 x 1.8 x 0.6 cm.; and Fig. 13, No. 152747, 24.8 x 2.8 x 0.7 cm.

Those of Type D4 are short and relatively broad, with thin convex edges and rounded ends. Two specimens from Pueblito compose the type, both shown in Plate LXXXIX: Fig. 9, No. 152732, 9.6 x 2.4 x 0.6 cm.; and Fig. 10, No. 152734, 13.8 x 3.3 x 0.5 cm.

A longer, thicker type, with oval section and incised lines at the end, is considered as variety D5. Two specimens, both from Pueblito, compose the type, and both are shown in Plate LXXXIX in Fig. 14, No. 152746, 24 x 2.3 x 1 cm.; and Fig. 15, No. 152735, 12.4 x 1.8 x 0.9 cm.

In Fig. 5 of this Plate is shown an unusual specimen, No. 152759, 9.5 x 3 x 0.8 cm., apparently the broken wing of one of these objects, the broken end of which has been smoothed off. It was found in site 31 at Pueblito (p. 98). Another specimen of similar type was found, as well as three fragmentary specimens. Two other specimens, apparently unfinished objects of Type D without drillings, were also found.

Considering the large number of these objects secured by the Field Museum Expedition, their paucity in other museums is truly remarkable. Except for those in the private collection of Mr. Angell I have been able to locate only six others, three complete and three fragmentary. All seem to be of Type A. The largest complete specimen is in the Berlin Museum where it was brought by Karsten in 1857. It most resembles Fig. 5 of Plate LXXXV, being long, 25.5 cm., and narrow. The upper edge is, however, parallel with the lower until near the end, where it curves downward, and the suspension projection is high and rectangular, with a flat top. It is of the usual smooth, dark, gray green stone. A small complete specimen is in the Carnegie Museum and is shown as Fig. 4 on Plate CXVIII. It is also unusual in that it is much shorter in proportion to its height than any in Field Museum. The material is the same. In the Trocadero Museum is one, and in the University Museum are two, wings broken from similar objects. They seem to be in no way unique. Two very small pendent objects of Type B shape are in the American Museum, but as they are very small, thin, and made of red clay-stone, they are considered under the head of pendants. They are shown as Figs. 13 and 14 of Plate CXX. The Peabody Museum of Harvard University has recently secured a typical complete specimen, 26.5 cm. long.

In Mr. Angell's collection are six complete objects of this class; two of these are of Type A and four of Type C. The former two were found with a number of other objects among fragments of a black pottery vessel that probably had contained them, at a depth of about a meter and a half beneath a stone slab near Santa Rita, about five miles from Santa Marta on the road to Bonda. They seem to resemble closely Figs. 1 and 8 of Plate LXXXVI, but are a

little larger in each case. One of those of Type C was found with other ceremonial objects in a jar at the Cerro del Cementerio in the Minca region. The other three were found in buried jars in different regions and sites. One most resembles Fig. 13 of Plate LXXXVII; another resembles Fig. 11 of the same Plate but is larger, broader, and with double drill-holes. Another is like Fig. 3 of Plate LXXXVIII but much larger. The fourth differs considerably from any in Field Museum, both upper and lower edges being extremely convex, the form crescentic. There are also two pairs of drill-holes, one pair below the other.

WINGED ORNAMENTS OF JADE

In the large stone grave at Nahuange many ornaments of nephrite jade and a few of other translucent greenish stones were found, and among these are some which resemble the broad-winged pendent stone ornaments of greenish slate, some of which were also found in this grave. With the exception of the most unusual and naturalistic form of all, which was purchased at Taganga, all the jade objects of this type came from this grave, and none was found elsewhere. All are uncommon in shape as well as in material, but the relationship to the more usual type is obvious and affords a suggestion as to the significance of the type. All are drilled with transverse suspension holes, and may therefore be ascribed to classes C and D.

Two of these are carved in zoomorphic form. Further researches and comparisons will be needed to determine whether this zoomorphic form is the primary one, and the usual form a conventionalization of it, or whether the more common form suggested an animal figure which was further developed naturalistically in a few cases. A study of the bat motif in Middle America will probably indicate that the first hypothesis is the most acceptable one.

Fifteen jade objects of this type are shown in Plates XC and XCI, ranging from the simplest to the most naturalistic. The finest and most naturalistic one, No. 152814, is Fig. 1 of Plate XC. Unfortunately the provenience is unknown as it was purchased at Taganga. The usual form has been departed from greatly; the wings are narrow, taper to a blunt point, and project upwards. The suspension projection is greatly enlarged and carved in the form of an animal head which the zoologists of Field Museum identify as representing a leaf-nosed bat. While the wings are not broad and bat-like, there can be little doubt that the entire figure

is intended to represent this animal. The muzzle is large, with mouth and teeth shown by fine incised lines; nostrils are shown, the ears are denoted by prolongations and the eyes by drilled or punched holes which also served as suspension holes. There are four or five striations on each shoulder and a deep groove separates body and wings. In the center of the body is a deeply incised circle, apparently made by a hollow drill and possibly representing the umbilicus. The broad tail curves over in the front. It measures 15 x 5 x 2.2 cm. and is admirably carved of olive green jade.

Fig. 2 of this Plate, No. 152813, is also zoomorphic but much more conventionalized than the preceding and more like the usual form. It is of translucent fibrous or laminated greenish nephrite, carefully carved and polished. The central section is raised and elongated and carved with broad incised straight lines, evidently conventionalized zoomorphic; it probably represents a bat, but superficially more closely resembles a crab. Two suspension holes have been drilled at the upper edge at either side of the body.

The next two specimens in this Plate, Fig. 3, No. 152811, and Fig. 4, No. 152804, slightly resemble the foregoing two in outline, but lack the zoomorphic carving. Each has two transversely drilled suspension holes. They also resemble their respective prototypes above them in nature of material. Fig. 5, No. 152812, is very unusual as regards shape, of fibrous translucent green nephrite, with twin suspension holes.

The other two Figures of Plate XC, Figs. 6, No. 152805, and 7, No. 152802, are merely long thin bars of mottled translucent green jade without zoomorphic form. Each has two drilled suspension holes close to one edge, and also one at the end, so that they could be hung either vertically or horizontally.

Most of the eight specimens shown in the central column of Plate XCI may also be considered in this class, although certain ones might equally well be classed as pendants, more typical specimens of which may be seen at the sides. All are from Nahuange, and probably all from the large grave. Fig. 4, No. 152803, is of nephrite and has two supernumerary suspension holes at the edge in addition to the usual pair. The next, Fig. 5, No. 152790, is of light greenish mottled talc schist, with an additional suspension hole at the edge and incised lines at either end. Fig. 6, No. 152757, of mottled nephrite, has a supernumerary pair of suspension holes at the edge. Specimen No. 152806, Fig. 7, has the upper edge notched. Fig. 8, No. 152807, shows a more typical form, with

widened center and two pairs of suspension holes, the inner pair apparently made after the outer ones had worn through; most of these finer specimens show long wear while the more typical slate ornaments generally show none. The last one, Fig. 11, No. 152810, of translucent green serpentine, is small and crescentic with a single suspension hole. The other two, Figs. 9, No. 152808, and 10, No. 152809, might probably better be considered as pendants, being of unusual shape with terminal suspension holes, although both have also a pair of central holes and are truly intermediate in character. Most of the suspension holes in these objects are biconical and drilled from both sides; a few are of the same dimension throughout.

The only other specimen of this class that I have been able to locate outside of the Field Museum collection is one recently (1935) received by the Peabody Museum of Harvard University. This is a very large and fine one but unfortunately secured too late to be included in the present plates. It most resembles the first specimen described herein but is larger, 25 cm. long; the raised wings taper very slightly and each ends in a large knob. In this specimen also the ears are prominent, the eyes serve as suspension holes, and an incised circle at the bottom probably represents the umbilicus. The material is apparently jadeite. Three very similar objects are known from Venezuela: one, 18 cm. long, has the same terminal knobs, another, 25.2 cm. long, lacks them.

JADE PENDANTS AND OTHER ORNAMENTS

Pendent ornaments of jade were apparently not unusual in the Tairona region, but probably were restricted to persons of importance. Most of those in the present collection were secured from the large stone grave at Nahuange. Two main types are found, those which hung horizontally, suspended from holes drilled along one edge, and those which hung vertically, with a suspension hole at one end. The former are almost invariably larger and are here considered as modifications of the broad-winged ornaments which are more commonly of greenish slate. Certain ones of these, however, notably Figs. 6, No. 152805, and 7, No. 152802, of Plate XC, and Figs. 9, No. 152808, and 10, No. 152809, of Plate XCI, have a terminal suspension hole in addition to the lateral ones, and so could have hung in either position. Three of these are considered as winged ornaments, but No. 152808, on account of its asymmetrical form, more closely resembles a vertical pendant in spite of the pair of central suspension holes; it is made of nephrite.

Five small and thin pendants of nephrite with a single suspension hole drilled at one end, and of circular or oval cross section, were secured, and four are shown in Figs. 1, 2, 12, and 13 of Plate XCI. One, No. 152815, was found in site B at Nahuange, the other four, No. 152816, purchased at Taganga. Another pendant, not shown, No. 152817, of nephrite, is in the shape of a jaguar tooth, found in the stone grave at Nahuange, as well as a tiny nephrite bead, No. 152818.

Another ornament of decorative greenish stone, though of steatite and not of jade, No. 152819, is shown in Fig. 14 of Plate XCI. This is of peculiar shape, very thin, and with five drill-holes, possibly decorative. The edge is notched. It was found in a black pottery vessel excavated from site 31 (p. 100) at Pueblito. A nephrite petaloid celt with no suspension hole, No. 152820, purchased at Bonda, is shown in Fig. 3 of Plate XCI.

Outside of the Field Museum collection, jade ornaments are rare, and none of the zoomorphic winged type is known to me. Two in the American Museum, shown as Figs. 4 and 5 of Plate CXIX, approach the zoomorphic type, but the asymmetrical notches on the upper edge suggest that they may be extremely conventionalized forms of medially divided human figures, the group next to be considered. Each has a suspension hole at one end for vertical suspension, as well as a pair of holes at the edge for horizontal suspension. Both are of translucent nephrite. Both were found in a jar from "beyond Don Diego," together with about 5,000 beads and other stone ornaments. One is 8.5, the other 12 cm. long.

Other jade objects are typically pendants. Two small, thin (4 mm.) trapezoidal forms with single suspension holes, in the American Museum, are shown as Figs. 2 and 3 of Plate CXIX. These are also of fine translucent nephrite. Since they come from the Valle Dupar near Fonseca on the south side of the mountains, possibly they should not be considered as Tairona. Two unusual specimens are in the Carnegie Museum, from Gairaca. Both are apparently of nephrite and are shown in Plate CXVIII, Figs. 1 and 3. The first is very thin and of a peculiar asymmetrical shape. The small deep notch probably is a suspension hole that has been worn through. Three other suspension holes are drilled in it. The second specimen is also unique, long, with many symmetrical notches and suspension holes in the center.

In the Peabody Museum at Cambridge is a simple jade pendant, and in the National Museum of Colombia, in Bogotá, is a pendant

that is catalogued as agate but which appears in the photograph to be made of jade. It is long and of roughly rectangular outline, 8 x 3 x 1.7 cm., with a single suspension hole at one end (Plate CXXI, Fig. 6).

In the newly acquired collection at the Peabody Museum is an asymmetrical pendent ornament, apparently of thin jadeite. It most resembles a legless aquatic bird with an abnormally large head, but if so was suspended upside down. Unfortunately, it was acquired too recently to be illustrated herein. It shows evidence of long use, for two suspension holes near a long convex edge are worn through and two others drilled farther from the edge. The maximum dimensions are 8.5 x 6 cm.

JADE HUMAN FIGURINES

Flat stone figurine pendants in human form, generally of jade, are found in this region, but are not frequent. Seven of them were found by the Expedition, six of nephrite and one of slate. The jade specimens were all found in the stone grave at Nahuange, from which came practically all the jade objects found, indicating that it must have been the sepulcher of a person of rank or wealth. The slate specimen, which is of similar type, was excavated from the principal circular site at Pueblito, site 31, indicating a close cultural connection between these two sites. Six of these seven specimens are shown in Plate XCII.

All are flat and thin with features in very low relief and simple outlines, very stylized. The more detailed ones are quite naturalistic, but the simpler forms are very conventionalized and would not be identified as human forms were it not for the intermediate types. This applies especially to the characteristic forms in which only one-half of the body is shown; this type is frequent also on the Pacific coast of Costa Rica and Nicaragua. Most of them were apparently suspended horizontally, though the more developed types could be suspended in either way, and the most naturalistic of all only vertically. Apparently all are female, the vagina being indicated on the more naturalistic ones. The arms are folded with the hands on the breast, and the fingers are rudely indicated by striations. The legs are vestigial or infantile, with a short groove or notch separating them, and the feet, if shown at all, are indicated by parallel horizontal lines representing the toes. In the symmetrical ones, the umbilicus is a constant feature, shown as a large circle with central dot. The waist band is also a nearly constant feature. In the forms showing only one-half of the figure, incised lines and notches roughly

representing or delineating head, arms, waist band, and feet alone remain. The rear sides of all are plain.

The most detailed and naturalistic of the figurines, No. 152796, is shown in Fig. 1 of Plate XCII. It is of light olive green, translucent, laminated nephrite, and measures 17.5 x 4.5 x 0.8 cm. The eyes, mouth, and nostrils are large and coarse. The umbilicus is a raised oval and the vagina is not indicated. The drill-holes are in the shoulders for vertical suspension. The rear side has a long, deep groove in the vertical axis, this being probably the first action towards a division into two vertical halves.

The next, Fig. 2, No. 152797, 12.5 x 4 x 1 cm., is very similar but smaller, of darker and more homogeneous nephrite, less carefully made and somewhat more conventionalized, carved only with incised lines without relief. The notch between the legs is less deep, but the groove is longer, and is continued to represent the vagina. There is a dot in the center of the umbilicus. In addition to the two suspension holes in the shoulders, there is a pair on the left edge for horizontal suspension and another small one on the right foot. The back is plain.

Similar to the two preceding figurines is one which was exchanged to the Museum of the American Indian and is shown in Plate CXVII, Fig. 3. It measures 11.6 x 4.5 x 1 cm. and is naturalistic and wide, made of slightly translucent flaky gray green nephrite. The incised detail lines are nearly erased from long wear. The facial features are nearly gone, but the mouth is straight, and circular grooves denote neck and chin. A deeply cut groove separates the legs, but the toes are not shown. The umbilicus is circular with a central dot. There are suspension holes under the armpits and another at the right edge for lateral suspension.

Fig. 3, No. 152795, 18 x 5.8 x 0.6 cm., is apparently more conventionalized but so much worn that most of the details are entirely gone. It is somewhat asymmetrical in that the right side of the figure is projected for a suspension leaf in which are twin holes with the grooves worn by the cord very evident. The head is relatively rectangular with straight grooves separating body and head and head and head-dress, the latter of volute form in which are drilled holes for suspension or decoration. The most obvious remaining detail in the body is the large circular umbilicus, apparently made by a hollow drill, with central dot. The vagina is indicated, but not the toes, the legs being very short. There are traces of incised rings at the armpits. On the rear side are grooves above the head and the feet.

The other three specimens belong to the type in which only one lateral half of the figure is shown. The presumption is that these were made by the division of a complete figurine by sawing it longitudinally, on account of the rarity of jade, thus making two half-figures, but the facts that all three figures show the left half of the body, and that one figure is made of the more common slate argue against this theory. The first one, Fig. 4 of Plate XCII, No. 152799, 13.6 x 2.8 x 0.8 cm., is comparatively naturalistic, made of laminated olive green nephrite. The head, face, and raised arm are shown, but no umbilicus. All the carving is rudely done by incised lines, and all below the waist is vestigial and conventionalized. There are two suspension holes near the edge for lateral suspension, but only the upper of these shows wear.

Fig. 5, No. 152801, is larger, 20.5 x 4.3 x 1 cm., of slate, and was found at Pueblito. It is smooth, apparently never any more fully carved than at present, and is very simple and conventionalized, so much so that the human form would probably not be identified were it not for the other more naturalistic forms. Notches and grooved lines at the right edge, anatomically the left side of the figure, delineate head, arms, hips, and feet. Front and rear sides are similar. Like the preceding specimen, there are two holes near the edge, but only the upper one shows use, indicating that it was suspended in a slanting position.

The last specimen, No. 152800, Fig. 6, of very translucent pea-green jade, is even more simple and conventionalized. It is very small, 11.5 x 2.4 x 0.6 cm. The edges are even, except for two notches at hips and ankles, and grooved lines indicate head, arm, waist, and feet. There are two suspension holes near the edge but neither shows the wear of a suspension cord.

The only specimen of this class known to me outside of Field Museum is one recently acquired by the Peabody Museum of Harvard University. It closely resembles the last and most conventionalized figure just described. Like all the foregoing, it depicts the left half of a human figure with notches in the edge and incised grooves delineating neck and elbow. There are three suspension holes, a pair near the edge and a larger one nearer the center. It is 13.5 x 2.5 cm.

STONE "SEATS" OR "TABLES"

Four stone objects, evidently of similar or related purpose, which were found by the Expedition and which are shown in Plate XCIII, are provisionally termed "seats" or "tables" on account of their

general resemblance to these types, although it is almost certain that they were not employed for this utilitarian purpose. Their ceremonial nature is indicated by the fact that all were excavated from ceremonial sites at Pueblito in association with other objects of purely ceremonial nature, and probably all came from the principal and largest site, 31. All show no signs of use. They are rather small to have served as seats, and one, at least, with its excavated top, is unsuited for such a purpose. Somewhat similar larger seats of wood are used by the Arhuaco Indians of the neighboring high mountains today, and wooden seats are typical objects of Amazonian and Antillean cultures; seats of stone are rare and unusual except in Ecuador. It is possible that they are ceremonial replicas of larger utilitarian objects, one possibly a head-rest, but, as in the case of most ceremonial objects, their purpose is problematical. In this connection, attention should be called to the small objects shown in Plate XCIX, Figs. 5-8, which may be of a related nature.

The four specimens vary greatly in type as may be seen by reference to the Plate. All, however, are made of soft gray steatite. Three of them have each two broad rectangular supports while the fourth has four conico-cylindrical legs.

Fig. 1, No. 152776, 21 x 6.5 x 9.5 cm., found in an olla in site 31 (p. 99), has a top very concave in one plane and twin extensions carved in the form of unidentified animal heads. Fig. 2, No. 152775, 18.5 x 13 x 9.5 cm., is the four-legged seat; it was found in the center of the same site (p. 96). The top is relatively rectangular but with the edges slightly convex and the corners rounded, the surface nearly flat but slightly concave. Fig. 3, No. 152769, 14.8 x 10.3 x 11 cm., which was found under a slab in the same site (p. 97), is probably most typical and resembles most the miniature objects already mentioned. The legs are massive with their sides almost straight, the bottom convex almost to the degree of semi-circularity. The top is rectangular and slightly concave, with a slight ridge at the rim on each side. The last specimen, Fig. 4, No. 152770, 11.2 x 6.8 x 7 cm., was secured from one of the workmen who dug clandestinely, but probably also came from site 31, although I formerly believed it to have been found in site 33 (p. 87). It is generally similar to the last but smaller and less carefully finished. All four sides are convex and extend beyond the legs with a knob at each corner. The center is hollowed out to a depth of 1.5 cm., leaving a broad rim with beveled interior basin edge.

No other object of this type seems to be known in other collections.

MISCELLANEOUS CEREMONIAL STONE OBJECTS

Naturally a number of ceremonial, or at any rate non-utilitarian, objects, which are unique or unclassifiable, were found by the Expedition. Seventeen of the largest and best made of these are shown in Plates XCIV, XCV, XCVI, and XCVII. Their ceremonial nature is indicated by the fact that twelve of them were found in the largest circular site at Pueblito, site 31, in association with other ceremonial objects, three in the other three large sites and one in the "richest" grave at Pueblito under like circumstances, and one at Nahuange. Few show evidences of use, and most are made of the same smooth, soft, greenish, reddish, or black slate and tuff as the other ceremonial objects.

Fig. 1 of Plate XCIV, No. 152643, is a dagger or handle-shaped object of greenish slate, measuring 19 x 4.8 x 2 cm. It was found beneath a slab in site 31 at Pueblito (p. 97). The outlines are asymmetrical but regular, and the general appearance indicates that it was made in imitation of some object. Near the thicker end are two notches which might be construed as for finger-holds, and one on the opposite edge for the thumb, but as these are employed to form the neck, nose, and throat of the animal figure, this identification may be fanciful. The impression given, however, is that the form is primary, the animal figure secondary. The thickness is uniform except at the tail, where it tapers to a thickness of 7 mm. The details of the animal figure are in incised lines or very low relief, the limbs and jaws being in slightly higher relief than the rest and bounded by incised lines. The long tail is shown by a groove, the fingers and toes and the pointed scales on the belly by incised lines. The head is well carved, with elevated eyes and nostrils and wide-open quadrangular mouth with canine and incisor teeth shown by incised lines. A crocodile is almost certainly indicated, though the shape of the legs is somewhat anthropomorphic.

Fig. 2, No. 152642, is a plain undecorated object, resembling a human sternum in shape. It is also of greenish serpentine, 10.2 x 4 x 0.8 cm., and was found with other objects under a slab in site 31 at Pueblito (p. 98). The faces are slightly convex.

Two stone "bells" and a possible fragment of another were found. The two complete specimens, Nos. 152768 and 152767, are shown as Figs. 4 and 5 of this Plate. The first, measuring 6.6 cm. in height, from 5 to 5.5 cm. wide at the base, and from 4.7 to 5 cm. wide at the top, was found in an olla in a stone-lined grave at Pueblito, probably the grave in site 29 (p. 92). The central shaft is small in com-

parison with the thickness of the walls, about 3.5 cm. wide at the base, and 2.5 cm. at the top. A vertical slot was sawn through two-fifths of the thickness of the wall and then apparently the rest split open, the fracture remaining apart for a distance of 3 mm. The holes at the upper rim are round but apparently not drilled. Fig. 5 is larger and better made, 9.5 cm. high, 6.8 cm. wide at the base and 6 cm. at the top, 7.5 cm. in the middle, the sides being convex and the shape like a barrel. The central shaft is much wider and the walls thinner, the shaft being 5.5 cm. wide at the base, 4.2 in the middle, and 4.8 at the top. The vertical slot on the side was completely sawn through, the sides being smooth and the slot less than 1 mm. wide. There is a raised band on either side of the slot and a symmetrical band on the opposite side. Here the specimen had broken vertically and had been mended by the usual aboriginal process of drilling a hole near each edge, at the base, the two meeting on the interior of the break. All traces of thongs or of pitch employed in the mending had entirely disappeared. The suspension holes in the upper rim are biconical and drilled. This specimen was found in site 1, Pueblito (p. 67). Both specimens are of smooth greenish slate. While the identification of these is uncertain, it is most likely that they were either bells, or small replicas of bells. A fragment of brown slate, apparently of the same type, No. 154067, was excavated at Nahuange.

Three small stone bowls were found, two of which are shown in Plate XCIV, Figs. 6 and 7. These latter were evidently ceremonial objects, made of greenish slate, perfectly shaped and finished; the first was found beneath a slab in site 31 at Pueblito (p. 97), the second in a pottery vessel in site 32 (p. 104). Fig. 6, No. 152777, is deep and practically hemispherical, 9 cm. wide and 6 cm. high. The rim is 6 mm. wide, the depression 4 cm. deep. Fig. 7, No. 152778, is smaller and shallower, 7.2 cm. wide, 3.5 cm. high, 2.4 deep in the center, the rim of the same width as the other. Carnelian beads were found in one of these bowls, a quartz crystal in the other.

The third specimen, No. 152779, is different, though probably also ceremonial, as it was found in site 31 at Pueblito but not in a vessel or a cache. It is fragmentary and a restored drawing of it is given in Plate XCV, Fig. 1. It is of steatite, 4.5 cm. high, 6 cm. wide. The base is flat and slightly constricted, the sides convex and converging towards the rim.

A ring of black slate which may have served as a bracelet, though it is probably too small for this purpose, was found in site 31 at

Pueblito (p. 99). This specimen, No. 152648, is shown in Fig. 3 of Plate XCIV. It measures from 7 to 7.5 cm. in diameter and is 2.2 cm. thick. The circumference is convex, the rims flat, that at the base wider than that at the top. The maximum width of the orifice is 4.7 cm. The upper rim is decorated with incised short straight lines. The circumference is also decorated with incised lines and small drilled dots in a design which is shown in Plate XCV, Fig. 3. This may represent a double-headed serpent. The decoration is of uneven height, ranging from 1.7 cm. at the rear to 2.2 cm. at the front between the twin heads.

Practically the only large stone figure which was found is shown in Plate XCVI, Fig. 1. This specimen, No. 152646, was, like most of the ceremonial objects, found in site 31 at Pueblito, in a cache under a slab of stone (p. 98). It is quasi-cylindrical, of gray green slate, 14.5 cm. high, 9.2 cm. wide. It is a modified cylinder, of slightly oval cross section, carved by pecking and gouging out depressions, and by sawing straight lines, plus a little shaping and drilling. The head occupies three-fifths of the height, the limbs being vestigial. The main features were formed by pecking to a depth of 5 mm., arms, legs, eyes, and a depression in the top of the head being thus delineated. These pecked depressions are not smoothed but otherwise the surface is smooth. Smoothed depressions form the neck, facial features, and a groove around the back near the top. Incised sawn lines show the mouth, fingers, and possible decoration on arms and legs. Two small drilled holes portray the nostrils, and a larger one on the lower lip may possibly represent a labret, or the hole for one.

A peculiar stone shown as Fig. 2 in Plate XCVI was found with other ceremonial objects in a pottery vessel in site 31 at Pueblito (p. 99). This specimen, No. 152780, is a lozenge-shaped stone of pink granite, 9.5 x 8 x 4 cm. A small depression 5.5 x 3.5 x 1 cm. deep occupies the upper surface. The front and rear of the side are modified by broad deep grooves and finer sawn incised lines into elements resembling the head, face, arms, and feet of a very conventionalized animal of uncertain identity.

A few miscellaneous objects, probably of ceremonial nature, are shown in Plate XCVII. Figs. 1 and 5 may belong with the monolithic axes. The former, No. 154073, is a very spreading curved blade measuring 9.5 cm. across the blade and 2.3 cm. in maximum thickness. It was found in site 3 at Nahuange (p. 37), together with other fragments which are probably parts of the handle, and several

complete monolithic axes. Fig. 5, No. 153122, found beneath a stone slab in site 31 at Pueblito (p. 97), resembles the handle of a monolithic ax though it has no blade. It is of reddish tuff, 29 x 5 x 3.5 cm. It is slightly curving with a quadrangular cross section, the lower end broken off. It was originally of smooth finish but is now battered. On the concave curved edge are two horizontal grooves which may represent the axhead.

Fig. 6, No. 152766, is in the shape of a chisel and probably falls into the class with the fine axheads. Being made of greenish slate and found with other ceremonial objects under a slab in site 31 at Pueblito (p. 98), perfectly finished and undamaged, it is doubtless not utilitarian. The cross section is quadrangular and all four sides are slightly convex and smooth with right-angled corners and a sharp, slightly curving blade. The basal end also converges towards a blade but is blunt and at right angles to the true blade. The specimen measures 26.5 x 4.5 x 4 cm.

In the same class with the axheads probably belongs Fig. 7, No. 153126, a large rectangular object of greenish slate like a large axhead but without any blade, which was found in a pottery vessel in site 31 at Pueblito (p. 100). It is perfectly finished with the faces slightly convex, the short edges also slightly convex, the long edges straight, and measures 14.5 x 8 x 2.5 cm.

In Figs. 3 and 4 are shown fragments of unidentified objects of black slate, well carved and with smooth surface and relief ornamentation. The complete objects were doubtless of some ceremonial value. Fig. 3, No. 152649, 11 x 9 x 2 cm., found on the surface of site 30 at Pueblito, consists mainly of a large crescent. The other three fragments, No. 152650, shown in Fig. 4, were found near the surface of site 31.

Not illustrated is a tiny conical object of greenish slate, bought at Taganga, No. 152835.

A peculiar object of crystalline white stone, No. 153135, shown in Fig. 2, differs from most of the other objects in being unsmoothed, but as it was found in a pottery vessel in site 31 at Pueblito (p. 99), it doubtless served a ceremonial purpose. The shape is roughly oval, flattened or broken at one end, the dimensions 8.5 x 4.5 x 3 cm. It is perforated by two large vertical holes of approximately equal dimensions, which were probably drilled biconically, but the stone is so rough that this is uncertain. There are shallow transverse lateral grooves across the holes, leaving humps at either end and a higher hump in the center between the holes. Around the

blunter end there is also a groove connecting both ends of the nearer hole; this may have accommodated a suspension cord.

Four miscellaneous stone objects of unique nature from other collections may be here mentioned.

In the Berlin Museum is a small four-legged stone seat or bowl. As it is of rough, unsmoothed stone possibly it should be considered under an earlier heading. Also, as it comes from La Palma, the location of which is unknown to me, possibly it is not purely Tairona. A sketch of it is shown in Plate CXXII, Fig. 3. It is oval with a slightly concave top, 11 cm. in greatest diameter.

There is a beautiful small smooth bowl of black stone, probably diorite, about 10 cm. in diameter and of equal height, in the Carnegie Museum in Pittsburgh. The provenience is uncertain. This is shown as Fig. 2 of Plate CXVIII.

Here also I might refer to an unusual pendant, since it falls into no other class. This is in the Museum of the American Indian, Heye Foundation, and is shown in Plate CXVII, Fig. 7. It is of smooth red clay-stone and measures 10.7 x 5.5 x 1 cm. It was secured by Gregory Mason at Gairaca. In general form it resembles a wide broad-winged pendant of Type C, having an extension in the upper edge for the single transverse suspension hole; this is now broken off. There are also projections at either end of the upper edge. A thin shallow incised line crosses it horizontally in the center, and in the medial line is a human figure in low relief, symmetrical and well made, but highly stylized.

A peculiar and unique object of smoothed stone, probably an ornament of ceremonial nature, is shown in Plate CLVII, Fig. 4, drawn from a photograph by the owner, Mr. W. M. Sutherland, of Santa Marta. It is about 18 cm. in length and apparently of relatively square cross section, about 2 cm. It consists of a long, slightly curving shank, the lower end of which curves until it is at right angles to the upper end. The thickness is about the same throughout, but the width tapers slightly at the top and more at the base so that the curved end terminates in a broad, apparently sharp, edge. The upper end is grooved, at least on two opposite sides, by which groove it was apparently suspended. The nature of the stone was not given. It was found in a cylindrical red pottery jar at a depth of about 75 cm. in an old house site at the "Cerro del Cementerio," near Minca. With it were found a monolithic ax and several broad-winged pendent stone ornaments, an association that indicates its ceremonial nature.

STONE FIGURINES

Five small stone figurines were found which differ from others in being relatively larger and not made of carnelian or other semi-precious stones. These are shown in Plate XCVIII. They differ greatly and have little in common, but all except two were evidently used as pendent ornaments.

These two non-pendent specimens were found in pottery vessels in site 31 at Pueblito (pp. 99, 100) and should therefore be classed with other ceremonial objects from this site. The central and largest object on the Plate, Fig. 3, No. 152644, measures 9.5 x 5.7 x 4 cm. It is a relatively triangular figure of mottled green and white steatite, and probably represents a jaguar, less probably a monkey or bat. The main elements are head and body, separated by a deep groove; the other features are less prominent. The muzzle is triangular and pointed, with a groove around its base. The teeth, distinguishing molars, canines, and incisors, are made by incised lines, the eyes by drilled circles. There is a deep notch in the top of the head with a groove through this. At the sides of the body, on the edges, are hemispherical drilled notches, and at the front, on either side, are similar ones. Above these is a pair of incised, not drilled, roughly circular rings with central dot, probably representing breasts. On the thorax, at the front just below the neck, is an elevated triangular section, now partly broken off. The legs and feet are small and vestigial, shown by intersecting straight incised lines.

Fig. 2, No. 152647, from the same site, is a quasi-triangular or pyramidal symmetrical piece of granite, modified by slight carving and incised lines to resemble a seated animal, possibly a monkey. It is small, 3.5 x 2.5 x 3 cm., well shaped and carefully finished. The nose is projecting, but mouth, neck, legs, and other features are shown by shallow incised lines.

Fig. 5, No. 152645, a pendent ornament, was found in site 32 at Pueblito (p. 104). This is a zoomorphic figure of gray green steatite, 5.5 x 4 x 2.5 cm. It may represent a monkey with up-raised arms, a bat, or a bird with wings, possibly an owl. The latter interpretation is rendered more probable by the fanlike base. The body is in higher relief than the "wings," one of which is broken off. The muzzle is raised, the large mouth shown by a broad horizontal incised line. Nostrils and eyes are shown by circular drilled depressions with flat bottoms, ears by grooves. Legs and feet are well but conventionally shown in flexed position by incised lines. The back is flat but in the center is a deep three-quarter spherical depression

of unknown significance or purpose; a similar dorsal depression is found in the bird figurine (Plate CXVII, Fig. 4) described on page 200. Through the raised arms or wings are biconical drilled perforations for suspension.

A rather plain symmetrical figure, No. 152860, probably a conventionalized bird, and bearing some resemblance to the gold bird figures from Panama and Costa Rica, was bought at Bonda and is shown as Fig. 4 in Plate XCVIII. This is of greenish slate, measuring 6.5 x 5 x 1.8 cm. The head is large with slightly raised beak, the wings small and rectangular, the tail large and fanlike. The body is slightly elevated, but on the whole there is little relief. The back is plain, flat, and smooth. A lateral suspension hole perforates the neck.

The most variant of the five figures comes from the most distant region and may belong to a different culture or period. This is Fig. 1, No. 152864. It was purchased at Dibulla and was said to have come from a grave at San Miguel, in the Arhuaco country in the high mountains, but since this claim was made for most of the archaeological objects seen in this region, it may be discounted; possibly it was found on a site in the neighborhood of Dibulla. This is of soft, dark steatite, and represents a human being, seated with elbows on knees and hands at the side of the head. It is naturalistic and rather well proportioned, but poorly finished. The front, between the projecting legs and the chin, is deeply sculptured, and the four spaces between legs and arms, and arms and head have been cut through, producing a full round carving. Arms are thin and facial features naturalistic. Beneath each knee is a depression, but not a perforation, which appears to be drilled; this aboriginal feature renders less tenable the suspicion that the specimen may be of recent manufacture. The present Arhuaco Indians of San Miguel do carve rude objects of steatite which they deposit on shrines, but I have never seen anything anthropomorphic, or approaching this specimen in naturalistic quality. It would seem to be of a nature intermediate between ancient Tairona and present Arhuaco work, and possibly should not be ascribed to either.

Probably in the same category fall two rude animal figures in the Bogotá Museum which are shown as Figs. 3 and 5 of Plate CXXI. They are catalogued as two armadillos of serpentine, but the animal represented is not certain. They probably belong with the rude beads and pendants of steatite and may be of recent or modern origin. The provenience is given only as the State of Magdalena. The dimensions of these are 4 x 1.6 x 1.2 and 3.5 x 2.3 x 1.8 cm.

Another non-pendent figure belonging in this class is a stylized figure of a bird or bat of reddish stone in the Museum of the American Indian which was secured by Gregory Mason at San Pedro Alejandrino. It is about 3.5 cm. in length and width and 1.5 cm. thick and is shown in Plate CXVII, Fig. 4. In the back is a deep-drilled hemispherical depression about 1.3 cm. in diameter which nearly perforates the specimen. This is similar to the depression in the back of the figurine shown in Plate XCVIII, Fig. 5. Both front and back of the specimen are markedly convex.

Three very interesting objects of a peculiar type not represented in the Field Museum collection are in the Philadelphia and Berlin museums. These are very rude and yet very conventionalized and stylized human figures of stone cylinders modified with sawn and incised lines. This technique may be presumed to be relatively late. The simpler object, which is shown in Plate CLVIII, Fig. 7, measures about 3.5 x 2.5 x 2 cm. and is of a reddish crystalline stone. The specimen was purchased by Gregory Mason at Pueblo Viejo. The simple, straight, sawn lines probably depict the eyes, nose, mouth, and arms.

The larger and more developed one, which is in Berlin, from Don Diego, a sketch of which is shown as Fig. 4 in Plate CXXII, is apparently of steatite and about 11 x 5 x 6 cm. in dimensions, the thickness greater than the width. The wide but shallow sawn lines are probably all straight, though some seem to be curved in the sketch. The head is, as usual, much out of proportion, the limbs and body roughly outlined. What the striated lines under the mouth represent is uncertain. Another very similar object, apparently incised on a pebble of reddish clay-stone, is also in the Berlin Museum. In both these specimens the back and sides are relatively flat, the front very convex.

MISCELLANEOUS SMALL STONE OBJECTS

In addition to the miscellaneous objects certainly of a ceremonial nature which were found, some others were secured whose classification is more difficult. Fifteen such objects, including examples of all types found, are shown in Plate XCIX. All of them are relatively small. Some, such as the labret, are almost certainly ornamental in nature; others, like the miniature "seats," are almost certainly ceremonial, since some of them were found in association with other ceremonial objects in site 31 at Pueblito. Still others may be utilitarian.

LABRETS

Two objects which, judging from their form, were certainly labrets were found, one of stone and one of shell (Plate CXXXI, Fig. 4). Other data, such as pottery figurines, indicate that labrets were worn in this region. The stone labret, No. 152764, 2.9 cm. long, 2 wide, 1.2 high, is shown as Fig. 1 of Plate XCIX. The shape is so typical that the identification is almost certain; it resembles Mexican and some Eskimo labrets, being of the general shape of an opera hat. It is of soft greenish stone with a smooth surface. It was excavated at Pueblito. The cylindrical crown is 2 cm. wide and 1 cm. high, the top concave, and highly polished. The rim is but slightly larger, but was probably originally longer than at present. The base is perfectly flat.

Labrets seem to have been rare objects, and probably were worn by only a certain class of person. Five of them were found by Dr. Nicholas in a grave near Don Diego and are now in the American Museum. They are figured in Plate CXIX, Figs. 6 to 10. Unless they represent the successively larger ornaments worn at different periods, they could hardly have belonged to the same individual, as the sizes vary greatly. The largest is 4 cm. in diameter, the smallest about 2.2. This applies to the "brim"; the "crowns" vary even more, from 3.3 to 1.3 cm. The crowns are always circular, the brims of varying oval shapes, but the latter are never much wider than the crowns, not so much as in Mexican or Eskimo labrets. The bases are generally slightly concave in one plane; the tops of the crowns are always markedly concave in the opposite direction. The sides of the crowns are straight and vertical except in one example which is narrower at the junction with the brim; the angle between them is sharp except in one instance. The heights vary from 0.7 to 1.3 cm. but there is no relationship between the width and the height. The material is the same as that of the Field Museum specimen, a dark greenish polished stone, probably steatite.

MINIATURE SEATS

Six specimens were found, of a very characteristic type somewhat resembling the larger stone seats, four of which are shown in Plate XCIX. All are apparently of steatite. Fig. 5, No. 152774, is the largest of these, 4 x 2.5 x 3 cm. The top is slightly concave, the legs converging towards the longitudinal axis. It was excavated in site 31 at Pueblito in association with other ceremonial objects (p. 97). No. 152773, not shown, found in the same cache, is perfectly rectangular. The legs of specimen No. 152772, shown

in Fig. 6, converge towards the transverse axis, and the top is flat. It was found in a pottery vessel in site 31, Pueblito, together with other ceremonial objects (p. 99). In Fig. 7 is shown specimen No. 152834, bought at Pueblo Viejo but probably excavated in the Bongá region. The top is flat; the legs converge markedly towards the longitudinal axis. Specimen No. 152771, found in a pottery vessel in site 1 at Pueblito (p. 66), in association with other ceremonial objects, is not shown. The most variant and smallest specimen, No. 152833, shown in Fig. 8, is thin and like a section of some of the others, 3 x 2.2 x 0.8 cm. The outlines are more deeply carved. This was excavated at Bongá, far to the east of most of the sites. Being so variant, it may not belong in this class, but if it does, it indicates close relationship with the better represented western sites.

That these "miniature seats" are especially characteristic of the Tairona region is indicated by the fact that six similar specimens are found in four other collections. Three of these are in the American Museum and are shown in Plate CXIX, Figs. 11 to 13. The first two were bought by Dr. Spinden in Santa Marta, the third secured by Dr. Nicholas in the vicinity of Dibulla. All seem to be of steatite. Their dimensions are 4.7 x 2 x 2.5 cm., 3.7 x 2.3 x 2.5 cm., and 5 x 2 x 3 cm. The last one is of uncertain nature but is probably an unfinished specimen of this type; it is shown from the base. The very concave nature and the side extensions of the top of the second specimen are of interest.

There are two of these objects in the Heye Foundation, shown in Plate CXVII, Figs. 5 and 6. The first of these was received in exchange from Field Museum and is mentioned above. The other is of great interest since it differs from all the others in having four short cylindrical legs instead of the two broad supports of all the other specimens. The dimensions are 5 x 4 x 3.5 cm. It was secured by Gregory Mason at Pueblo Viejo. The shape is irregular and the finish poor, though smooth.

A specimen in the University Museum (Plate CLVIII, Fig. 8), measuring 4.5 x 2.2 x 2.3 cm., was secured by Gregory Mason at La Cueva, near Bongá. It is of dark steatite and all four sides converge pronouncedly towards the bottom so that it rests on two small circles. At one end is a deeply incised cross, the lateral bar of which shows in the illustration. A steatite specimen from Don Diego in the Berlin Museum, 3 cm. high, a sketch of which is shown in Plate CXXII, Fig. 2, is very well made and approximates more closely

the large seats than any other, the bottom between the legs having the convex shape of the larger objects.

Plate XCIX, Fig. 2, shows an object, probably ornamental, No. 152832, bought at Pueblo Viejo and probably excavated somewhere in the region of Dibulla. It is of soft greenish stone, probably slate, with a shaft of slightly oval section. At one end it branches to a fork resembling an arrow butt or nock. The dimensions are 3.5 x 2 x 1.3 cm.

Three small worked pebbles, possibly used as ornaments, were found. Fig. 3, No. 153136, bought at Terán, is perforated by a biconical drilling; Fig. 4, No. 153137, has an incipient drilling on each face. No. 153134, not shown, which was excavated at Pueblito, is flat with a notch on the edge.

Two thin square objects of grayish slaty stone of a slightly curved section, No. 152781, shown in Figs. 9 and 10, were excavated in site 1 at Pueblito in association with ceremonial objects (p. 66). They measure 3.8 cm. square and are 8 mm. thick. One is drilled from one side with a conical suspension hole.

A thin square object, No. 153239, apparently of shale, measuring 2.9 x 2.6 x 0.3 cm., was excavated at Gairaca and is shown in Fig. 11.

Fig. 12 shows a perfectly shaped and finished small cylinder of granite with edges sharp and faces flat, smooth, and regular, No. 152765. It was found in site 30 at Pueblito, and is therefore probably of a ceremonial nature. It measures 3.2 cm. in diameter and 2.1 cm. in height.

The last three figures of Plate XCIX are made of a dark, soft, heavy black stone, probably steatite. Fig. 13, No. 153115, shows a rude plummet-shaped object, roughly bell-shaped with a tongue extension at the upper end through which a hole has been drilled, probably for suspension, but it is irregular, rude, and worn. Whether it was an ornament or a utilitarian object is uncertain. It was found on the surface at Vista Nieve, a very high mountain site, and one probably of more primitive culture than the coastal sites. The dimensions are 3.5 cm. wide and 5.5 high.

Two thick disks of heavy, dark, soft stone, probably steatite, excavated in site 1, Pueblito (p. 67), are shown in Figs. 14 and 15. The first, No. 153114, is rude and possibly unfinished, measuring 6 cm. in diameter and 2.4 cm. in thickness. Both top and base are convex and smooth, the circumference beveled and uneven, with facets. The second specimen, No. 153113, is better made though not perfect,

4.2 cm. in diameter and 2 cm. in height or thickness. From one face and the adjacent circumference side are drilled small conical holes which meet in the interior of the stone, affording means for suspension.

Among other miscellaneous stone objects may be mentioned stone "gorgets" given in the catalogue of the Carnegie Museum, but of uncertain nature.

Two thin disks of about the same size with central perforations, which may possibly be spindle whorls, are in the Berlin and American museums. A sketch of the former is in Plate CXXII, Fig. 1. It is of steatite, about 5 cm. in diameter, and comes from San Francisco in the high mountains; it may be modern. The one in the American Museum, of about the same diameter, came from a shaft grave near San Pedro Alejandrino and is of schistose stone, with biconical drillings.

RUDE BEADS AND CYLINDERS

In addition to the great quantities of tubular and discoidal beads of carnelian and of other semi-precious stones found, a few cylindrical objects of more ordinary stones were encountered which may have served as beads or for other ornamental or utilitarian purposes. A selection of these is shown in Plate C.

Two long cylinders are grooved and may have been suspended by this means, probably as ornaments. Fig. 1, No. 153107, is fragmentary but well shaped, excavated at Pueblito. Fig. 5, No. 153116, is larger, somewhat battered but smoothly finished, of a barrel or cigar shape and apparently of steatite. The groove is very rude and irregular. It was bought at Pueblo Viejo and probably had been excavated in the region of Dibulla, but the material and the rudely cut groove open the possibility that it may be recent Arhuaco Indian work.

Three out of five long cylindrical objects without means of suspension are shown in Figs. 2, 3, and 4. Fig. 4, No. 153106, of steatite, was excavated at Pueblito; the other four, No. 153108, are of unknown proveniences.

Four similar specimens, more perfectly cylindrical and with tubular drillings, No. 153104, excavated at Pueblito, are shown in Figs. 7, 10, 11, and 12. These were doubtless beads.

Three very thick and large beads of unpolished heavy, soft, dark granite were excavated near the surface at Pueblito and one of them, No. 153101, is shown in Fig. 9. This is 2.8 cm. thick and was more than 10 cm. long, one end being now broken off. The fine long central

drilling was very well done. Not shown are Nos. 153103, a smaller complete specimen, of granite, and 153102, a fragmentary end.

In Figs. 6 and 8 are shown two beads with transverse suspension holes. The smaller one, Fig. 6, No. 153105, is of black stone, drilled transversely at either end, the bore being of the same width throughout and not conical, an unusual feature in beads from this region. It is also drilled longitudinally from either end; at one end this drilling unites with the transverse perforation, at the other end not. This was excavated near the surface of site 31 at Pueblito. Fig. 8, No. 154085, is a much thicker object of greenish steatite, conico-cylindrical and well shaped and finished. One end is smooth; from the other end a deep hole was drilled which meets at right angles another hole drilled from the side, obviously for suspension. This specimen was bought at Bonda.

Two large cylindrical beads with similar drillings, but of finer quality than most in this group, and by no means to be considered as "rude," are in the American Museum. They are of a greenish stone and were found in a grave near Don Diego. One measures 11.2 x 2 cm. the other 10 x 2.3 cm. The longer specimen is drilled at both ends, the smaller only at one. The drillings, from side and end, meeting at a right angle, are very close to the edge.

Seven cylinders of a very heavy, very black, shiny soft iron ore identified as ilmenite were found, some very well made and cylindrical, others more rude. The best two are shown in Figs. 13 and 14: No. 153109, excavated in site 1 at Pueblito (p. 67), and No. 154076, bought at Taganga. The others are Nos. 153110, excavated at Pueblito; 153111, excavated at Cañaveral; 154077, bought at Taganga; and 153112-1 and -2, from Terán. A similar specimen, from a grave near Santa Marta, is in the American Museum.

A similar cylinder but slightly irregular and of greenish diorite(?) is specimen No. 154084, bought at Bonda and shown in Fig. 15.

Two small objects which possibly should be classed with the rubbing stones were bought at Taganga. These are roughly of oval shape and may be merely pebbles, of quartz crystal. Specimen No. 154075 is shown in Fig. 16; No. 154065 is not shown.

OBJECTS OF SEMI-PRECIOUS AND ORNAMENTAL STONES

STONE ORNAMENTS IN THE SHAPE OF SHELLS

One of the most characteristic objects of Tairona archaeology, found, so far as my knowledge goes, nowhere else, is also characteristic of an even smaller region, the district around Dibulla. Dr.

Nicholas secured a number of them which are in the American Museum of Natural History, New York. None was excavated by me, but nine complete specimens and two fragments were purchased in the Dibulla region.

Seven of these eleven are shown in Plate CI. Although made of marble and somewhat resembling a spoon or ladle, they were apparently made in imitation of shells. They consist of a tapering conical projection, generally carved in a spiral resembling a narwhal's tusk. At the broader end of this is a hemispherical enlargement with the interior hollowed out in hemispherical form and beyond this a projection. All are smooth, well finished and almost all have twin suspension holes drilled through the edge of the bowl at the upper end, indicating that they were personal adornments and hung with the point down. The bowls were apparently finished with a hemispherically ended drill, as they show concentric striations within. They range from 10 to 16 cm. in length, 2.9 to 4 cm. in width and 2 to 3 cm. in thickness. In color they range from deep red through mottled red and buff to mottled buff.

Those with the best spirals are shown in Figs. 1 to 4: Nos. 152824, 152829 (shown from the base), 152826 (shown from the side), and 152825. Figs. 1, 3, and 4, as well as Nos. 152827 and 152828, not shown, were bought at Pueblo Viejo, Fig. 2 at Dibulla. Fig. 5, 152821, also bought at Pueblo Viejo, has its spiral far less well carved. The two red specimens, Figs. 6, No. 152822, bought at Pueblo Viejo, and 7, No. 152823, bought at Santa Rosa, have the spirals reduced to low encircling grooves. The points of these last two are also beveled as if they had been employed for smoothing purposes. Not shown are two broken ends, No. 152830, bought at Santa Rosa, which are smooth and have incipient drill-holes, as if these broken parts were intended to be used as ornaments.

Two complete and five fragmentary examples of this unusual type of object are in the American Museum, and two specimens, one complete and one fragmentary, in the National Museum in Bogotá. These verify the restricted area of distribution, since, with one exception, all the exactly known proveniences are in the neighborhood of Dibulla.

One complete and one broken specimen in the American Museum are from Dibulla. These are variant from the Chicago specimens in that they have perforations at the more pointed end so that they can be suspended in reverse manner from those already described. The unbroken specimen had no suspension holes in the bowl; this fact

is not noted regarding the broken one. The unbroken specimen is longer than any of mine, 17.7 cm., and is also more cylindrical and less tapering. The shaft has no spiral form. The bowl is small and of less diameter than the shaft, which is 2.2 cm. at this maximum point and has no bulge; a slight notch just below the bowl delimits this section. The extension beyond the bowl is also of almost the same diameter as the shaft. The broken specimen has a spiral form. The other unbroken specimen and three fragments were found in an urn with two gold ornaments, but the provenience is no more accurately given than "Sierra Nevada de Santa Marta." The unbroken specimen is of almost equal length with the last, 17.5 cm. The shaft is thin, with a maximum diameter of 2 cm. except at the bowl where it enlarges to 2.5, and is slightly tapering, with a blunt point and a barely visible spiral form. As usual there is a pair of suspension holes in the bowl, and from the end and rear they give the impression of being the eyes of a round-headed, broad-snouted animal. This may be purely fortuitous. The three broken specimens include two bowls and one end, but each of the three was a separate pendant. The two bowls may be complete short specimens, for the possible breaks have been nicely finished off and each perforated for suspension; there are no suspension holes in the bowls. The other fragment is a broken tapering shaft, but the break has been smoothed and an ornamental groove incised across it. This broad end has been drilled with two perforations at right angles for suspension. The last fragment came from a grave at Don Diego. It is a broken head or bowl with two large suspension holes.

One of the specimens in the Bogotá Museum is unbroken (Plate CXXI, Fig. 2). This is much shorter and more tapering than any of the others, more typically shell-shaped. The length is about 8 cm., the width 3 cm., the thickness 2.4 cm. The bowl is large in proportion to the stem, on which the spiral is deeply grooved. The twin suspension holes are in the usual place. It is said to be of red-banded pagodite. The second specimen (Fig. 1) is a fragment of a larger one, the greater part of the stem of which is missing. It was apparently broken in aboriginal days, for, in addition to the twin suspension holes at the upper side of the bowl, another suspension hole has been drilled through at the broken end so as to suspend it upside down. The bowl is about the same size as the other, 3.1 cm. in width, 2.4 cm. in thickness. The break seems to have occurred at the uppermost groove or the end of the spiral of the stem. The material is the same, the provenience Dibulla.

SMALL STONE ANIMAL PENDANTS

Small pendants in the shape of animals, which were probably worn with beads as ornaments on necklaces, are very characteristic of the archaeology of this region. They tend to fall into two classes: those of greenish or dark stones, generally larger and more naturalistic; and those of carnelian and brown clay-stone, generally smaller, more conventionalized and better made.

Ten of the former class were found, of which nine are shown in Plate CII. All are perforated by a single suspension hole. Six of the ten were purchased and three of these have few data. Figs. 1, No. 152859, and 2, No. 152865, probably represent quadrupeds of uncertain identity, possibly jaguars. The first is tiny and thin, 1.5 x 1 x 0.3 cm., of a hard greenish stone, not jade, so conventionalized that its nature would not be recognized but for comparison with other specimens. The biconical drilled suspension hole is in the center. It was bought at Dibulla and was said to have been excavated at San Miguel, but probably came from the vicinity of Dibulla near the coast. Fig. 2 is a little more naturalistic, though still very conventionalized, and resembles the pendants of carnelian. It is of smooth black stone and rather thick. Specimen No. 152866, not shown, resembles it closely. Both were purchased. They are well but not delicately carved, the details made with sawn lines, the eyes of drilled dots. A large biconical suspension hole is drilled through the neck.

Fig. 3, No. 152868, possibly should not have been included in this group as it is not biomorphic but is dome-shaped, with an elongated grooved neck and a decoration of sawn lines on the head. A suspension hole is drilled laterally through the neck and another vertically from the base connecting with the preceding. It was excavated in site C, Nahuange.

A somewhat more naturalistic and better carved pendant of steatite is Fig. 4, No. 152862, which was bought at Bonda. It is rather broad and flat and probably represents a bird. A suspension hole, showing the wear made by a cord, pierces the neck transversely.

On the beach at Gairaca was found Fig. 5, No. 152858, an eroded pendant of greenish stone, possibly steatite. The form is too much worn to make identification certain, but it may represent a frog. In the back are two small drilled suspension holes which united within the stone; the septum between these is now broken through.

A small pendant, No. 152863, bought at Pueblo Viejo and probably excavated in the region of Dibulla, is shown in Fig. 6. It is

of pitted greenish slate(?) and probably represents a frog, the limbs shown by sawn lines, the nose and eyes by raised dots.

The remaining three large pendants probably represent birds. Fig. 7, No. 152861, is of greenish slate(?), the head and nose well carved, the eyes shown by small drilled depressions. The body is plainly shown. A biconical suspension hole perforates the neck. It measures 5 x 2.5 x 1.5 cm. and was excavated from a black pottery vessel in site 31 at Pueblito (p. 96).

Fig. 8, No. 152869, is a ruder and unidentifiable pendant of steatite with a biconical suspension hole through the neck. It was found on the surface at Pueblito.

The last specimen, Fig. 9, No. 152857, is more conventionalized and in character more resembles the carnelian pendants shown in the following Plate. It is of smooth quartz crystal and without details except for the raised eyes with a central dot. A large biconical suspension hole perforates the neck. It was purchased at Bonda.

An animal pendant that belongs in this class is in the University Museum whither it was sent by Gregory Mason who secured it at La Cueva near Bongá. This is shown in Plate CLVIII, Fig. 9. It is of a fine hard green stone and measures 3 x 1.5 x 1.7 cm. It is of a long-beaked bird, possibly an eagle, and has a transverse suspension hole through the neck. The back is convex.

ANIMAL PENDANTS OF CARNELIAN AND BROWN CLAY-STONE

Small pendants, generally in animal form, made of carnelian and of other reddish stones, are characteristic of this region. Most of them are rather conventionalized and practically all are drilled with holes which doubtless served for their suspension as ornaments. They are on the whole smaller, better finished, and generally more conventionalized than those of other stones. Nineteen were secured (fifteen of them by purchase), of which fifteen are shown in Plate CIII. All are made of carnelian except the last type, typified by the last three figures. These are of brownish clay-stone.

The finest and most naturalistic one is an excellent figure of an owl, Fig. 2, No. 152843. This is of polished carnelian, bought at Bonda, 2.8 x 1.7 x 1.5 cm. The large eyes, beak, folded wings, and claws are well shown. In the back are twin drilled suspension holes meeting at an angle in the stone.

Fig. 1, No. 152849, and Fig. 3, No. 152848, purchased but of unknown proveniences, are small and unidentifiable.

Fig. 5, No. 152867, is fragmentary, and is probably a jaguar, like Fig. 2 of Plate CII and of approximately the same size. It was also purchased.

A specimen was excavated in a pottery vessel in site 31 at Pueblito which probably represents the head of a bird. It is shown in Fig. 6, No. 152845. It is broken, but shows the beak and large, round, raised eyes with central dot.

Three pendants of a very characteristic type are shown in Figs. 7 to 9, the last one shown from the front. They seem most to resemble a grub or caterpillar, since legs are absent, but this is probably stylistic, and a quadruped, most likely a jaguar, may have been intended. Head, face, and tail are represented by means of sawn lines; the base is a ridge, perforated by a single small biconical hole for suspension. If their form is correctly identified, they hung upside down. They average from 1.8 to 2.2 cm. in length, 1 to 1.5 cm. in height, 1 to 1.3 cm. in thickness. Fig. 7, No. 152852, was purchased at the site of Bonda; Fig. 8, No. 152851, excavated at Mandigua; Fig. 9, No. 152850, excavated with a child's burial in an urn at Gairaca. A fourth, No. 152853, was bought at Taganga. All are of carnelian. Fig. 4, No. 152854, bought at Terán, may be a more conventionalized example of this same type.

A small bird figure, No. 152844, is shown in Fig. 10. It is well shaped, with beak and large eyes with central dot. The next one, Fig. 11, No. 152846, might be either bird or animal. Both of these were purchased at unrecorded localities. An animal of uncertain identity is shown in Fig. 12, No. 152847. The tail is elevated; the eyes and ears are better done than show in profile. It was purchased at Dibulla. These three are of opaque red buff carnelian, each with a single biconical suspension hole in the breast.

The largest and most characteristic group consists of six pendants in the form of birds, probably pelicans. These are of a brownish fine-grained stone, much used for beads and pendants. It takes a high polish and much resembles catlinite but is identified as an argillaceous stone with a high percentage of iron ore which gives it its brown color, and is here termed "clay-stone." These pendants are unusually naturalistic, well carved and finished. Each has a large biconical suspension hole in the front of the breast. They range from 2 to 3.5 cm. in length, 1.5 to 2.2 cm. in height, 0.5 to 1.6 cm. in thickness. Three of these six are shown (Figs. 13 to 15). Specimen No. 152837 was bought at Bonda; No. 152838, Fig. 13, was bought at Dibulla; No. 152839, Fig. 15, came from Taganga(?);

No. 152840, Fig. 14, was bought at an unrecorded locality; No. 152841, fragmentary, was bought at Dibulla; No. 152842, fragmentary, was bought at Bonda. Since all were purchased at places about equally distributed between the Santa Marta and Dibulla regions, the region of characterization of this type cannot be determined. It is not impossible that these were the hooks for spear-throwers.

The queer legless animal figures shown in Figs. 7 to 9 are extremely characteristic of this region and are found in most other collections. As will later be seen, identical objects were made of shell and of gold. Several typical examples are in the Carnegie Museum and may be seen in Plate CXVIII, Figs. 7 and 8. These are from Gairaca. In the University Museum is one secured at La Cueva (Plate CLVIII, Fig. 6). In the Museum of the American Indian are nine, one of them of a dark-colored stone, and in the American Museum is a typical one of uncertain provenience; this is unusually large, 3 x 1.2 x 1.8 cm., and is figured from below on Plate CXX, Fig. 12. In Bogotá are three pendants of carnelian, shown as Figs. 7, 8, and 9 of Plate CXXI. They are catalogued as figures of animals and probably belong to this general type, though the zoomorphic form is not obvious. Their lengths are from 1.9 to 2.2 cm.

There are several others not so typical in shape but probably of the same nature. One of unusual size and type is in Berlin, from Gairaca. A sketch of this is shown in Plate CXXII, Fig. 6. Another unusual one, of greenish stone, from La Cueva, is in the University Museum (Plate CLVIII, Fig. 2). Three others are in the American Museum and are shown in Plate CXX, Figs. 4, 5, and 9. The first is of red clay-stone, from a grave near Don Diego; the second, of the same material, is from Palomino; the third, of carnelian, is from a grave near Don Diego.

In the American Museum are, furthermore, two figurine pendants of birds, one of a standing animal and two human figures. The birds are both of brown clay-stone. One is large, and different from any in Plate CIII. The dimensions are 4 x 2.7 x 1.5 cm. The provenience is uncertain. It is shown in Fig. 11, Plate CXX. The second, which is shown in Fig. 10 of this Plate, is much like Fig. 14, Plate CIII. It came from the vicinity of Dibulla. The standing animal figure, (Fig. 6, Plate CXX), is unique. It is of brown clay-stone and came from a grave near Don Diego. One of the human figures, Fig. 7, is of the same material and from the same grave. It is 2.3 cm. in height. The other is of black stone, from the vicinity of Dibulla, and is shown in Fig. 8.

In Mr. Angell's collection is a carnelian pendant that he considers, and that seems by the drawing supplied to be, the head or bill of a toucan. It is about 3 cm. long. The identification is not certain. The drawing is copied in Plate CLVII, Fig. 5.

BEADS

Without any question, the most typical feature of the archaeology of the Santa Marta region and of the Tairona culture is the great quantity of beads, mainly of carnelian. Beads were found in most of the localities and sites excavated, sometimes loose in the soil, but most often in the bottoms of pottery vessels, where they often lay in a clayish mixture. Whether they had been placed in the vessels loose or in necklaces is not certain, as the stringing material, if ever present, had in every case disappeared; but no instance was noted in which they seemed to lie in any order, and the probability is, therefore, that they were deposited in a loose condition. In many cases, together with the beads, were found fragments, chips, and small pebbles of carnelian, evidently the materials from which the beads were manufactured. It seems highly likely that beads were among the most treasured possessions of the ancient peoples and constituted one of the elements of personal wealth. They may even have served as currency. The greatest quantities were found in the stone graves, especially the grave at Nahuange, which produced about eight thousand beads, about half of the total secured by the Expedition. The grave in site 29, and the large circular sites 1, 31, and 32 at Pueblito, also afforded large quantities. Dr. Nicholas notes that five thousand beads were found in a jar "beyond" (i.e., east of [?]) Don Diego.

The economic geology and mineralogy of this region are relatively unknown so that there are no grounds on which to base an opinion as to the source of the materials employed. Possibly all were quarried, or found in the streams in the Sierra Nevada de Santa Marta, but some may have been brought in from other regions by trade. By far the majority are of very hard stones that take a high polish. Practically all are perforated for stringing, and in almost every case this perforation was done by a conical drilling from both ends meeting in the center of the bead. The drilling of even the small beads must have been a prolonged task, and that of some of the long beads a very long and difficult process. The actual technique of drilling is unknown at present, whether by twirling the drill in the hand or by one of the simple mechanical methods such as the pump-drill or

bow-drill. The point may have been of bone or similar pointed object working in sand or other abrasive.

Since there seemed to be no difference between the types of beads found at the different localities, for purposes of cataloguing and classification all of the same type were placed together regardless of local provenience, except in the special cases of unusual types. Possibly if they had been studied more carefully before being thrown together, more instances of local characteristics would have been found.

The catalogue cards record about 16,250 beads composed of the following natural stones:

Carnelian.....	7237
Quartz crystal.....	2899
Jade.....	2711
Green slate.....	100
Serpentine.....	279
Brown clay-stone.....	2232
Agate, jasper, and miscellaneous.....	15
Undrilled cylinders of miscellaneous stones.....	774
Total.....	16,247

BEADS OF CARNELIAN

Carnelian beads are, above everything else, the most characteristic feature of the archaeology of this region. They are much sought after by local treasure hunters since they are eagerly bought by both the Arhuaco-Kagaba Indians of the high mountains farther inland and the Goajiro Indians farther to the east. The women of both tribes wear them on necklaces. Those which still retain their smooth, glassy surface are termed "live," *vivos*, and are sold to the more wealthy Goajiros, while the dull, "dead," *muertos* are disposed of to the poorer Arhuacos. In Berlin Dr. Preuss has a collection of about fifty beads of different types which he secured from the Arhuacos, each type having its especial magical, symbolical, and religious use. Among the Goajiros they are known as *tumas*, and an unusually large and bright bead is said to be worth a mule. I am under the impression that the term is applied especially, or possibly specifically, to the rare spherical beads.

Though naturally there are intergradations between all shapes and sizes, the carnelian beads fall into three classes: tubular, 2,559; barrel-shaped, 1,413; and globular-discoidal, 3,265, a total of 7,237. These were grouped according to size, condition of surface, and minor peculiarities, and catalogued in groups. Whatever the size or shape, they were almost uniformly drilled from two ends with biconical holes which meet in the center.

Tubular beads of carnelian were grouped and catalogued under the following numbers:

Specimen number	Number
152870, very large, 17 x 1.5 cm.....	1
152871, very large, 16 x 1.5 cm.....	1
152872, very large, 11.5 x 1.2 cm.....	1
152873, large, 10 to 5 cm. long.....	90
152874, medium large, 5 to 4 cm. long.....	60
152875, medium large, 4 to 3 cm. long.....	272
152876, medium, 3 to 2 cm. long, polished.....	350
152877, medium, 3 to 2 cm. long, dull.....	412
152878, small, less than 2 cm. long, polished.....	700
152879, small, less than 2 cm. long, dull.....	668
Total.....	2555

Specimens Nos. 152870, 152871, and eight examples of 152873 are shown in Plate CIV. The three largest beads are beautiful and admirable examples of aboriginal lapidary art. Like all the tubular beads they are of perfectly circular cross section and finely polished, besides being of beautiful translucent coloration. All are of a little greater thickness at the ends, indicating that they were not made by rubbing on a flat surface or by being drilled out by a large hollow drill. In specimen No. 152871 the ends of the central drill-hole are slightly elongated at symmetrical points, indicating that it was worn in a horizontal position, probably as a breast ornament; the holes of No. 152870 show no wear. The orifices are 5 mm. across at the ends. The task of drilling such long pieces of stone so that the shafts would meet in the center of the bead was a remarkable feat for a primitive lapidary. These three large specimens were excavated in site 2 at Nahuange (p. 36). The other eight specimens on this plate are smaller examples of the same type, selected for their beauty and of progressively smaller size. They were mainly excavated at Nahuange or purchased at Nahuange.

In Plate CV are shown twenty-six examples of the other sizes of tubular carnelian beads, selected to show all the different proportions of length to thickness. Naturally only polished specimens of the best grades of carnelian are shown. Some are perfectly cylindrical, but many show a tendency towards a barrel or cigar shape. The first specimen in the third row is one of four which, on account of their proportionately very thick and perfectly cylindrical nature, were placed in a separate group, No. 152881.

The barrel-shaped carnelian beads, twenty-six examples of which are shown in Plate CVI, are naturally more variant in proportions

and types, and equally variable in size, and were catalogued in a larger number of groups, as follows:

Specimen number	Number
152882, long and thick, 3 to 5.5 cm. long.....	23
152883, long and thick, 2 to 3 cm. long.....	25
152884, biconical shape.....	11
152885, large, very thick and convex.....	15
152886, short, very thick and convex.....	22
152887, long, thick and convex.....	21
152888, rudely shaped.....	13
152889, triangular cross section.....	1
152890, rectangular cross section.....	1
152891, medium size, average shape.....	140
152892, small size, average shape, polished.....	550
152893, small size, average shape, dull.....	591
Total.....	1413

Examples of all classes except the rudely shaped No. 152888, and the small, unpolished specimens, No. 152893, are shown in the Plate. Most of them require no further comment. Those of biconical shape, No. 152884, resemble two truncated cones placed base to base, the two faces meeting at an angle; these are shown in the first, third, and fourth specimens of the uppermost row. The second figure of this row is the single bead with a rectangular cross section, No. 152890, the four sides being relatively flat, the corners slightly rounded; the last figure in this line is the single specimen of triangular cross section, No. 152889, the corners very rounded.

The carnelian beads of spheroid or discoid shapes are in the majority but do not vary greatly except in size. They were catalogued in the following classes:

Specimen number	Number
152908, very large.....	15
152909, large.....	42
152910, medium.....	177
152911, small, polished.....	430
152912, small, dull.....	2600
Total.....	3264

The largest bead of this class is about 2.3 cm. wide and 2.1 cm. high; the smallest about 4 mm. wide and 3 mm. high. The very largest ones were recorded as from Bonda, Mandigua, and Dibulla, the others as excavated at Nahuange, Gairaca, and Pueblito, or purchased at Taganga, Dibulla, and Bonda. Examples of all of these classes except the small, dull ones are shown in Plate CVII, where the range in shape and size may be observed. They range from quasi-globular through flattened spheroid to discoid, and grade

through intermediate stages into the barrel-shaped. In the Plate they are shown both from the top and from the side. The three upper rows are considered as small, the fourth as medium, the fifth as large, and the sixth and seventh as very large.

At this point should probably be mentioned a small, perfectly spherical bead, well made, No. 152950, which was at first thought to be of recent European manufacture, but on examination was accepted as aboriginal.

The demand for carnelian beads on the part of the Goajiro Indians has apparently resulted in the importation of beads of European, probably German, manufacture. Four Goajiro necklaces of beads, Nos. 152010 to 152013, were bought in Rio Hacha. They also contain gold ornaments which will be mentioned later. A few of the carnelian beads are certainly aboriginal, but most of them are either perfectly spherical or faceted, and the drillings are narrow and of the same dimensions throughout, not biconical. They were examined carefully by the Curator of Geology of Field Museum, Mr. H. W. Nichols, who expressed it as his opinion that such perfect spheres and facets could not have been made by aboriginal lapidaries; this, combined with the nature of the drill-holes, and the fact that only one spherical and no faceted beads were excavated or purchased in the Tairona region, points to the conclusion that they were not of native manufacture.

The validity of this conclusion is, however, disturbed by certain beads in the American Museum. There are two beads from graves on the Arroyo Julian, near Dibulla, just like No. 152950, perfectly spherical and with a drilling of the same diameter throughout. Moreover, there are a number of flattened spherical or ovoid beads with small fine drillings. Many of these beads are very large, the largest, 3.8 x 3.4 cm., exceeding any of mine. It is unfortunate that the proveniences of the spheroid beads in Field Museum were not noted, for these may be characteristic of a restricted area; those in the American Museum appear to have come either from around Dibulla or from Don Diego, east of most of my excavations; this may explain why they are rare in the Field Museum collection, and more common and greatly prized among the Goajiro Indians.

Carnelian beads, doubtless from ancient graves, are also found on a necklace, No. 152400, which was a part of the ceremonial paraphernalia of the Kagaba-Arhuaco priest of Palomino. These are of tubular, barrel, and globular shapes, and are shown in Plate CLX. A few small tubular carnelian beads are also found in one

of the bracelets, No. 152399, of similar origin. These are shown in Plates CLXII and CLXIII.

Carnelian beads of ordinary types are found in considerable quantities in all the other collections of Santa Marta archaeology. Many were found in and around the shaft graves at San Pedro Alejandrino, and some from the "streets and yards of houses in Barranquilla."

BEADS OF QUARTZ CRYSTAL

Beads made of quartz crystal are second in quantity to those of carnelian. Occasionally they are clear as glass and show perfectly the biconical drillings, but practically all have a frosted surface and are not transparent. They occur in the same shapes as the carnelian beads: tubular, barrel-shaped, spheroidal, and discoidal, but the barrel-shaped ones are relatively few; the most typical ones are perfectly cylindrical or discoidal with straight sides and ends. Most of these were excavated. They were catalogued in the following groups:

Specimen number	Number
152919, large tubular.....	36
152920, small tubular.....	750
152921, large discoid.....	13
152922, small discoid.....	2100
Total.....	2899

The largest tubular bead measures 6.1 x 1.8 cm., the smallest 7 x 6 mm. The largest discoid bead measures 2 x 1.2 cm., the smallest 6 x 3 mm. One large flattened spherical bead is included. Specimens of these types may be seen in Plate CVIII. The notes on excavations refer to finds of quartz beads at Gairaca, Nahuange, Pueblito, and Pueblo Bernardo, but they were also excavated at many other localities.

A quartz crystal bead secured by Gregory Mason at San Pedro Alejandrino and now in the Museum of the American Indian is the largest known to me, measuring 8 cm. in length, 3 cm. in width in the center, and 2 cm. at the ends. A large number of such beads are in the American Museum. Only one was noted as having been found in the shaft graves at San Pedro Alejandrino, and they may not be characteristic of this culture phase.

BEADS OF GREENISH STONES

Quantities of beads of greenish stones were found; these vary considerably in material and quality of workmanship, but are of the same shapes as those of carnelian and quartz: tubular, barrel-shaped,

and discoidal. The barrel shape is, however, very unusual in these materials. They were catalogued in the following groups:

Specimen number	Number
152937, tubular, of soft gray-green steatite or serpentine.....	14
152938, discoid, of soft gray-green steatite or serpentine.....	265
152939, tubular, of green slate(?).....	30
152940, discoid, of green slate(?).....	66
152941, tubular, of polished hard green stone and jade.....	10
152942, small discoid, of hard bright green jade(?).....	2700
152943, large flattened spheroid of mottled dark green jade...	1
152944, flattened spheroid of hard light green slate(?).....	4
Total.....	3090

Examples of all of these types are shown in Plate CIX. The first row consists of the small discoidal beads of bright hard green stone, mainly of jade, No. 152942. Most of these are very small, thin, and perfectly shaped, varying from 3 to 10 mm. in width, and 1 to 5 mm. in thickness. Practically all are segments of cylinders with perfectly flat tops and bottoms and straight sides, so that they form a continuous line when strung. The central biconical drillings are relatively large. Most of these were excavated from the large graves at Nahuange (pp. 35, 36), and at Pueblito (p. 92). The discoidal beads in the second row, No. 152940, answer the same description but are apparently of hard green slate, the stone of which most of the ceremonial objects are made, and are slightly larger, 6 to 12 mm. in width, 3 to 6 mm. in thickness or height. The discoidal beads shown in the last row, No. 152938, are larger, of serpentine or steatite, and are much more rudely made and unpolished. These were mainly excavated in sites 2 and 3 at Nahuange (pp. 36, 37). They range from 6 to 18 mm. in width and 3 to 10 mm. in thickness.

The tubular beads are shown in rows four to six. Those in rows four and five, No. 152939, are of hard green slate(?), very well shaped and finished. They are generally of cylindrical shape with straight sides and ends, but a minority are of a barrel shape. They range from 7 to 27 mm. in length and from 6 to 10 mm. in thickness. Those in the sixth row, No. 152937, are larger, less carefully made, unpolished, and of gray-green serpentine or steatite. These are also cylindrical and tubular, the largest 4 cm. in length and 1.7 cm. in thickness. The central bead in the third row is typical of No. 152941, of polished hard green stone, generally of jade. The beads range from 0.9 to 4.2 cm. in length and from 0.7 to 1.7 cm. in thickness.

Large, flattened, spheroid beads are shown at either end of the third row. That to the left is No. 152943, a rude large bead of

mottled dark green stone, probably jade. That to the right is one of the beads of hard light-green stone, probably slate, No. 152944. Both beads are rather irregular in shape.

Small discoidal and a few tubular beads of greenish stone, probably jade, are found interspersed among the shell beads of two anklets, No. 152398, shown in Plate CLIX; two bracelets, No. 152399, shown in Plates CLXII and CLXIII; and a necklace, No. 152400, shown in Plate CLX, which were part of the ceremonial regalia of the Kagaba-Arhuaco priest of Palomino. They were doubtless secured from ancient Tairona graves. None of the green stone beads in other collections merits special notice.

BEADS OF BROWN CLAY-STONE

This material is a brown stone of very fine grain, closely resembling catlinite. The beads are perfectly shaped, the material lending itself very well to such work. Tubular, discoidal, and barrel-shaped beads were found, and catalogued under the following numbers:

Specimen number	Number
152928, tubular.....	225
152929, small barrel-shaped or biconical.....	28
152930, large barrel-shaped.....	1
152931, flattened spherical.....	3
152932, discoidal.....	1975
Total.....	2232

Examples of all of these five groups are shown in Plate CX. The first in the third row is No. 152930, which measures 2.5 x 1.6 cm. The other four in this row are of a biconical shape, No. 152929.

The tubular beads are typically perfectly cylindrical with straight sides and ends so that when strung they fit closely together. Convex surfaces are unusual, and the beads are typically thin. The biconical drillings are generally large. They resemble most the beads of greenish slate. Typical tubular beads are shown in rows four and five, No. 152928. The longest measures 5 cm., the shortest 5 mm.; the thickest 11 mm., the thinnest 3 mm.

The discoidal beads, No. 152932, which compose the bulk of the beads of this material, grade into the tubular ones, being perfect segments of cylinders with straight flat ends. Typical examples are shown in row six. They are from 1 to 6 mm. in height or thickness, the widths being the same as the thickness of the tubular beads.

An example of the few flattened spherical beads, No. 152931, is shown in the second row, the second figure.

Among the brown clay-stone beads in other collections is a group secured by Gregory Mason at Pueblo Viejo and now in the University Museum. They are discoidal, but generally large, flat, and irregular, differing from the above regular cylindrical segments. None of the other clay-stone beads in other collections is noteworthy in any respect.

BEADS OF MISCELLANEOUS STONES

Practically all of the stone beads found were made of the materials above mentioned. On the other hand a large number of large, well-made cylinders of beautiful stones were found. Just as very few of these are drilled, so also very few of them are of carnelian, jade, quartz, clay-stone, serpentine, slate, or the other materials typically employed for drilled beads.

Only fifteen of these large cylinders are drilled. Five, No. 152945, are of a polished black stone; one of these was purchased at Pueblo Viejo. Of the other ten drilled cylinders, No. 152880, a few are of carnelian, agate, and brown clay-stone, but the majority are of other materials. They are of thick cylindrical and barrel shapes and measure up to 5 cm. in length and 2 cm. in thickness. Two of these are shown in the lowest row of Plate CXI.

UNDRILLED CYLINDERS

Nearly eight hundred undrilled beads were found. Practically all are cylindrical, a few of barrel shape, practically none discoidal or spheroidal. The majority are large and thick, and are made of other stones than those typically used for drilled beads. Probably, therefore, they were not intended to be drilled, and served another purpose. They were generally found loose in the soil. A few are of smaller size, often of bead-making materials, and frequently found together with beads and carnelian chips, indicating that they are unfinished beads. The materials from which the large undrilled cylinders were made have not all been identified, but they are all of pleasing colors, various shades of white, buff, yellow, red, brown, and black, with a high polish. Examples of them may be seen in Plate CXI, and they were catalogued in the following groups:

Specimen number	Number
152913, very large cylindrical.....	46
152914, large cylindrical.....	75
152915, medium cylindrical.....	120
152916, small cylindrical.....	518
152917, barrel shape.....	15
Total.....	774

In rows four and five of Plate CXI are shown specimens of the large cylinders, Nos. 152913 and 152914. Almost all of these were excavated at Gairaca (p. 30), some at Dibulla (p. 129), and a few bought at Bonda, Taganga, and Pueblo Viejo. The largest are from 3 to 5.5 cm. in length and from 1 to 2 cm. in thickness. Most of them are perfectly cylindrical, a few with slightly convex side, and one (third one, fourth row) with a concave face. The third and fourth in row five are drilled beads and have been mentioned. Row two contains specimens of the smaller cylinders, Nos. 152915 and 152916, of various proveniences, the smallest specimen 10 mm. long and 4 mm. thick. In the third row may be seen examples of the barrel-shaped cylinders, No. 152917.

Undrilled cylinders are common in most of the other collections of Tairona archaeology. Both in the Philadelphia and the Pittsburgh museums are many from Gairaca, again indicating that they are very characteristic of this site. Mr. H. H. Smith, who made the collection for the Carnegie Museum, called them "charm-stones." Gregory Mason secured several very large ones. A cylindrical specimen from Pueblo Viejo, now in the University Museum, is 8.5 x 2.2 cm., and one of barrel shape in the Heye Foundation, from La Cueva, is even larger, 13 cm. long, 3.2 cm. wide in the center and 1.5 cm. at the ends. Those in the American Museum came from various places on the coast from Santa Marta to Dibulla, including the shaft tombs at San Pedro Alejandrino. Some of these have the unusual concave sides.

MISCELLANEOUS BEADS, ETC.

In the first row of Plate CXI are shown five out of ten small, shaped pieces of carnelian, quartz, and agate, No. 152918, which are probably unfinished beads, pendants, and buttons. Here should probably be mentioned a well-shaped, polished, thick crescentic object of carnelian without drilling, found near Santa Marta and now in the American Museum. It is shown in Plate CXIX, Fig. 1.

Under No. 152907 were catalogued quantities of small natural pebbles and bits of carnelian, quartz, and other brightly colored or beautiful stones which were found associated with beads, mainly in pottery vessels, mostly at Pueblito and Gairaca, but some also at Nahuange and Cañaverál, and purchased at Bonda and Taganga. These were doubtless raw materials for the making of beads.

A necklace of green glass beads, doubtless not pre-Columbian but probably of early European importation, possibly excavated from a grave of Colonial period, No. 152949, was purchased at Bonda.

Five miscellaneous beads were catalogued under No. 152951. The proveniences are unknown, but probably all were purchased together with other beads. Probably all were excavated by *guaqueros*, and the circumstances of their finding and their associated objects would be of interest. All were assumed to be of glass and four of them are two small tubular beads of red glass, one globular bead of pink glass, and one tear pendant of glass. The fifth, a flattened spheroid bead with a very fine non-biconical drilling, is of carnelian, but possibly of European manufacture.

RUDE STEATITE BEADS AND PENDANTS

Few beads of steatite were found by the Expedition, and these few not especially large or rude, but large quantities of very large and very rude ones are found in several other collections. These are generally discoidal, large, and thick, and very poorly cut out with perforations approximately in the center, though often eccentric. A few are roughly cylindrical, some amorphous, and a few pendants are made in rude shapes of animals. Apparently these are characteristic of a phase of the culture no sites of which were found by the Field Museum Expedition, and the large quantity of objects of this type in the American Museum from the shaft tombs at San Pedro Alejandrino suggests that they are especially characteristic of this and similar sites. Gregory Mason also secured a large number of similar discoidal beads and pendants of various shapes from this site which are in the University Museum. Some of the beads are as large as 4 x 5 cm. with central biconical drillings. He secured a few more at Pueblo Viejo in the mountains above Dibulla, probably by purchase. Among these are several pendants, some decorated with incised lines, and giving me the impression of rather recent Arhuaco workmanship. Without great reason, I am inclined to consider all of these rude steatite beads and ornaments of a late horizon.

The Carnegie Museum list refers to "248 flat circular stone beads, from Las Tres Cruces, very common here," which I believe to be of this type. In the Berlin Museum are a few similar specimens from Don Diego, Palomino, San Francisco, and Chorrera Cordoncito. One of these is in the rude form of a frog, and other rude animal figure pendants are in other collections. Some are of a biconical shape and some of a dumb-bell shape, undrilled and apparently suspended by being tied on a cord.

Probably in this group of steatite pendants belongs the specimen in the Bogot Museum illustrated in Plate CXXI, Fig. 4. This is of

ax-shape and catalogued as of serpentine. It measures about 2.9 x 2.1 cm.

NON-BIOMORPHIC STONE PENDANTS

Pendants of shapes other than human or animal are very common in the Tairona area and were probably associated with beads on necklaces. They are made of carnelian, quartz crystal, and brown clay-stone, the former in the great majority.

The most typical and characteristic forms are branching pendants, Y- or V-shaped. These are made mainly of carnelian, but two of clay-stone were found. The largest and best of these are of Y-shape, No. 152906, and are shown in Plate CXII. The best ones are perfectly shaped and of bright polished carnelian; others are opaque and dull. The largest ones were mainly purchased at Taganga, Bonda, and Dibulla, the smaller ones mainly excavated, especially at Nahuange. All are perforated by a vertical central drilling through the shaft, and the best have a groove transversely through the notch. The largest of these measures 5.5 cm. in length, 3.8 across the wings, and 1.1 in thickness of the shaft.

The pendants shown in Plate CXIII, No. 152905, are smaller, more heart- or V-shaped and generally without the lower shaft, though some examples are intermediate between the two types. The smallest of the second group measures 10 x 8 x 5 mm. In view of the large number of these pendants secured by the Field Museum Expedition (70), it is a surprising fact that not one example, except one of brown clay-stone, is found in the other known collections from this region.

The two brown clay-stone pendants of this type, No. 152936, are shown as the first and last figures in the second row of Plate CX. Their proveniences are unknown.

Other elongated pendants are of tooth, bullet, bell, pear, heart, or biconical shapes. The great majority of these again are of carnelian, but some of clay-stone and quartz were found. Some of the carnelian examples of this type are shown in Plate CXIV. They fall into two main groups: those in which the bottom is pointed or narrower than the top, and those in which the base is flat or broader than the top. The latter vary considerably but are grouped under one number, 152902. These are the best made; the bases are circular, more often convex than flat, the upper ends almost invariably flattened and generally constricted, and pierced by horizontal biconical suspension holes. The longest is 3.2 cm. long. These are shown in the fifth and sixth rows in this plate.

The pendants with pointed bases are divided into three types. The smallest group with a total of three specimens is biconical, with horizontal suspension holes near the top, No. 152901 (second, fourth, and fifth ones in the first row). The second group, No. 152903, of which about one hundred examples were found, has a pointed base and a blunt top with the maximum width about one-third the distance from the top. Each is perforated by horizontal biconical suspension holes near the top. These might be further subdivided into two sub-types, those with the upper part constricted to a wedge, examples of which are shown (the first and third of the first row, and in the second row); and those with circular flat tops, shown in the third row. The third group, No. 152904, which is shown in the fourth row, very closely resembles the last group, but in the flat circular top is a round depression into which lead the twin suspension holes from opposite sides. The suspension cord probably passed through the side holes and then vertically through the top. Forty-three examples of this type were found.

Carnelian pendants of these types are not rare in other collections, and among them are a few deserving of remark. Two in the Carnegie Museum are shown in Plate CXVIII, Figs. 5 and 6. One in the University Museum, secured by Gregory Mason at Taganga, has a shape somewhat like the fifth in the first row of Plate CXIV, the lower end conical, the upper end a truncated cone. This top has the short vertical drilling in the middle, with the horizontal drilling meeting it, as in the last type mentioned above. Fig. 3, Plate CXX, shows a small carnelian pendant from one of the chamber graves at San Pedro Alejandrino now in the American Museum. It is of an unusual shape and the tiny suspension hole runs through the point parallel with the plane of maximum width.

One brown clay-stone pendant of this type, No. 152935, was found and is shown (third one, second row) in Plate CX. It is of unknown provenience, 13 mm. high, 9 mm. wide, with a flat lozenge-shaped base and a constricted wedge-shaped top with the typical drilling.

Quartz pendants of these types are not unusual, and typical examples may be seen in the first two rows of Plate CVIII. Five of these, No. 152927, four of which are shown in the first row, are of a weight or plummet shape, very similar to the carnelian pendants. One of these was excavated at Mandigua, the others being of uncertain proveniences. The sixth in the second row, No. 152925, also closely resembles the carnelian pendants. The first five figures of

the second row show five out of fifteen pendants of a characteristic type, No. 152926, bell-shaped with convex or conical bases. All of these have suspension holes in the neck.

In Plate CLVIII, Figs. 10 and 12, are shown two unusual crystal pendants in the University Museum. The first is photographed from the bottom and does not show its shape. This is somewhat of the type of the specimens in the upper right corner of Plate CXIV—biconical, with the upper cone truncated. The method of suspension is like that of the pendants in the fourth row of Plate CXIV, with a horizontal drilled hole meeting a vertical one. It is large, 1.6 x 1.4 cm., and was secured at Gaira. The other is of very unusual shape, perfectly transparent, 2.6 x 2 x 0.9 cm., the provenience unknown.

A large number of crystal pendants are in the American Museum, mainly types between the second and fourth specimens in the first row of Plate CVIII. Some of the latter are longer than any in Field Museum, attaining a length of 3.3 cm. Two, from a grave near Don Diego, are of unusual type and may be seen as Figs. 1 and 2 of Plate CXX. The drill-holes run from side to side near the top, parallel with the plane of maximum width.

Here should probably be mentioned the remaining pendants of symmetrical shape. One unique specimen of quartz crystal is shown in the center of the first row in Plate CVIII. It is a large pendant of quartz with a frosted surface and resembles exactly a glass cruet-stopper, upside down, with suspension hole through the neck. This specimen, No. 152923, was found in a pottery vessel in the large grave in Nahuange. It measures 4.5 cm. in length and 2.5 in maximum width. Not shown is an irregular weight-shaped pendant, No. 152924, found at Arcife.

Three unique pendants of brown clay-stone are shown in the first row of Plate CX. They were purchased, but the proveniences are unrecorded, although they probably belong together. Two of them, No. 152933, shown in different aspects in the second and third objects are a pair, triangular, with an incised cross on each. The other, No. 152934, is slightly different.

Two brown clay-stone pendants, shown as Figs. 13 and 14 of Plate CXX, were found in a grave near Don Diego and are now in the American Museum. In shape they belong with the broad-winged pendent ornaments already considered but are much smaller, thinner, and of a different material. The larger measures 8 x 1.8 x 0.6 cm., the smaller 5 x 1.3 x 0.3 cm.

It is important to note that small pendants of symmetrical shapes are mainly confined to carnelian and crystal; such pendants of clay-stone are very few in number and those of greenish stones are almost non-existent. Long thin pendants of jade, and rude pendants of steatite have already been considered, but only one of the type under consideration has been noted of a greenish stone.

There are two unusual pendants in Mr. Angell's collection. These were found together, and with other objects, at a depth of about 1.5 meters in the fragments of a red pottery vessel beneath an upright stone slab at Santa Rita, between Santa Marta and Bonda. Drawings of these are shown as Figs. 2 and 3 of Plate CLVII. The larger one, the material of which is not stated, is about 6 x 3 cm., plain and slightly asymmetrical with a suspension hole near one end. The smaller one, about 2 x 1.9 cm., may not be a pendant, as it has no suspension holes. It is of a dull gray green stone, said to be jade. The shape is peculiar and symmetrical, but apparently not biomorphic.

A number of asymmetrical pendants of carnelian were secured. Most of them are unshaped drilled pebbles, but a few show some evidence of shaping. These are shown in Plate CXV. A few are unique and catalogued separately. Among these are the center object in the last row, a quasi-semicircular pendant, No. 152856, bought at Bonda, and an oblong, flat, large pendant, No. 152855, the first figure in the last row, excavated from a small pottery vessel in site 31 at Pueblito. Especially noteworthy is the third pendant in the third row, No. 152900, which still retains its suspension cord. This is of roughly hand-beaten copper wire bound with cotton. Unfortunately the original number was lost and the provenience is unknown, though it was probably purchased. It is almost certainly pre-Columbian. The cotton is tightly wound and corroded by the copper salts and difficult to examine, but was apparently spun into a cord. The other specimens require no special notice; all have twin biconical drillings. These are catalogued under the group number 152899.

"BUTTONS"

Very characteristic of this culture is a group of objects of ornamental stones which have almost exactly the shape of modern buttons. Presumably they were worn, like some modern buttons, as ornaments sewn on garments, but it is doubtful if they were employed, as is the typical button, to fasten garments together. With one exception, all of those secured are of carnelian. Examples of the

various types may be seen in Plate CXVI. The proveniences of these should have been better preserved; most of them were probably excavated in Gairaca and Nahuange, some bought at Bonda (and Taganga?). They fall into two main types, with two subdivisions of one type.

The first type, No. 152897, of which twenty-seven specimens were found, five of them shown in the first row of this Plate, consists of a circular object (one oval), with a flat base with beveled sides, and a very convex, highly polished top. Tiny twin holes are drilled from the base at an angle, meeting within the stone, the top being unperforated. The largest specimen (first, top row) is shown from the base. They vary from 9 to 22 mm. in width and from 3 to 8 mm. in height.

In the second type the upper surface is perforated by the suspension holes. The first sub-group, No. 152896, of which eleven examples were found, is shown in the second row. The top is convex, the base flat; a few are hemispherical but generally the periphery of the base is beveled. In the center of the top is a small vertical drilled hole which does not extend through the object, but into which lead the twin small holes drilled convergently from the base. The third figure in this row is shown from the base. The largest is 17 mm. in diameter, the smallest 9 mm.

The second sub-group is shown in the third to fifth rows. Both top and base are flat, the sides convex, straight, or beveled. The central depression in the top is relatively large, deep, and hemispherical, and the drillings from the base may be vertical and not converging. The three largest examples, No. 152895, are shown in row 3, the central one seen from the base. The largest measures 31 mm. in width and 11 mm. in height. Nine examples of the seventy smaller ones, No. 152894, of this type are shown in the fourth and fifth rows. The smallest is 8 mm. in diameter, 2 mm. in height.

Only one "button" of material other than carnelian was found, No. 152898, of soft green stone (first, row 2, of Plate CIX). It is a plain disk, 15 mm. wide, 4 mm. high, with double biconical drilling. The provenience is unknown.

"Buttons" are found in most of the other collections, especially in the American Museum. The proveniences are given as Gaira, Gairaca, Pueblo Viejo, San Pedro Alejandrino, Dibulla, Don Diego, and Santa Marta. No new types were observed except one in which the base is slightly conical instead of flat. All are of carnelian with the exception of one of jade, of usual form, from Palomino.

OBJECTS OF RESIN, AND POTTERY BEADS

Although pottery objects are reserved for consideration in a later publication, pottery beads might well be mentioned in this place. About 150 of them were excavated in site 2 at Nahuange (p. 36). They are shown strung on cord in Plate CXXIII, No. 152946. They are of hard-baked pottery, practically brick, of barrel or cigar shape, and were probably molded around a cord or grass stem. They vary from 5 to 7 mm. in length, and from 3 to 4 mm. in thickness.

Objects of resin or amber are so exceedingly rare in America that their occurrence has been questioned. A small number of objects made of resin were found and examples are shown in Plate CXXIII. About forty tubular cylindrical beads were secured, mainly bought in Bonda and Taganga, No. 152947. They are very fragile and many of them are broken, but examples of some of the most perfect are shown in the first row. They are smooth and well shaped, some perfectly cylindrical, some with convex surface, and a few with slightly quadrangular cross section, 10 to 20 mm. in length, 4 to 6 mm. in thickness. They were probably molded while soft around a cord or stem. The source was identified by Mr. James B. McNair of Field Museum as probably *Hymenaea*, possibly sweet-gum (liquidambar), not a coniferous tree.

Six petaloid pendants of hard, crystalline, brown resin, No. 152948, were found in a pottery vessel in the stone grave at Nahuange. The surface is rough and sandy, and laminated, indicating that they were carved of hard resin, not molded while soft. The cross section is either oval or with one face slightly flattened. A suspension hole is drilled in the broader end. They range from 3.5 to 6.5 cm. in length. The source of the gum is considered by Mr. McNair to be probably *Hymenaea courabil*, the West Indian locust. Four of these are shown in the second row in Plate CXXIII.

A pendant of resin of light yellow color like amber and of light weight, with a smooth surface, No. 152952, was purchased at Bonda and is shown at the bottom of this Plate. It is perforated by three large suspension holes, not biconical but probably drilled. Mr. McNair considers the material to be probably copal, of the Burseraceae family.

OBJECTS OF BONE AND OF OTHER ANIMAL PRODUCTS

Bone is a very untypical material in this culture and very few objects made of it were found; these few are shown in Plates CXXIV and CXXV. It may be a significant cultural fact, however, that the finest known specimens of carving from this region are of bone, and that all of these of which the proveniences are accurately known come from the coastal sites.

Probably the best specimen of carving obtained is that shown, in front and side aspect and twice natural size, in Figs. 1 and 2 of Plate CXXV. This, No. 152953, is a small human figure seated on a curving seat resembling an Antillean *duho*. It is 4 cm. high, 2 cm. wide and 3 cm. thick, front to back, and was found in a burial urn at Gairaca (p. 29). The material is probably not human bone, but this is uncertain. The base is like an oval thin spool or grooved wheel in horizontal position; the groove may be purely ornamental or may have served for the attachment of the object. The bottom is convex and smooth with a shallow drilled hole about 5 mm. wide and the same depth in the center. By this hole the figure was probably impaled on some support. On this base rest the legs of the seat and those of the figure. Originally the seat probably had four short supports, but those at the rear have been broken away and a wire support has been made in their place. Except for these, the space between the seat and the base had been carved away, as well as the space between the front of the seat and the legs of the figure. At the rear side of the high back of the seat is a carving in relief, possibly a small human figure, but now unidentifiable.

The human figure is very well carved in the full round, with the space between its back and the back of the seat cut away, as well as that between the arms and the chin. There is a deep incision between the arms and the legs, and a deep groove between the legs. The thighs are long but the shins short and the feet rudely shown. No clothing is apparent. The hands hold a bowl beneath the chin, and hands, fingers, and wristlets are portrayed. The facial features are well made but the face is very broad. On the head is a broad head-dress or hat with brim and crown; at the top is a slight peripheral ridge with the center depressed. Flaps, apparently attached to the hat, hang from it and cover the ears.

The Museum of the American Indian, Heye Foundation, in New York, possesses two carved bone figures of the same type,

slightly larger. These were purchased in Paris, together with other gold, shell, and carnelian objects, the provenience being unknown, but the nature of the objects leaves no room for doubt that they were found in the Tairona region. A short article upon these bone carvings was prepared by the late Professor Marshall H. Saville but it was never published, and I am indebted to him and to Mr. George G. Heye for permission to draw upon this article and to publish illustrations of these unique objects for the first time.

The bases of both are similar to that of the figure in Field Museum described above, oval with a deep encircling groove and a vertical hole in the middle of the base. Doubtless all three were ornaments for the heads of staffs, the point of the staff inserted in the hole in the base, with thongs tied in the groove in the base. Both figures are shown from front, side, and back in Plate CXXVI. The lower one is very similar to the Field Museum figure, showing a figure seated on a *duho* and holding an object in his hands. The head is unfortunately missing. The *duho* is of the same type, with an ornamental figure of uncertain nature on the back; the posterior legs, which are missing in the Field Museum specimen, are shown, but the *duho* rises only to the neck of the seated figure. The arms are not extended; the elbows rest on the knees. The head was apparently free instead of being connected with the object held in the hands, which seems to be a bar rather than a bowl. A small ball of carnelian is inserted in either side of the body, and two more in the back of the head. The length is 4.5 cm., the width 2.5 cm., the present height 6 cm.

The upper figure in the Plate is much different and apparently represents an acrobat lying on his chest with legs curved over and connected with his head. The details are so modified, however, especially the legs and feet, that the interpretation may not be correct. The chin is free from the base and the face shows a large nose-plug through the septum. At the back of the head is a cowl similar to that on the Field Museum figure. Above the head is a disk that may represent the hat and above this a conventionalized figure, possibly of a flying bird, and probably a head-dress, though it might also be connected with the feet. The feet are not represented, but in the place of the heels a large block connects the feet with the disk hat. Just above the disk, on either side of the beak of the bird, is a drilled hole, probably for suspension. At the back, on the abdomen, which is convex, is a line of three small carnelian balls, and on the top, probably representing the legs, are two rows

of three balls each, a total of nine. The length of this figure is 5.6 cm., the width 2.8 cm., the height 5 cm.

While in general all comparative discussions are reserved for a later publication, and the present one aims to be purely factual and descriptive, it may be remarked that in the University Museum in Philadelphia are several staff-heads of gold showing a very similar figure on a seat of like nature, holding a bowl to the lips and wearing a very similar high-crowned hat. These came from near Ayapel, Antioquia, in the Quimbaya region of the highlands of Colombia, and the close resemblance indicates that we are here dealing with an element common to much of Colombia.

A carved bone, apparently a human astralagus from a small person, No. 152954, was excavated in site 3 at Nahuange and is shown in Plate CXXIV, Fig. 3. The decoration consists of incised straight lines and small triangles.

Tubes of bone with their surfaces carved with geometric designs are found in the Tairona region, though no examples were found by the Field Museum Expedition. Owing to their fragile and perishable nature they are very rare and only two complete specimens are known to me. These were recently found in one of the shaft graves at San Pedro Alejandrino and are now in the collection of Mr. W. M. Sutherland of Santa Marta. They were found in a "sort of limestone pocket about six feet below the surface," together with a few carnelian beads. They are about 15 cm. long and of a yellow cream color, highly polished. They are apparently made of large hollow bones of some animal, decorated with encircling incised lines and deeply carved triangles, and are shown in Plate CXXIV, Figs. 1 and 2.

Apparently these objects are peculiar to the culture of the chamber graves at San Pedro Alejandrino, as in both the collections of the University Museum and the American Museum fragments of similar objects of the same provenience exist. The encircling straight lines and the rows of serrated triangles seem to be elements common to all; in others parallel diagonal lines and circles are noted. The fragments in the American Museum may be seen in Plate CXXXVII, Fig. 6.

In the American Museum are two small bone points and a disk of bone about 3 cm. in diameter and 3 mm. thick, with a central hole, from San Pedro Alejandrino, and in the list of objects in the Carnegie Museum bone pendants and amulets are mentioned, but these latter were not specially observed when this collection was studied.

At Nahuange, in sites 2 and 3, were excavated several long, thin, quadrangular pieces of bone (one possibly from a large tooth), each perforated by a row of drilled holes. These, No. 152955, are shown in Plate CXXIV, Figs. 4, 5, and 6.

Four marine fish products were excavated. One of these is a fragment of the serrated tail of the sting-ray (*Dasyllatus?*), excavated at Gairaca, No. 152956. It is shown as Fig. 7 of Plate CXXIV. This may be a piece of an arrow-point; the poisoned arrows of the neighboring modern Goajiro Indians are made of the ray-tail, but on the other hand these ray spines are frequently found in graves of the Old Maya Empire in Guatemala where they evidently had an important ceremonial significance, and the same may have obtained in the Tairona region.

Two large black fossil shark's teeth, probably of Miocene age, each drilled for suspension as an ornament(?), No. 152957, were excavated in site 1 at Pueblito (p. 67). One of these is shown on the Plate with the bone objects (Fig. 8). Another small white modern or Pleistocene shark's tooth, not shown, was also excavated at Pueblito. This was not drilled. A drilled shark's tooth from the shaft graves at San Pedro Alejandrino is in the American Museum.

A number of vertebrae of a large fish, with central holes, probably natural, were found in burial urns at Pozos Colorados and are now in the University Museum. Small rectangles of turtle shell from San Pedro Alejandrino are in the American Museum.

Some teeth of a jaguar, pierced for suspension, probably on a necklace, now in the University Museum, were found at Nahuange, and other jaguar teeth in the American Museum came from the graves at San Pedro Alejandrino. Similar teeth, in the Carnegie Museum, are shown in Plate CXXXIX, Figs. 10 and 11.

OBJECTS OF SHELL

BEADS, PENDANTS, AND "BUTTONS"

A large number of objects of shell were secured, by excavation or by purchase. Naturally almost all of these came from the sites on the seacoast, especially Nahuange and Gairaca. Examples of these are shown in Plates CXXVII to CXXXIX.

Many shells of white univalve molluscs, olivids and mitrids, No. 153000, were excavated at Nahuange (p. 37) and Gairaca (p. 29), and some at Palmarito. Some were purchased at Taganga. The sizes vary. The closed spiral end of all was cut off, and generally a groove was sawn or, less commonly, a hole broken near the open end. Presumably through these holes they were strung, probably for use as rattles. Examples of these may be seen in Plate CXXVII.

The upper part of a large univalve shell, No. 152999, which had been cut for use as an ornament, was excavated near the surface at Pueblito. It is now much eroded and the original form rather uncertain. This is also shown in Plate CXXVII.

A large quantity of tubular shell beads was excavated in site 3 at Nahuange (p. 37). Among these are many naturally hollow, curving, pointed white dentalium shells, No. 152998. The points are often broken off. Very frequently one shell is found within another, much too frequently for this to have been accidental, indicating that they were probably strung in this fashion. Examples are shown in Plate CXXVIII, first row.

In the second row are shown a few short tubular beads of rectangular cross section made of red and pink shell. These, it was later found, had become loosened from an ornamental band, probably a forehead band, which belonged to an Arhuaco shaman. These beads were doubtless from ancient graves. They are therefore unnumbered, but the complete band, No. 152396, is shown in Plate CLXI. The beads measure from 14 to 22 mm. in length and 4 mm. in width.

A great quantity of short cylindrical tubular beads of white, and pink and white, shell, No. 152997, was excavated in sites 2 and 3, and also in a pottery vessel in the grave at Nahuange (pp. 33-37). In length they range from 20 to 40 mm., in width from 4 to 6 mm. These were made from a bivalve shell, cut and perforated longitudinally with biconical drillings. Examples are shown in the third row of Plate CXXVIII.

More than one hundred fine long tubular white drilled beads, probably made from the columella of a univalve, No. 152996, were excavated in site 3 at Nahuange (p. 37). The longest are 9 cm. in length, and their average width is 5 mm. The task of shaping and drilling such objects was no mean one. The sections vary from rectangular to circular. Frequently there is an incised line encircling the bead near either end. These are shown at the bottom of Plate CXXVIII.

A large number of long shell beads slightly dissimilar to the above type were found in the shaft graves at San Pedro Alejandrino and are now in the American Museum while others are identical with the above type in Field Museum. They are generally larger, up to 14.5 cm. long and 6 mm. thick. Typically, three of the sides are flat and apparently sawn, the fourth side slightly convex and apparently the external face of the univalve shell. Instead of being drilled throughout to form a tubular shape, there are short drillings at each end which meet a hole from one face at right angles. The hole from the side is always on the face opposite the convex one. Three of these are illustrated as Fig. 7 of Plate CXXXVII. Two other examples in the Carnegie Museum may be seen on Plate CXXXIX, Fig. 9.

Small shell beads of discoid form occur in great quantities and were probably used for necklaces. Beads of several different sizes were found, examples of which are shown in Plate CXXIX. In the first row are a few of 235 small flat discoidal—a few tubular—beads of orange-tinted shell, No. 152989. Some were purchased at Taganga, others received as a gift from Dursino. They are generally of very circular shape, except for one, shown as the first bead in this row, which is quasi-rectangular. They range from 2 to 6 mm. in width and from 1 to 5 mm. in thickness; all are neatly drilled with central biconical holes.

Similar beads of white shell are shown in the next two rows. The larger ones in row 2, No. 152988, 5 to 9 mm. in width and 1 to 3 mm. in thickness, were found in a pottery vessel in the grave in site 29 at Pueblito (p. 92), others were found in Nahuange, and some were purchased in Taganga. Smaller and of more regular size, 3 to 5 mm. in width, 1 to 3 mm. in thickness, are 258 tiny beads, No. 152987, which were excavated in site 2 at Nahuange, and are shown in the third row of this Plate.

Beads of shell, almost certainly of ancient Tairona origin, are also found on some of the objects of ceremonial regalia worn by the

Kagaba-Arhuaco priest of Palomino. Some thin tubular or thick white discoidal beads are on the fillet, No. 152396, shown in Plate CLXI. Some of these, loose, are also shown in Plate CXXIX. Other tiny red discoidal shell beads are on the anklets, No. 152398, which are shown in Plate CLIX, and others of thin discoidal orange shell are in the bracelets, No. 152399, shown in Plates CLXII and CLXIII.

An irregular larger disk of thin white shell with a central perforation, No. 152985, from Gairaca, is shown as the central figure in the fourth row of Plate CXXIX.

Spheroid shell beads are rare or unknown, but two large beads of truncated biconical shape with central drilled hole, No. 152984, were bought at Gairaca and are shown at either end of the fourth row of this Plate. Biconical shell beads are more common in other collections, especially in the American Museum. All of these seem to have come from the chamber tombs at San Pedro Alejandrino, or from the vicinity of Santa Marta.

Eight small bead pendants of relatively similar size and shape, of white shell, No. 152983, perforated for suspension, were secured; five of them stuck together, side to side, as they were strung, were found in a large burial urn at Gairaca, the other three were bought at Taganga. Three are shown in row 5, two of them seen from the side, one from the front. They measure 14 x 6 x 3 mm.

It is surprising that no more, and no larger, pendants of this nature were found, for they seem to be very characteristic of Tairona archaeology and are found in many other collections. Examples in the Heye, American, Carnegie, and University museums are shown in Plates CXXXVI, CXXXVIII, CXXXIX, and CLVIII. The most typical ones are thicker than they are wide, with straight sawn sides, convex back and horizontally channeled front, the suspension hole being from side to side near the top. They fall into several groups, with many identical examples in each group, and were probably suspended on necklaces. Probably a large piece of shell was first prepared and then sawn into thin segments. Some are wider than they are thick, some trapezoidal shape, some plain. Almost all of these come from San Pedro Alejandrino, a few from Pozos Colorados.

Probably these pendants are very much conventionalized animal teeth, probably those of a jaguar, and represented jaguar teeth on necklaces. Other types of these pendants resemble teeth more and more until very realistic ones of shell are found, as well as the actual teeth. In Plate CXXXVI is shown a row of slightly more realistic

pendants in the Heye Foundation. In Plate CXXXIX, illustrating objects in the Carnegie Museum, may be seen several realistic ones as well as an actual drilled tooth. In the American Museum are two other main types, shown in Plate CXXXVIII, as well as slightly variant specimens not shown. In one of these the shape is asymmetrical, the point curving like a feline tooth. They are wider than they are thick, and have a band of decoration in cross-hatching near the top. They are from the chambered tombs at San Pedro Alejandrino. The large naturalistic shell jaguar teeth are from the same locality. They have no drilling but were attached by means of a slight groove around the base. One not shown is rather more ornate, with a large drilled hole at the base and a tiny one at the point, and in the middle a decoration consisting of a large shallow drilled hole which is surrounded by a ring of six smaller similar depressions.

In site 2 at Nahuange (p. 36) were excavated twenty-four crescentic beads or pendants of white shell, No. 152982. The average size is 25 x 12 x 5 mm. The suspension hole runs vertically through the narrowest part. The shapes vary somewhat in detail and six examples showing the maximum variations are shown at the bottom of Plate CXXIX.

A great quantity of relatively rectangular flat shell "buttons," some of which may have been strung as beads, but the majority of which were probably sewn to garments as ornaments, were secured on the coast sites, almost all in sites 2 and 3 at Nahuange (pp. 36, 37). These are shown in Plate CXXX.

The simplest form, oblong, thin, flat, and each perforated by twin suspension holes, No. 152991, is represented by sixteen specimens excavated in site 3 at Nahuange. They range from 7 to 16 mm. in length, 4 to 9 in width, and 1 to 2 in thickness; five examples are shown in the first row. Two unusual ones with double perforations, of circular or oval shape, No. 152986, of uncertain provenience, are shown as the first two specimens in the second row.

Of more common type are oblong buttons which are drilled with two holes from the base at an angle so that they meet in the interior of the shell, leaving the upper face unperforated. A great quantity, about 675, of these, No. 152992, were excavated in site 3 at Nahuange. They are of pink and white shell and very small, 8 to 10 mm. long, 4 to 5 mm. wide, and 2 mm. thick. Two examples, shown from above and from below, may be seen at the right of the second row in this Plate.

Of unusual type are two flat, thin, oblong buttons, No. 152990, shown in the center of the second row, which were excavated at Nahuange. One is recorded as drilled longitudinally; the other is presumably undrilled.

More typical and common are larger and better-made buttons, the relatively rectangular shape of which is modified by notches. One group of these, No. 152994, shown in the third row, is of anvil shape with deep notches on the opposite shorter sides through which runs a horizontal perforation for stringing or attachment. About fifty of these were excavated at Nahuange. They are between 10 and 15 mm. long, 7 and 12 mm. wide, and 3 and 4 mm. thick. A development of this is seen in the next group, No. 152993, shown in row 4, in which, in addition to the large side notches, there are other notches in the edges of the other two sides. The suspension drilling is still longitudinal. In some forms the notches on all four sides are equal, in others the second pair is very small. About ninety-five of these were secured, mostly excavated in sites 2 and 3 at Nahuange, but one was obtained at Gairaca. They are mainly white with traces of pink. In shape they range from oblong to square, the dimensions varying between 10 and 13 mm. in length, 9 and 11 mm. in width, and 3 and 4 mm. in thickness.

The greater number of shell buttons, about 650, No. 152995, are of more developed type, more artistic, and of superior workmanship. All but one were excavated in sites 2 and 3 at Nahuange, the odd specimen at Gairaca. Typical examples showing all variations are shown in the last two rows in Plate CXXX, the second example in each row being seen from the bottom. These are rectangular, oblong or square, of white shell with traces of pink. They are thin, and when not broken are well made with sharp corners and edges, straight sides, and smooth face. They range from 9 to 16 mm. in length, 6 to 13 mm. in width, and 1 to 3 mm. in thickness. There are notches of equal size in the center of the edge of each of the four sides, but those on the shorter side are often carried in to the center of the upper face. In this center is a drilled circular depression into which lead the twin suspension or attachment holes drilled from the base. In rare cases, as shown in the center figure of the last row, the side notches or the central depression are lacking; these may be unfinished.

Of these latter more ornate shell rectangles apparently not one example exists in other collections, and they must be unique. Neither have I found any other examples of the crescentic pendants

shown in Plate CXXIX. Examples of the simpler "buttons" shown in the first two rows of Plate CXXX are not uncommon, and one new type not represented in the Field Museum collection, of which a number of examples are in the American Museum, was found. Whether this belongs in the pendant or the button class I am not sure. These are shown in Figs. 5 to 7 of Plate CXXXVIII and were found at San Pedro Alejandrino. They are small, plain, rectangular or trapezoidal, comparatively thick, and drilled with a horizontal hole from side to side across the top or narrower end.

Other small pendants or "buttons" are shown in the upper row of Plate CXXXVIII. Among these is Fig. 2, of trapezoidal or shovel shape, thin, with a pair of drilled holes near the top and two notches at the lower edge. Other examples of this type in the Carnegie and University museums may be seen in Plate CXXXIX, Fig. 8, and Plate CLVIII, Fig. 14. In Plate CXXXVIII, Figs. 1 and 3, are shown two other small shell pendants with suspension holes, and in Fig. 8 of this Plate a small shell crescent pierced by a vertical drilled hole. All these are from San Pedro Alejandrino.

A few small thin ornaments of mother-of-pearl were found at San Pedro Alejandrino and are in the American Museum. A rectangular specimen with an attachment or suspension hole is shown as Fig. 4 of Plate CXXXVIII, and a row of circular or lozenge-shaped undrilled objects as Fig. 3 of Plate CXXXVII.

MISCELLANEOUS SHELL OBJECTS

A group of miscellaneous shell objects is shown in Plate CXXXI. Figs. 1 and 3 are two irregular pendants of cut white shell, No. 152980, the latter fragmentary, which were purchased at Nahuange. Each has a single suspension hole near one end. Fig. 2, No. 152979, is a crescentic piece of white shell, 4 x 2.5 x 1.7 cm., cut, but without suspension hole. It was excavated at Gairaca.

A fragmentary shell object, No. 152977, which is almost certainly a labret, like the stone labrets shown in Plates XCIX and CXIX, is shown as Fig. 4. It was purchased at Taganga. It is 1.5 cm. in width, 1 cm. in height, and the length was more than 2 cm., probably originally about 3 cm.

Beneath this, in Fig. 5, is a fine semicircle or hemi-ring of white shell, No. 152978, made of the natural whorl of a univalve, 8.5 x 4.5 x 1.5 cm. in dimensions. It has four pairs of biconical suspension holes through the edge at the base, the base being flat, the top convex and high near the center, with a sharp edge at the periphery. One

of these holes is in each straight edge at the back, one in the center of each circular edge, inner and outer. It is the gift of General Pablo Emilio Escobar, who said he purchased it from Arhuaco Indians at their town of San Sebastian, but it almost certainly originally came from one of the coastal sites.

Several other examples of this type are in the American, University, and Carnegie museums, the latter figured in Plate CXXXIX, Figs. 2 and 3. These latter, from Las Tres Cruces, seem to be identical with the Field Museum specimen, but the others, from San Pedro Alejandrino, are slightly variant. Three have no small drillings at the edges, but a large vertical one in the center at the rear. The other two more resemble the Field Museum specimen, with small pairs of drill-holes on the edges at the rear.

No example was found by the Field Museum Expedition of one of the most beautiful and characteristic of Tairona shell ornaments. This is a broken ring, or nearly complete crescent, with an edge decorated with scallops and a hole drilled in the edge within each scallop. Examples exist in the American Museum (Plate CXXXVII, Fig. 4), Carnegie Museum (Plate CXXXIX, Fig. 1), Heye Foundation (Plate CXXXVI, Fig. 2), and University Museum (Plate CLVIII, Fig. 13). In the last two examples decay has broken most or all of the holes through. The objects are apparently made from the upper convolution of a large univalve mollusc, the diameter of the specimens being about 4 cm. The known proveniences are San Pedro Alejandrino, Las Tres Cruces, and Taganga. They are probably nose- or earrings.

Another earring or nose-ring, made of the same part of a univalve mollusc but thicker, more irregular, and undecorated, is shown as Fig. 5 of Plate CXXXVII. It is in the American Museum and comes from the vicinity of Santa Marta, probably San Pedro Alejandrino. It is about 5.5 cm. in maximum diameter.

In the Berlin Museum are seven large shell rings, broken, of the identical shape of the gold rings that will be later considered. Possibly they were the forms over which the gold rings were hammered into final shape. These are from Rosario.

Small circular unbroken shell rings are another type of object of which no examples were found by the Field Museum Expedition. One, of unknown provenience, is in the University Museum and is figured in Plate CLVIII, Fig. 1. It is 2.7 cm. in diameter and 4 mm. in thickness. Another, from San Pedro Alejandrino, 3.2 cm. in diameter, is in the American Museum.

Three worked but undrilled objects of white shell are shown as Figs. 6, 7, and 8 of Plate CXXXI. The first, No. 154087, came from Dibulla. It is smooth and may have served as an implement, possibly for smoothing pottery. The other two, No. 152981, excavated at Gairaca, are irregular crescentic objects, possibly unfinished pendant ornaments.

BIOMORPHIC SHELL FIGURINES

Figurines, probably pendants, admirably carved of white marine shell, are among the finest products of the Tairona region and prove the high degree of artistic feeling and technical ability achieved by these people. Unfortunately, unlike the fine work in stone and gold, they are subject to deterioration and much of the fine detail has disappeared. Six unclassified objects, mainly from Gairaca, and three others of a special type, from Gairaca, are shown in Plate CXXXII, and seven of another type, all from Nahuange, in Plates CXXXIII and CXXXIV.

The most natural human figure found is that shown in Fig. 1 of Plate CXXXII, No. 152973, excavated at Gairaca. This measures 3.5 x 3.7 x 1.2 cm. The greater part of the figure is occupied by the great semicircular head-dress and the large quarter-spherical head, the body and legs being relatively tiny. An arc of drilled hemispherical dots lines the circumference of the head-dress. The face is more jaguar-like than human, composed of two large drilled hemispherical dots for the eyes and an incised line for the mouth. The arms are also delineated by means of drilled dots at the elbows. In the back are two vertical pairs of drilled suspension holes.

Fig. 2, No. 152971, also excavated at Gairaca, is probably human, at least anthropomorphic, but very conventionalized. The few details are in incised lines. The back is flat, the front sloping, making a triangular vertical section with the maximum thickness at the feet, the least at the top of the head. It measures 3.5 x 2.5 x 2 cm. There are two suspension holes through the rear side edges, near the base. Another figurine that may possibly be human, though it is so eroded that it may be something entirely different, is No. 152972, shown in Fig. 3. It was excavated from a large burial urn in Gairaca and measures 5 x 1.7 x 1.6 cm. If it is human, the head and head-dress are relatively large, the feet small. The back is convex, the maximum thickness at the forehead, the minimum at the feet. A lateral suspension hole runs through the neck.

Three shell figurines so eroded as to be unidentifiable are shown in the second row. Figs. 4 and 6, Nos. 152974 and 152975, were

found in one of the pottery vessels in the grave in site 29 at Pueblito (p. 92). Both have transverse drilled suspension holes through the neck. The third, Fig. 5, No. 152976, was excavated at Gairaca.

A shell figurine, much eroded but apparently human in form, now in the Museum of the American Indian, is shown in Plate CXXXVI, Fig. 1. This was apparently carved from a univalve mollusc shell. The front is in very high relief that does not show in the photograph, the face projecting, the neck cut in very deeply, the head thick but the feet tapering almost to a point. Maximum dimensions are 5.2 cm. high, 2.2 cm. wide, and 2.7 cm. thick. The back is slightly convex. It was secured by Gregory Mason at Cinto.

A small biomorphic shell figurine of uncertain nature in the Carnegie Museum may be seen in Plate CXXXIX, Fig. 7.

The same very characteristic small conventionalized animal figurines that are found in carnelian (Plate CIII) and in gold (Plate CLI) also occur in shell. Two examples of several in the American Museum are shown as Figs. 1 and 2 of Plate CXXXVII. These came from the shaft tombs at San Pedro Alejandrino. They are from 2 to 2.5 cm. in length and the section is trapezoidal, tending towards triangular.

Apparently characteristic of Gairaca are figurines of birds, probably pelicans, made of white shell in a very similar stylized form. Six of these were found at Gairaca, three of them recorded as found in burial urns; the other three were probably found under like circumstances. Possibly another figurine, catalogued as "figure of bird, white shell, No. 154955, from Gairaca," which was not found when the collection was studied, was of the same type. These six bear the numbers 152965 to 152970; the three shown in Plate CXXXII, Figs. 7 to 9, are, in order, Nos. 152965, 152970, and 152969. They vary from 6.5 to 9.5 cm. in height or length, 2 to 4 cm. in width, and 1 to 1.5 cm. in thickness. All are similar, showing a large head with pointed beak, a projection, possibly a pouch in the neck, and a body tapering to a point. On some figurines, eyes, wings, and feet are shown, but most of them are too eroded to show any details, and the carving of all must originally have been much finer than is now seen. Each has a transverse suspension hole through the neck.

Several identical pelican figures, also from Gairaca, are in the Carnegie Museum, as may be seen in Plate CXXXIX, Figs. 5 and 6. Here also is a less conventionalized bird, probably a pelican,

shown as Fig. 4. In the American Museum is a typical shell pelican from a vault at San Pedro Alejandrino. An unusually well-carved and well-preserved shell pelican of slightly different form was secured by Gregory Mason at Taganga and is now in the Heye Foundation (Plate CXXXVI, Fig. 3). The body is similar to the others, but the bill is in the same plane instead of being at right angles. Drilled depressions represent eye and nostrils, and the usual suspension hole is in the neck. The carving on the head is better preserved. The dimensions of this figure are 9 cm. long, 2 wide, 1.1 thick.

As characteristic of Nahuange as pelican figures are of Gairaca are crocodile heads made of the white shell of a univalve mollusc. They are among the best examples of Tairona carving and art, and are very characteristic of this region, if rather rare. Seven were secured by the Field Museum Expedition, all excavated in site 2 at Nahuange (p. 36); these were catalogued as Nos. 152958 to 152964, and all are shown in Plates CXXXIII and CXXXIV. In the former Plate are shown the three best preserved specimens, Nos. 152958, 152959, and 152960. In Plate CXXXIV the other four are shown from various aspects: Fig. 1, No. 152963 from the front; Fig. 2, No. 152962, from the back (upside down); Fig. 3, No. 152964, from below; and Fig. 4, No. 152961, from above. The last two are the largest and smallest, No. 152964 being 9.5 x 8 x 3.5 cm., No. 152961 measuring 5 x 3.7 x 2 cm.

All are similar in concept and treatment. The tapering point of the shell was utilized for the snout of the figure, the upper part for the broader rear, the interior of this being the natural hollow of the shell. The head is projecting, the ornamental wings at the back formed from the widest part of the natural whorl of the conch. From the top a wide vertical hole was drilled, connecting with the hollow interior. The back and the bottom are undecorated except for some details of the mouth.

The naturalistic but rather stylized head is shown in full round with the muzzle and snout generally upturned. The neck is bare. Parallel curving incised lines run from the angle of the jaw to the top of the head and then continue to the tip of the nose. The eyes are indicated by hemispherical drilled depressions. The nostrils are prominent and characteristic features, being high, quasi-spherical knobs with incised circular line at the base, and central dot. The upper jaw projects beyond the lower, both of them being shown as ridges with a deep groove between in which the teeth are generally shown by incised lines on the lower side at the front. In two cases,

shown in Plate CXXXIII, the teeth are also shown at the sides, and in the second example the mouth is a slot opening, apparently made by drilling a hole at the back of the mouth and sawing the slot forward. The angle of the lower jaw is shown by an incised line.

Behind the bare neck is a double (triple in the case of No. 152963) encircling band, and behind this, on the broader part, two of the specimens, Nos. 152959 and 152963, have a decorative band of parallel incised lines in herringbone or chevron pattern. On the upper part of the diverging rear section behind this are invariably two large hemispherical, symmetrical, drilled depressions, resembling eyes, from each of which leads a pair of incised short converging lines. The broad side wings are of one of two types. In Nos. 152958 and 152961 they end in quasi-spherical knobs like earrings, with central hemispherical drilled depressions. The other five have large carved wings with perforated designs made by drilling small holes and sawing sections out through these. Probably all five had also designs of fine incised lines, but in two cases these are entirely gone, and very much eroded in the other three. They are well shown in the left side of No. 152963, poorly in Nos. 152962 and 152959. This fine-line decoration in all probability originally resembled the carving on the edges of the finest stone batons, and probably represented very conventionalized profile faces with drilled eye dots and teeth of parallel incised lines. The top, through which runs the vertical drilled hole, is decorated with incised horizontal lines and carved in steps. All have three suspension holes, or rather pairs of biconical drilled holes, one in the center of the lower rear edge and one in the center of each lower side edge. They might therefore have been worn suspended on the person, or carried in ceremonies by means of a stick passed through the main vertical shaft.

The Museum of the American Indian possesses three of these crocodile heads which have already been the subject of a report.¹ They are among the very few Tairona objects which have to date been described in print. Views of them are there given, and in Plate CXXXV they are shown from above. These were purchased in Paris together with other unusual objects of bone which have already been described, and of gold which will be described later. While the exact provenience is unknown, there is no question that

¹ Marshall H. Saville, *Shell Carvings from Colombia*. Indian Notes, vol. 4, pp. 357-364, Museum of the American Indian, Heye Foundation, New York, October, 1928.

all are Tairona. They are, on the whole, larger and better preserved than the specimens in Field Museum, and slightly variant, somewhat more conventionalized, and form a group of themselves.

The principal difference is in the snouts, which are rectangular and flat, no wider at the nostrils than elsewhere. Also a pair of straight shallow grooves runs in each specimen from the nostrils to the base of the snout on the upper surface. The nostrils are rectangular rather than spheroidal. In the largest specimen the snout grooves at the rear run into holes which connect with the suspension holes at the sides; in the other two specimens the grooves end in depressions. Each has several pairs of suspension holes; those at the back of the smaller specimen are connected by a groove, probably made by the wear of the suspension cord. The rear enlargements are ornately decorated with carved and incised designs and drilled holes which are apparently rather ornamental than intended for suspension. These decorations consist of parallel straight and curved lines, drilled dots, lines of triangles, scrolls, and similar elements. The largest specimen, larger than any in Field Museum, is 12.5 x 10 x 5.3 cm.

A shell head, probably of a crocodile but of rather different type, is in the Berlin Museum. The provenience given is only "coast." A sketch of it is shown in Plate CXXII, Fig. 5. It has the same large vertical shaft, probably for the attachment of a staff, but otherwise is quite variant from the others, especially in lacking the broad rear ruff, and is much less conventionalized. It measures about 5.5 x 4.5 x 3 cm.

METAL OBJECTS

The Tairona region was, in common with the adjacent countries on both sides of the Isthmus of Panama, a region of high metallurgical development. A large number of metal objects, exclusively ornamental in purpose, was secured. Naturally almost all of these were found in the richest graves or the most important ceremonial sites, and usually in pottery vessels. By far the majority of the objects came from Nahuange, especially from the large grave there; others were secured in Gairaca and Pueblito, and a few of unknown original provenience purchased in Taganga and Bonda.

Practically all the metal objects secured are of gold, the quality ranging from practically pure gold to that containing a large alloy of copper; very few specimens of pure, or practically pure, copper were found. The following metallurgical notes are mainly derived from the study of the specimens by Mr. Henry W. Nichols of Field Museum.

Gold was probably secured by placer mining. Certain of the deposits were evidently of very high purity, others of practically pure copper, and others of combinations of these two metals and of silver in various proportions. These produced alloys of different qualities. Sometimes gold from different deposits was employed for different techniques on the same object so that it may appear yellowish in some places, reddish in others.

The method of smelting is unknown, though some of the older contemporary accounts may afford some data upon this topic. Charcoal was probably employed, possibly bellows were used, possibly a natural draft up a canyon. The techniques used were apparently casting, soldering or welding, cold hammering, plating, and repoussé and wire decoration.

The favorite technique was apparently casting around a core made of clay or loam. This was probably done by the *cire perdue* process. It is uncertain if the core was baked before the casting. In some cases the core is completely covered, but more generally the base or back of the ornament was not covered and here the core shows. Decorative elements were often added later by means of soldering or welding, gold being used for the solder but often gold of another degree of fineness. Other elements were joined by hammering, but the gold was probably first heated almost to the point of fusion. Rolled rings were joined in this manner, the joints

sometimes evident, at other times so well hammered as to be invisible. Faults in casting were often remedied by hammering bits of gold, often of a different quality, over the fault. Some of the smaller objects seem to show a thin gold leaf of different quality laid over a gold base. Repoussé work is common, but there are no certain evidences of hammering over a form; in most cases the ornamentation was done by tooling from the back. Gold wire was apparently frequently used.

The region of Santa Marta was one of the first districts conquered by the first Spanish discoverers that produced much gold treasure. Doubtless for several decades the country was combed by the invaders and quantities of gold ornaments excavated from the graves and melted down to be sent to Spain. The remaining un-rifled graves and sites can be but a small fraction of those existent at the time of Columbus.

GOLD ORNAMENTS

All of the gold objects secured are ornaments and consist of beads, rings of several different types, flat bosses and pendants, pendants of other types, including non-biomorphic, zoomorphic and anthropomorphic, and bells.

BEADS-

The golden beads found are mainly of tubular shape, either long or cut into short ring sections; a smaller number are of barrel shape, with a few odd types. These are shown in Plate CXL.

The long, tubular beads were all secured at Nahuange. They belong to five different types and were catalogued under five numbers. Probably all came from the large grave; two groups were recorded as from a large pottery vessel in this grave and two from a small vessel, the fifth merely as excavated at Nahuange. The largest beads are plain tubes of thin reddish rolled gold plate, the edge not joined. Five tubes and several fragments, No. 153038, were secured, the longest one 3.5 cm. in length. The thicknesses are from 3 to 4 mm. They are shown in Figs. 14 to 16. Slightly variant are those shown in Figs. 11 and 13, No. 153039. Three of these were found; they differ from the preceding group in that they are slightly thicker, 5 mm., and are ornamented with parallel encircling raised rings. To the same group belong the five tubular beads from Gairaca in the Carnegie Museum shown as Figs. 4 and 6 of Plate CLIII, and one in the University Museum, figured in Plate CLVIII, Fig. 4. Fig. 12, No. 153040, is a similar but smaller bead,

4 x 12 mm., of thin gold, similarly decorated with raised bands or segments, but with the edge joined and not overlapping as in the preceding examples. The other two types are not figured: a tubular bead, 6 x 38 mm., No. 153041, very similar to the first group; and several fragments of small tubular beads, No. 153042, of similar type but still containing the cores of small sticks around which, presumably, they were formed by rolling.

The barrel-shaped gold beads, catalogued in three groups, were all found in the largest pottery vessel in the grave at Nahuange. Four of the twelve largest ones, No. 153033, are shown in Figs. 2 to 5, Fig. 4 shown on end. They average 8 mm. in diameter, 12 mm. in length. The thin metal is bent over but the edge is not joined. The smaller beads, No. 153031, are from 6 to 10 mm. in length, 6 to 7 in diameter. The gold plate is rolled tightly but not joined. Three of the four are shown in Figs. 6 to 8, the latter from the end. Not shown are six fragmentary beads No. 153035.

About 300 tiny rings of thin pure gold plate, No. 153032, were found in the largest vessel in the stone-lined grave at Nahuange and are shown strung on cord in Fig. 1. Probably they should have been divided into two groups, one very narrow and of regular width of yellowish gold, the other wider and of less regular diameter of more reddish gold. Both are probably sections cut from longer tubes. The edges are joined carefully, probably by hammering, so that the junction is invisible. The widths are from 1 to 3 mm., the diameters from 3 to 4 mm. Probably much similar to the preceding, but not figured, are fragments of two small ring beads, No. 153037, and five small thin tubular rings of thin gold, from several localities at Pueblito, No. 153036. The gold plate is rolled, and generally neatly joined.

In Fig. 9 is shown a tiny double gold bead of dumb-bell shape, No. 153043, 4 x 6 mm., with a central hole; this is of thicker metal and was probably cast and not made of rolled plate. Fig. 10 is a small fragment of thin flat gold decorated with repoussé spirals, and is out of place in this Plate.

Some gold beads and other small objects of types not represented in the Field Museum collection are found in other museums and are illustrated in plates herewith. In Plate CLVIII, Fig. 3, is shown a gold bead in the University Museum. This is of thick discoidal shape with flat top and bottom and convex sides, 6 x 10 mm. It is solid, with a vertical perforation, but as the weight is not great, the interior is probably of clay, indicating that it was cast.

An ornate bead of barrel shape in the Museum of the American Indian is shown in Plate CLII, Fig. 5. This was cast in the scroll wire technique, with hollow interior and interstices between the scrolls. It measures 17 x 10 mm. A somewhat similar bead, slightly smaller, 10 mm. in length, is in the Trocadero Museum in Paris. Of similar shape, it consists only of two large wire scrolls with interstices, there being no medial lateral division.

Gold beads of the types mentioned above, excavated at Donama and at Cerro de la Campana, Matagiro, are in Mr. Angell's collection.

The Goajiro Indians of the Goajira Peninsula purchase archaeological objects from *guaqueros* who dig them up from Tairona graves. The Goajiros use them as ornaments, and archaeological objects found among their ornaments are therefore presumably of Tairona origin, though in the case of atypical objects considerable uncertainty must be admitted. Several Goajiro necklaces were purchased, some mainly of carnelian beads, others mainly of tiny beads of coconut shell; the latter are of Goajiro manufacture, the former presumably of Tairona origin. Interspersed among both are objects of gold, also presumably of Tairona origin. Some of these, especially toads and bells, are typical of Tairona gold objects. Frequent among them, however, are tiny ornate beads. Enlarged drawings of some of these are shown in Plate CXLI. Their dimensions were not recorded, but they are probably from 5 to 8 mm. in length. They were at first suspected of being imitation gold of European origin, but one was examined metallurgically by Mr. Henry W. Nichols of Field Museum and determined to be of fine gold plate on a gold alloy base. Mr. Nichols considers them to be of aboriginal manufacture. Nothing like them was excavated by the Field Museum Expedition, but they resemble very closely gold beads from Ecuador.¹ The Tairona goldsmiths were doubtless capable of making these tiny beads, and presumably did, but the possibility of importation from Ecuador or some other region must not be dismissed.

Probably to be considered as beads are the two gold objects strung among the stone beads of necklace No. 152400, a part of the ceremonial paraphernalia of the Kagaba-Arhuaco priest of Palomino, shown in Plate CLX. They were doubtless found in old

¹ See W. C. Orchard, *Minute Gold Beads from La Tolita, Ecuador*. Indian Notes, vol. 2, pp. 48-56, Museum of the American Indian, Heye Foundation, New York, January, 1925. Also W. C. Farabee, *A Golden Hoard from Ecuador*. Museum Journal, XII, 1, pp. 43-52, University Museum, Philadelphia, March, 1928.

Tairona graves. They show much wear. They measure 3.7 x 1.3 x 0.5 cm. and each consists of two hollow cylindrical tubes joined together. It is uncertain whether they were cast in one piece, or curved and welded or hammered together; there is no certain evidence of junction. At each end are two amalgamated gold wire scrolls or spirals with interstices where they join.

BEAD-STRAND SPREADERS

Gold objects that obviously were used to hold apart strands of beads like a wampum belt were apparently characteristic Tairona objects. No specimen was excavated by the Field Museum Expedition, but six examples were secured which form part of two bracelets which were among the ceremonial regalia of the Kagaba-Arhuaco priest of Palomino. They almost certainly came from ancient Tairona graves and are used in their ancient method, to separate parallel strands of beads of shell, jade, and carnelian, the latter also doubtless of ancient Tairona origin. These are shown in Plate CLXII and in Plate CLXIII, Figs. 4 and 5. Fifteen similar objects are in the collection of the Museum of the American Indian, and five of these are shown in Plate CLI, Figs. 2-6. The latter fifteen, and the four terminal specimens of the Kagaba bracelets are either plain or with typical wire scroll decoration, but the central objects of the bracelets contain furthermore an eagle in high relief. This figure should be compared with those of other eagles on other types of objects.

The central object of each bracelet is a long rectangular gold ornament, thin and plain in the lower three-fifths, the upper two-fifths consisting of a high relief bird figure. They measure 6.2 cm. in length and 1.4 in width; the lower part is 3 mm. in thickness. They are not solid but of thin gold, possibly cast but probably made by cold hammering or welding. In each thin edge are twelve holes, apparently made for the purpose that they now serve, the passage of cords. The back is irregular and not well finished, but with no evidence of a clay core; it was apparently originally complete, but certain parts have been cut away, two small rectangles and a large triangle in each, exposing the hollow center.

The bird figure is also hollow and apparently cast. The two are alike except that the beak of one is battered. The relief is very high; the beak is 2 cm. long, being curved. The object probably represents an eagle. The proportions are exaggerated, the beak being very large, the head smaller, the body very small. An open horizontal

slot represents the mouth, with another shorter, open, almost vertical but slightly curving slot near the end of the beak. At the end of this is a small horizontal tube of wire technique, probably for the suspension of another ornament. The figure is quite stylized. The eyes are of small relief globules and a loop of a double relief wire band encircles eyes and forehead. At the top of the head, as a crown, are two lines of vertical small wire rings, three in each line. An ornamental groove surrounds the neck. The body is small with folded wings in high relief; the small symmetrical legs grasp a straight horizontal twig, which seems to project through the tips of the wings. Below the legs is an ornamental band of twined wire technique. The figures are of thin gold, probably cast, and apparently with considerable copper content. The bird figures should be compared with others described under the head of Biomorphic Pendants.

In the collection of Mr. Angell is an almost identical gold object of slightly smaller size, about 4.5 cm. in length. There are eight strand holes on the narrow edge. This is shown in Plate CLVI, Fig. 5.

The four lateral ornaments are similar but differ in details. They resemble the lower part of the central ornament, being quadrangular, hollow, long, and thin with holes for the insertion of cords in the thin edges. It is probable that these six objects were always associated, and made to be used as at present. Two of them, one on each bracelet, are plain. One measures 3.6 x 1.2 x 0.5 with 7 holes on each thin edge; one end is open. It was apparently made by bending and hammering, the straight line of junction on the back being plain. The other is ruder with convex faces, 3 x 1 x 0.4 cm. The holes in the edge are ovoid and are surrounded by relief rims. The other two, one on each bracelet, are decorated with circular coils of wire technique on one main face, the other being plain. One of these ornaments is small, 3.2 x 0.8 x 0.4 cm., with four coils, one of which runs clockwise from the center, the others reverse. There is a hole in the center of each coil and in several corners of the coils, each of which is separated from the next by twin parallel straight horizontal relief lines, the ensemble bordered by a relief oblong wire line. There are three holes in each thin edge, bordered by relief rings. The back is closed and there is no evidence of any junction by hammering or welding. The other ornament is larger, 4.7 x 0.8 x 0.4 cm., and contains eight coils, all clockwise from the center. The coils are not separated by lines and the centers and interstices of the coils are open. There is a double wire border, but not in

relief. There are eleven punched holes on each thin edge, these being irregular and without rims. The ornament is hollow but with no evidence of joining; the last pairs of holes are made by turning over the ends of the upper face, the lower face not extending so far. These holes are not sealed and a gap is left at each end on the base.

Of the fifteen examples of bead-strand spreaders in the Heye Foundation fourteen were purchased in Paris together with the other unusually beautiful objects already mentioned—the shell crocodiles, bone staff-heads, and gold ring. There is little doubt that they are of Tairona origin. The provenience of the fifteenth example is less certain. These spreaders resemble very closely the terminal specimens on the Arhuaco bracelets. Two of four examples may be seen as Figs. 5 and 6 of Plate CLI. Each measures 4.3 x 0.9 x 0.7 cm. Like the largest of the Field Museum examples, there are eight scrolls, but instead of being separate, they are in four pairs of guilloches. Each has ten holes on the sides. Six examples are of the type of Fig. 4 with four independent scrolls on the front and six holes on each edge. They measure 3.3 x 1 x 0.6 cm. In each of these types the rear side is plain. Four specimens are of the type of Fig. 2, plain without scrolls and with three strand holes on each edge, measuring 1.8 x 0.7 x 0.5 cm. The specimen shown in Fig. 3 is broken and incomplete but shows six holes on the edge. Instead of being entirely hollow, as the others are, the earthen core is intact and the holes have been drilled through this as well as through the gold surface.

RINGS

The most common gold objects are rings and these compose the largest group of gold ornaments found. They vary greatly in size, but few if any are small enough to have been worn as finger-rings, and most, on the other hand, appear to be a little too small to have been employed as bracelets or anklets. Also, most of them have sharp edges on the inside which would have made their use for this purpose uncomfortable. All may have been used as nose-rings or earrings. About thirty-four rings, mainly complete but a few fragmentary, were secured. Most of these were excavated at Nahuange, mainly from pottery vessels in the large grave; nine were excavated at Pueblito, one at Gairaca, and one was purchased at Taganga. The various types, however, appear to be characteristic of different localities and sites.

Rings of type A, shown in Plate CXLII, are made of thin, apparently pure, gold plate. They are practically circular in shape with

a circular cross section, and were probably made by beating around a curved stick. The edges generally do not meet in the inside, the section being horseshoe-shaped rather than circular. The circle is broken and not permanently joined, one of the ends tapering slightly to fit inside the other, which is generally furnished with a ferrule at the end. The width of the section of the ring from the periphery to the inside of the ring is generally less than the thickness from side to side. One specimen, No. 153079, Fig. 4, was apparently cracked while in use, and on either side of the crack a tiny hole has been drilled, through which the edges were probably drawn together and mended; this is a common technique in mending cracked pottery. Another, No. 153067, Fig. 1, Plate CXLIII, has ferrules at both ends. The examples found at Pueblito are mainly fragmentary, those from Nahuange complete. Seventeen specimens, of which only six are illustrated, were excavated and catalogued as follows:

- No. 153061, Nahuange, site 1; 2.5 x 0.6 cm.; Plate CXLII, Fig. 1.
- No. 153067, Nahuange, site 1 grave; 2.4 x 0.6 cm.; Plate CXLIII, Fig. 1.
- No. 153079, Nahuange, site 1 grave; 8.5 x 1.5 cm.; Plate CXLII, Fig. 4.
- No. 153080, Nahuange, site 1 grave; 8.0 x 1.1 cm.
- No. 153081, Nahuange, site 1 grave; 8.5 x 1.4 cm.
- No. 153082, Nahuange, site 1 grave; 8.0 x 1.1 cm.; Plate CXLII, Fig. 5.
- No. 153083, Nahuange, site 1 grave; 7.0 x 0.8 cm.; Plate CXLII, Fig. 2.
- No. 153084, Nahuange, site 1 grave; 7.0 x 0.8 cm.
- No. 153085, Nahuange, site 1 grave; 5.7 x 1.3 cm.
- No. 153086, Pueblito; 6.5 x 0.5 cm.; Plate CXLII, Fig. 3.
- No. 153087, Pueblito; 6.5 x 0.5 cm.
- No. 153088, Pueblito; fragmentary.
- No. 153089, Pueblito; fragmentary.
- No. 153090, Pueblito; fragmentary.
- No. 153091, Pueblito; fragmentary.
- No. 153092, Pueblito, in grave, site 32; fragmentary.
- No. 153093, Nahuange; 1.4 cm.

I have noted only one other ring of this type in other collections; this is in Berlin and is shown in Plate CXLIX, Fig. 10.

An equal number of gold rings, seventeen, are of type B. This may be divided into two sub-types, characteristic respectively of Nahuange and of Pueblito. They are generally of heavier metal and generally with a considerable alloy of copper. They are much wider at the base than at the upper opening and the width from periphery to inner circle is greater than the thickness. At the upper opening break the ends are normally more pointed than in type A. Presumably these were more difficult of manufacture than those of the preceding type. These are shown in Plate CXLIII except for Fig. 1, which belongs to the preceding type. In Fig. 2, No.

153062, and Fig. 4, No. 153071, are shown two of the fifteen examples of the Nahuange type, these displaying slight variation, and in Fig. 3, No. 153074, and Fig. 5, No. 153075, the two examples of the Pueblito type. In the former, the section is of circular or horseshoes shaped form; in the latter the three sides are flattened, the side-converging but not rolled inwards. The list of these seventeen specimens is as follows:

No. 153062, Nahuange, bought from excavator; pure gold, 2 ferrules; 3 x 3.2 x 0.8 cm.; Plate CXLIII, Fig. 2.

No. 153063, Nahuange, bought from excavator; pure gold, 2 ferrules; 3 x 3 x 0.6 cm.

No. 153064, Nahuange, large vessel, grave, site 1; thin gold, 2 ferrules; 3 x 3 x 1 cm.

No. 153065, Nahuange, large vessel, grave, site 1; thin gold, 2 ferrules; 3.5 x 0.8 cm.

No. 153066, Nahuange, large vessel, grave, site 1; 3 x 0.8 cm.

No. 153068, Taganga, purchased; thin yellowish; 6.5 x 7.6 x 2 cm.

No. 153069, Nahuange, site 3; thin yellowish; 6.3 x 7 x 1 cm.

No. 153070, Nahuange, site 3; thin yellowish; 6.5 x 8 x 1 cm.

No. 153071, Nahuange, site 3; reddish, copper alloy; 6.2 x 7.3 x 1 cm.; Plate CXLIII, Fig. 4.

No. 153072, Nahuange, site 3; 6.3 x 7.5 x 1 cm.

No. 153073, Nahuange, site 3; yellowish; 6.5 x 7.8 x 1 cm.

No. 153076, Nahuange, site 2; 5.7 x 6 x 1 cm.

No. 153077, Nahuange, site 2; copper alloy; 5.8 x 5.8 x 1 cm.

No. 153078, Nahuange, copper alloy; fragments of five.

No. 153098, Gairaca, copper alloy; fragments of two.

No. 153074, Pueblito, site 32, fine gold; 7.5 x 6 x 2 cm.; Plate CXLIII, Fig. 3.

No. 153075, Pueblito, site 32, fine gold; Plate CXLIII, Fig. 5.

A ring of the second type, with three straight sides, was secured by Gregory Mason and is in the University Museum. It was "one of a pair dug in the famous hill" at Gaira. Another one, of the type of Fig. 5, has recently been found. It is in Mr. Angell's collection, and was discovered in a stone-lined grave in a pasture near Bonda, in an olla of black pottery together with a pottery ocarina. The Peabody Museum of Harvard University has recently received a typical gold ring, apparently of type B. Mention has already been made of the rings of shell in Berlin which look as if they were the forms over which these rings were beaten into shape.

In Plate CLI, Fig. 1, is shown a beautiful ornate ring of the first type, with curved section. This is in the Museum of the American Indian, Heye Foundation, and was purchased in Paris. While no provenience is known, the shape of the ring and the nature of the ornamentation leave little question that it is a product of the Tairona culture and was excavated in the Santa Marta region. In general shape it resembles the rings in the Field Museum collection, but is ornamented and made of thick, heavy, fine gold. Maxi-

imum dimensions are 7 x 5 x 1.2 cm. There is a double-ring ferrule at each end. Near each is a double scroll or guilloche of wire technique with perforations through each scroll, and farther on, relief ornamentation of braided wire technique encircling the ring at an angle. To this point the horns of the ring are unslotted, though hollow; beyond this there is the usual slot on the inside. Around the exterior eighteen double scroll rings or guilloches of single wire stand on their edges making thirty-six circles. Although in the photograph there appears to be only one row of them, there are three rows, not attached to each other, but close together, exactly parallel and properly spaced. These give every appearance of having been cast at the same time as the central part of the ring and not attached later by soldering or welding—an extraordinary feat of casting.

A ring of unusual shape is that shown in Plate CLII, Fig. 2, in the Heye Foundation. It is flat, of thin gold, and measures about 2.8 x 2.5 cm. It was secured at Bonda.

In the same Plate is shown a ferrule of thin beaten and bent gold of circular cross section, also in the Museum of the American Indian. It is about 3.5 cm. in maximum height and width. This is from Cinto.

Two gold objects in Field Museum, No. 153094, which appear to be a pair of bracelets of thin beaten gold, were excavated in site 3 at Nahuange, and are shown in Plate CLV, Fig. 3. Their dimensions are 7.3 x 5 cm.; each has two punched holes at either edge for lashing.

PLAQUES

Ten ornamental plaques of thin gold were excavated at Nahuange, none elsewhere; this should not be taken as indicating, however, that the objects are restricted to Nahuange. Seven of these are shown in Plates CXLIV and CXLV. At least five were contained in the largest pottery vessel in the grave, another in a pottery vessel in the same mound but not in the grave, a seventh in site 3, and the exact proveniences of the other three are uncertain.

Four of these plaques, Nos. 153056, 153057, 153058, and 153059, two of them from the large vessel in the grave, are circular, 15, 10, 12, and 11 cm. in diameter, respectively. All are made of very thin gold, apparently with a high copper content, and all are brittle and broken. Each has a ring of small dots, made with a punch from the rear, around the circumference, on the outermost of three raised concentric bands, and a small suspension hole in the center. Three

of these are shown in Figs. 2, 3, and 4 of Plate CXLIV. One, No. 153060, Fig. 1, is smaller, 5 x 7 cm., and oval. The metal is of the same quality, and the same ring of dots parallels the periphery, but it has only one other raised ring. There is no central suspension hole, but at the center of one edge, considered as the top, is a large hole 8 mm. in diameter.

The other five plaques are more ornate and characterized by scrolls at either side. Three of them are shown in Plate CXLV. The plainest and most unusual is that shown in Fig. 1, No. 153051, which was excavated from site 3, Nahuange. It is 8 cm. in height, 7.5 in maximum width, of rather thick, reddish gold, thicker in the center, thinnest at the edges. It was apparently beaten but the workmanship is careless, artistically but not technically symmetrical.

The specimen shown in Fig. 2, No. 153053, is like the others in shape and quality, but is plain without repoussé decoration. It was found in a black pottery vessel in the grave mound, but not in the grave itself. This is of thin beaten gold, reddish on the upper surface, yellowish on the lower; the edges are thin and wavy. It measures 13 cm. in width, 6.5 in height. The side scrolls were probably cut, but also beaten after cutting; the centers of them are forced upwards. Near the center of the upper edge are twin suspension holes, punched through from the upper surface.

The other three specimens were found in the largest vessel in the grave and were apparently very similar, with repoussé decoration in slightly variant designs. Unfortunately two of them, Nos. 153054 and 153055, have a high copper content and were so brittle that they broke into so many fragments as to be unrestorable; it is recollected that the repoussé design on one of them contained birds somewhat like those on the third specimen shown in Plate CXLV, Fig. 3. This ornament, No. 153052, 17 x 8.5 cm., is one of the most artistic objects found by the Expedition, being made of fine, thin, yellowish gold. The shape is like that of Fig. 2, with similar side scrolls but larger interstices. It was probably beaten out, the edges being thin and wavy. The twin suspension holes are round and without evidence of punching out. The center is occupied by repoussé decoration, which was probably made by tooling from the back. This decoration is cut off from the plain scrolls by two parallel raised bands. The central figure is that of a man, made in primitive stylistic art. The head is large and trapezoidal with the outlines and features made in raised lines; there is a horizontal line across the forehead. The great ear-ornaments are shown as raised bosses

surrounded by a ring of small dots. Above the head is a great head-dress or coiffure made of straight lines diverging vertically from a horizontal line above the head; in this are twin suspension holes. From the upper ends of the outermost lines, lines extend downward and outward to either side, terminating in relief scrolls which turn symmetrically, clockwise on one side and counter-clockwise on the other. The body is relatively small with even smaller feet, turned at right angles. The arms are vertical with five outstretched fingers. The abdomen is prominent and shown by a raised boss with a central dot for the umbilicus. Raised lines run from the shoulders to the abdomen. Male sex organs are shown in prominent low relief. At either side of the figure and below the scrolls is a repoussé profile figure of a bird, facing towards the human figure. The details show both feet, long bill, wing or tail feathers, and a raised dot for the eye.

NON-BIOMORPHIC PENDANTS

This group includes gold ornaments of uncertain purpose which are not in animal or human form. These are shown in Plate CXLVI. First to be considered are three which have some elements in common, being larger, winged, broad, and with a basal notch. These were secured at Nahuange. The two finest ones are very similar except in decoration and were excavated from site 3. Each has side wings of medium thin metal, separated by a wide slot and connected by a thicker solid bar. Both are of reddish gold, probably containing copper, and probably cast, with the wings later hammered and polished. The thicker parts are indented on the back. The wings are too broad for them to have passed through the nasal septum or ear-lobe and hung by the bar, but the slot is thin enough so that the ear-lobe might have been inserted into this and the objects hung thereby. Fig. 1, No. 153015, is plain, 6.4 x 3.3 x 0.8 cm.; Fig. 2, No. 153016, 5.8 x 3 x 1 cm., has an ornamented periphery of braided wire technique with bordering raised lines.

Five other gold objects of this general type are known in other collections. One practically identical with Fig. 2 is in the University Museum and is said to have been found at Donama. Another one, identical with these, was purchased in Paris and is now in the Heye Foundation. A half of a practically identical object is in the collection of Mr. Angell. It was found with other ornamental objects in a stone-lined grave at Chocuenca, Matagiro. These four specimens establish the type as being very characteristic. In Berlin is a specimen, obviously of the same type, but differing considerably in detail.

This is shown in Plate CXLIX, Fig. 3. It has the same kidney shape, and the usual band of braided wire technique around the periphery. But the body, instead of being divided by a vertical slot, is intact, though the usual slot is marked by two parallel vertical relief lines, and instead, the upper arm, normally connecting the two halves, is broken, leaving a narrow separation. In this, we may assume, the nasal septum or the ear-lobe was inserted. The decoration is completed by knobs, concentric knobs, and bands of braided wire technique.

A much more ornate ornament of this type, yet obviously connected with the Berlin specimen through the eccentric nature of the upper bar, is the beautiful gold object shown as Fig. 1 of Plate CLVI. This is in the collection of Mr. Angell and was found in a small stone-lined grave on a hilltop in the Chocuenca (Matagiro) district. It is described as a "filigree of coiled gold wire with solid nubs in the centers of the spirals, and a clasp of hollow wrought gold." The dimensions are about 4.5 x 6 cm. The fundamental resemblance to the other ornaments of this type, especially to the one in Berlin, is obvious, but it is much more ornate and developed.

A slightly different and simpler form of ornament is that illustrated in Fig. 3 of Plate CXLVI, No. 153017, from the largest vessel in the grave at Nahuange. This measures 7 x 1.5 x 0.5. It was cast over a hard-baked clay core which was never covered at the back of the wings and is exposed on account of the wearing away of the gold at the front of the connecting band. Surrounding the periphery is a slight raised line, and on either side of the slot are eight raised lines.

Fig. 4 of this Plate was found, after receipt of photographs of gold objects from the Berlin Museum, to resemble closely a part of a very ornate ornament from that Museum, and is therefore probably a fragment of a similar ornament and not in the same category as other objects on this Plate. It will be described later.

Fig. 7, No. 153026, excavated in site 32 at Pueblito, is a delicate object of unusual type. It may be described as of general anchor shape and was probably cast in one piece. The stem is tubular, with the top (as shown) partly covered, with a small hole in the center. This stem is mainly composed of two large wire spirals running in the same direction, i.e., when observed from the outside, one runs clockwise, the other counter-clockwise. There are holes in the centers of the spirals so that the object could have been suspended thus as well as vertically from top to bottom. There

are also lateral orifices between the lower parts of the spirals. At the top of the stem is a double wire ring ferrule. The lower part of the stem is wider with an encircling ring above and below. The crescentic lower part is wide and hollow with long and short slots crossing at the base at right angles; at the bottom is a tiny ring with central orifice. The slots on the longer edge run only about half-way to the end and are bordered by a decoration of twisted wire on either side, meeting at an angle to form a typical braided wire pattern. The lateral slots are bordered by a braided double wire technique which loops around the end. The upper part of the "anchor" is undecorated. The specimen measures 2.4 x 2.4 x 0.6 cm.

That this is a characteristic type is indicated by several other specimens in other collections. One in the Heye Foundation, shown as Fig. 1 of Plate CLII, is very similar, though broken; it differs only in minor details. There is a hole in the center, probably from wear, and the core, probably of charcoal, shows. Another, in the collection of Mr. Angell, is plainer, lacking the wire scrolls found in all the other examples. It was excavated from the Cerro de la Campana, Chocuenca, Matagiro. Another, also broken, in the American Museum and shown in Plate CLIV, Fig. 17, differs mainly in having a triangular instead of a crescentic base. It is from San Pedro Alejandrino. This triangular shape connects the others with the object in the Carnegie Museum shown as Fig. 2 of Plate CLIII, on a much larger scale. This, in turn, lacks the long shank which does not appear to have been broken off.

The four remaining pendants shown in Plate CXLVI (Fig. 5, No. 153027; Fig. 6, No. 153028; Fig. 8, No. 153029; and Fig. 9, No. 153030) are very similar and were all found in the largest pottery vessel in the grave at Nahuange. They are all of relatively triangular shape, between 2 and 3.1 cm. long, 1.3 and 1.5 high, and 0.3 and 0.5 cm. thick. All are obtuse triangles and increase in the thickness of the section from the thin concave base to the upper angle, which is elongated to a sharp point. All have a central incised vertical line on the front except for No. 153027, which has a double line. All have only one face, the back showing the clay core on which they were cast. All were apparently originally suspended through a hole through the upper point running parallel with the longer axis. This is retained in specimen No. 153027 but had been broken through in the other examples. In Nos. 153028 and 153029 another transverse hole had been made below and at right angles to this; in No. 153030 another parallel lateral hole had been made below the original

one. Specimen No. 153029 originally had through the hole a small bit of copper wire bound with fine cotton thread, probably very similar to that in the carnelian pendant No. 152900 (Plate CXV, third figure, third row).

Two pendants of this type are in the Berlin Museum and are shown in Plate CXLIX, Figs. 8 and 9. Another, excavated in the Chocuenca, Matagiro district, is in the collection of Mr. Angell.

Although, strangely enough, no example of it was found by the Field Museum Expedition, seven complete or broken examples of another type of pendant in other collections indicate that it is very characteristic of this region. This most resembles Figs. 1 to 3 of Plate CXLVI, having a semicircular or crescentic middle portion, solid, plain, and of circular cross section, and at either side an up-turned ornament, of horn or stud form. This is often ornately decorated, generally of wire technique with interstices. Two examples of the decorated horn type, in the American Museum, from the chamber graves at San Pedro Alejandrino, are shown in Plate CLIV, Figs. 13 and 15. Two fragments of the stud type, of the same provenience, may be seen in Figs. 8 and 12 of the same Plate. In Plate CLII, Figs. 3 and 4, are shown two examples of the stud type, one of them decorated, in the Heye Foundation and in Fig. 7 of Plate CXLIX a plain example of this type in Berlin.

A gold ornament, probably a pendant, of a unique type, is shown in Plate CLIV, Fig. 14. It is from San Pedro Alejandrino and is in the American Museum.

BIOMORPHIC PENDANTS

Ornaments of gold have been found in the forms of frogs, birds, jaguars, and human beings. The last two are unusual; the frog—or more probably toad—and birds, probably the eagle and the toucan, may be considered the typical figures.

Toad and bird metal figures are shown in Plate CXLVII. It is presumed that the toad rather than the frog is represented, for the former is common in this region, grows to a large size and is venerated to some extent by the modern Arhuaco Indians of the high mountains. Batrachian figures are common in the archaeology of the Isthmian region.

Just as in shell ornaments pelican figures are typical of Gairaca and crocodiles of Nahuange, so in gold, toads are characteristic of Gairaca and toucans of Nahuange. Seven metal figures of toads were excavated, six at Gairaca and one at Pueblito. They are on the whole naturalistic. The largest figure, and of the purest metal,

is that shown in Fig. 1, No. 153009. Like all of them, this is fragmentary and was cast around an earthen core, possibly originally completely covering it. It is slightly conventionalized, with very triangular body and slightly triangular head, the principal detail being the large raised eyes. The hind feet are flexed. Under the neck is a tubular opening which may represent the front feet but which also probably served for suspension. Its dimensions are 3 x 2.2 x 1.5 cm. It was secured at Gairaca. The next specimen, Fig. 2, No. 153010, found in the stone grave in site 32 at Pueblito, is somewhat similar but a little more naturalistic; the mouth is portrayed and the eyes are in higher relief. The front feet are also better shown and end in suspension rings in coiled wire technique, twin rings instead of the tube as in the preceding specimen. It measures 2.5 x 2.2 x 1.5 cm. Fig. 3, No. 153013, found at Gairaca (p. 28), is more naturalistic than either of the preceding and is composed of an alloy containing a high percentage of copper. The nose is pointed and there is a double-ridged mane down the back. Both rear and front feet are naturalistic and there is a tubular suspension hole in front of the latter. The dimensions are 2.5 x 1.8 x 1.5 cm. Specimen No. 153012 is not shown but is intermediate in type between Figs. 2 and 3. It was found in an urn with a child's burial at Gairaca and measures 2.2 x 1.6 x 1.5 cm. It is fragmentary and composed mainly of copper, with a very broad triangular head and a tubular suspension hole at the front.

A very characteristic toad figure, very conventionalized, in the form of a bell, Fig. 4, No. 153011, was found at Gairaca (p. 28). Probably this is a common type, for similar specimens of base metal seem to have been manufactured in quantities and sold to the Goajiro Indians. It is shown, like the others, from above. The base is flat and thin with a narrow horizontal slot above it. The body is high with a hollow interior, ridged, and ends in a head like a hammerhead shark, with raised eyes at either end. A spherical rattling pellet within serves as a clapper. At the front of the base is a tubular suspension hole. The size is small, 1.8 x 1.2 x 1 cm. Two heads, apparently from similar specimens, catalogued as No. 153034, were also found at Gairaca.

Several of the toad bells, resembling the above type but probably of modern commercial manufacture, occur on Goajiro necklaces of coconut beads together with other objects of ancient origin. An examination of one of these indicated that it is of thin gold plate, electroplated on a soft base metal, probably pewter.

Another example of the bell type, presumably genuine, is in the Berlin Museum and is shown in Plate CXLIX, Fig. 5. Another in the University Museum was secured by Gregory Mason at La Cueva. It is hollow, of thin gold, with a large suspension hole at the front that was made when the object was cast. Mr. Mason was told, probably by the Arhuaco Indians, that the "Old mamas (priests) wore them on their shoulders in dances." A more ornate example is in the Carnegie Museum (Plate CLIII, Fig. 7). The head is much more ornate and pointed, with eyes and nostrils shown as globules, and a band of braided wire ornamentation bisecting the head from nose to neck. In fact some animal other than a toad may possibly be represented.

Other toad figures that are not bells but resemble the Field Museum specimens shown as Figs. 1 to 3 of Plate CXLVII are in the Museum of the American Indian and the Berlin Museum. Three that require no especial comment may be seen in Plate CLII, Fig. 6, from La Cueva, and in Plate CXLIX, Figs. 2 and 4. Fig. 1 in the latter Plate, in the Berlin Museum, is more unusual; the head is very narrow and the feet are shown.

Two unusually good, gold toad figurines, of uncertain exact provenience, may be seen in Plate CLVI, Figs. 2 and 3. These are now in the collection of Mr. Angell. They are evidently pendent figurines, not bells, and they are quite naturalistic, most resembling Fig. 3 of Plate CXLVII. Both have suspension holes formed by the clenched fingers, and in both the spinal column is well shown. The sizes also are rather large, the lengths being apparently about 4.5 cm. in both cases.

Seven figures of birds were found, six at Nahuange and one at Pueblito. Six are shown in Plate CXLVII, one in Plate CXLVIII. Five of these are very similar and were found in the largest vessel in the grave at Nahuange. They are shown as Fig. 5, No. 153025; Fig. 7, No. 153005; Fig. 8, No. 153007; Fig. 9, No. 153008, and Fig. 10, No. 153006, of Plate CXLVII. The latter four are naturalistic, though somewhat stylized, and show the head of a bird with a long beak turned down at the end, probably a toucan, *guasale*, though possibly a flamingo. The largest is Fig. 8, 3.5 x 1.8 x 1.5 cm.; the smallest, Fig. 9, 2.2 x 1.2 x 1.4 cm. The latter is shown from the front, the others from the side. The mouth is indicated by a curved incised line. A relief wire separates the beak from the head. A relief globule forms the eye which is connected with the base of the neck by a relief wire. The head in three cases is surmounted by two

pairs of wire scrolls with a slot between each connected pair. The fourth, Fig. 10, has a low mane of twisted wire technique. All probably represent the comb of the bird. The back of the ornaments is broad and winged and surmounted by a tubular suspension hole, with terminal raised ferrule rings. The back is open and in some cases shows the clay core on which it was cast. Fig. 5 is apparently a very conventionalized representation of the type of the other four.

Fig. 6, No. 153003, is of a different type and was excavated from the large grave in site 29 at Pueblito. It also apparently represents a toucan and is of fine thin gold, probably cast around a clay core, now gone. A small part of it has been broken and lost. Its dimensions are 2 x 1.9 x 1.5 cm. The wings and tail are outspread, the tail feathers being represented by cast lines. The head is high and curving, the eyes of high relief globules, probably soldered on. The mouth is indicated by a curved line. The comb or crown consists of a double ring that may have been used for suspension. The feet are represented by small rings which were doubtless the primary suspension holes.

The last bird figure is technically and artistically different from the others. It, No. 153004, is shown as Fig. 11 of Plate CXLVIII. It is high and wide instead of long, measuring 3 x 2.8 x 1.8 cm. The complete bird is shown instead of merely the head, the wings and tail being very conventionalized, outspread and plain. Probably a toucan is again represented, the beak being in high relief and long, with a pronounced downward curve at the end and an incised line representing the beak. The eyes are represented by a relief globule surrounded by a relief ring. There is a double ring around the neck and suspension holes through the edge of the metal at either side of the neck. It was cast on a clay core which is open at the back. This specimen was excavated at Nahuange. A much corroded and broken object, apparently with a high copper content, in the Carnegie Museum, seems to be of the same type. It is shown in Plate CLIII, Fig. 1.

Another bird represented in Tairona goldwork seems to be the eagle. The beak is generally larger, shorter, and more curved. The eagles on the bead-strand spreaders have already been mentioned. Another surmounts the head of the human figure to be described later. In the Berlin Museum are two magnificent gold breast ornaments with eagle figures. The nature of the ornamentation as well as the general provenience indicates that they are certainly of Tairona origin, though in size, elaborateness, and technical achieve-

ment they excel any gold specimen in Field Museum. These pendants are shown in Plate CL. Both objects are of a type of ornament not represented in other collections from the Tairona region, but well known in the other regions of highly developed gold technique from Costa Rica to central Colombia, and especially in the northern parts. The fundamental original form is here shown in the flat background which is divided into three parts, upper, middle, and lower. Simpler forms in other regions leave no question that this is a flying bird, probably an eagle, the three parts representing, respectively, head, outstretched wings, and spreading tail. To make a symmetrical and well-balanced figure the head is sometimes duplicated to either side, making a double-headed eagle. These Tairona specimens differ from the norm in that the large bird figure, now very conventionalized and stylized, is used merely as a background, and in the center is placed, in high relief, a figure that has little relation to the background.

Both specimens show the narrow ornamental bands of braided wire technique, and the small high relief globules that are characteristic of Tairona goldwork. In both, the lower part or tail is perfectly plain, the central part, the wings, slightly ornamented, the upper part or head ornately decorated. The high relief figure of the smaller ornament is an eagle, that of the larger specimen an anthropomorphic figure with human body and eagle head. In both, the head, and especially the beak, are disproportionately large, and at the end of the beak is a ring. From this ring, in the smaller object, hang two larger loose rings of gold wire. The purpose of the ring at the end of the beak of the other object and on the beaks of the two eagles on the gold bead-strand spreaders, is therefore clear.

The eagle of the smaller specimen much resembles those on the two gold bead-strand spreaders. The upper part resembles very closely Fig. 4 of Plate CXLVI, so closely that there can be no doubt that the latter is a fragment from a similar large pendant. It probably represents the very conventionalized heads of a double-headed eagle.

This latter specimen, No. 153018, was first mistakenly grouped with non-biomorphic pendent ornaments. It was found in an urn at Gairaca and measures 4.6 x 2.3 x 0.1 cm. It is of very thin gold, probably cast but possibly with some repoussé work. Some details, such as the small balls, were probably soldered on. The profile heads are probably those of the double-headed eagle. The periphery

is ornamented with decoration of twisted, braided, and spiral wire technique.

The larger ornament shown in Plate CL has a human torso and limbs, though the arms are no more like arms than like wings. Each arm supports a small low-relief eagle head. In both specimens the outspread "wing" background is cut through to resemble feathers which are decorated with globules. The head is that of an eagle with an immense beak. Ear-plugs and earrings are shown. On the head is a low flat hat from which, on either side, projects vertically a T-shaped ornament. The upper part is ornamented and branching, and at either end is a projecting high relief figure, possibly another bird, with a cylindrical ring at the end which probably originally held rings of gold wire. To either side of the head, in low relief on the background, is a figure hanging upside down. This position, coupled with the large, flat, vertical, triangular nose, suggests plainly that a bat is here portrayed.

A gold bird of a different type is that shown as Fig. 16 of Plate CLIV. This may be a pigeon. It is hollow, with back and sides relatively flat, a suspension hole in the neck. The dimensions are 2 x 1.2 x 0.9 cm. This dainty naturalistic figurine pendant is in the American Museum in New York.

Two jaguar figurines were secured, one complete, the other consisting of only the head. The former, No. 153001, was bought from the excavator at Nahuange and is shown in Fig. 9 of Plate CXLVIII. Its dimensions are 4 x 2 x 2.5 cm. A very naturalistic crouching figure is depicted, with legs flexed and flat, and head and tail carried high; part of the tail is broken off. It was cast on a clay mold which shows on the uncovered base; the gold is also worn through on a part of the head. The head is very naturalistic with the ears high, the eyes and mouth in low relief, a ring around the mouth, and the canine teeth shown by wire relief, possibly soldered on. The claws are depicted by parallel lines, the front paws in wire technique and rolled so as to form tubular suspension holes. The tail was thick at the base. The jaguar head, No. 153002, shown in Fig. 8, was excavated at Gairaca, and was probably broken from a complete figure. It is of thin metal with a high copper content, and was cast on a clay core, most of which is now gone. The art is rather conventionalized; the ears are in high relief; globules, possibly soldered on, represent the eyes. There is no nose, and the wide mouth, showing low relief teeth, is lined by a wire ring. The mane is shown in braided wire technique. Its present dimensions are 1.5 x 1.8 x 1.5 cm.

The same small pendent ornaments representing a very conventionalized animal that have been noted as frequently made of carnelian and less often of shell are also found in gold. The animal is probably a jaguar though it might be some other animal. The close resemblance and the conventionalized nature of the specimens of these three materials indicate that the object was an important one in Tairona culture. Four of these were purchased in Paris with other unusual Tairona objects and are now in the Heye Foundation. Two of them are shown in Plate CLI, Figs. 7 and 8. They are of fine gold, hollow, with a single suspension hole in the lower part. Presumably they hung on a necklace. The dimensions are 2 x 1 x 1.2 cm. Another similar specimen is in the American Museum and was found in the shaft graves at San Pedro Alejandrino; this is shown in Plate CLIV, Fig. 19. It is similar to those in the Museum of the American Indian but slightly smaller, 1.5 x 1.1 x 0.8 cm.

A unique animal figure now in the University Museum is that shown in Plate CLVIII, Fig. 5. It was secured by Gregory Mason at Bonda. Apparently some marine animal or an insect is represented, though the head is human. The figure is of a gold-copper alloy, cast on an earthen core. The back is flat except for two relief metal loops or rings for suspension. On the body were two pairs of fins, or wings, divided into four segments. The tapering thorax, like an insect's, is divided into eight segments. The tail is forked with five divisions like the fins. The usual Tairona ornamentation of bands of braided wire technique and wire scrolls is seen on the head and neck.

The only human gold figurine secured is at the same time the finest metal object found. This, No. 153014, was excavated from the largest pottery vessel in the large grave at Nahuange and is shown in Fig. 10 of Plate CXLVIII. Its dimensions are 9 x 5 x 2 cm. It is rather heavy, although not made of solid gold; unlike most of the gold objects, the clay core is covered on the back as well as the front, but the core shows at the knees and heels, where abrasion has worn the metal away, and also in the suspension holes in the back. On this core the figurine was cast, the faults covered by hammering hot metal over them, and certain details soldered on. Other details were added by engraving on the cold metal.

A seated human figure is represented, the hands resting on the knees. As in most human representations in this region, the relative size of the features decreases towards the base. Head and head-dress are large, these two features occupying 5 of the 9 cm. of the height; body is small and legs vestigial. Parallel striations on the

feet show the toes; similar lines apparently represented the fingers, but the greater part of the hands has been worn away. On the lower arms is cross-hatching, probably to represent bracelets. Interstices separate the body from the arms. On the abdomen is a ring with a central dot, probably to represent the umbilicus. All these lines were apparently incised on hard metal. The pectoral muscles are shown in low relief on the thorax, unless it be that female breasts are represented. A relief band, probably representing a necklace, hangs across the shoulders and below the neck. The detail of this is worn, but it may have been in the braided wire technique.

The head is large and rather rude with a projecting nose like an animal's snout and without chin or projecting lips. This snout forms practically a triangular pyramid. A deep groove represents the mouth. The eyes are large and diamond-shaped, the outlines formed by incised lines, with a horizontal incised line in the center, producing an effect of slumber. Eyebrows are represented by a relief double band, possibly of twisted or braided wire technique, which meet at the top of the nose and continue to the tip, but as a single line. A similar horizontal band encircles the forehead above. At either end of this are ornamental notches of uncertain nature.

At either side of the head, possibly representing ears or ear-ornaments, are thin ornaments of solid, possibly beaten, gold; these were probably soldered or welded on. They are in the shape of bird, or possibly animal, heads, with small globules with central dot for the eyes, long incised curving lines for mouths, and incised cross-hatching lines at the top for feathers or hair. The eyes were probably soldered on, the incised lines tooled on cold metal. Between these appendages and the head, on either side and probably representing ornaments attached to the ear-lobes, is a flat coil in wire technique, turning symmetrically in different directions on the opposite sides. This is almost as good on the back as on the front, indicating that it is truly wire. Rude parallel incised vertical lines on the back probably represent hair. Twin large rude holes in the back of the head, meeting in the interior clay core, serve for suspension.

Seated on the head as a head-dress is a large bird with a long beak with a pronounced downward curve at the tip, probably again a toucan, but possibly a flamingo. The posture is well shown; the wings are folded and the feet also folded to the front with the claws shown, very much like a human arm and fingers. The tip of the beak is the highest point of relief in the specimen. A thin incised line forms the mouth. The eyes are very high relief globules, higher

than they are wide, and are surrounded by a looped wire coming from the base; there is also a band around the base of the beak. The back of the head is crowned with a halo of four coils of wire technique, the two to the left coiling in a direction opposite to those to the right. These also appear the same to front and to back. The outermost ones have orifices in the center.

The only other gold human figure known to me is in the collection of Mr. W. M. Sutherland in Santa Marta. This is of rather different type, broader and not so thick. It most resembles the shell figure, Fig. 1 of Plate CXXXII. The dimensions are about 4.2 x 3.2 cm. It was found in a black pottery vessel with flying bird relief decoration in a site at Arcife. The large disks on the arms and hands and the large semicircular head-dress are the striking characteristics. A drawing of this, taken from a photograph, is shown as Fig. 1 of Plate CLVII.

BELLS

Small gold bells are very characteristic of the Isthmian region and a number of them were found by the Expedition. These are of two main types, one with open bottom which probably had a suspended clapper, and another with merely a slot and a free pellet in the hollow interior. Two of the first type and five of the second were found, and all are shown in Plate CXLVIII, Figs. 1 to 7.

Both examples of open-base bells were found at Pueblito and are shown in Figs. 1, No. 153021, and 4, No. 153020. They are relatively similar in size, shape, and some details. The first is 2.6 cm. in height, the second 2.4 cm.; both are 1.4 cm. in width. The basal orifice is lined with a peripheral rim. The body of each is slit at one place for three-fifths of the height and to one side there is a flange projecting outwards. This can hardly serve any present purpose, and appears to have been cast in this form, but may represent an original cutting and bending of the metal. Each bell is suspended at the top by a pair of small circular rings, apparently of coiled wire, soldered on. In the center of the top is a small hole through which the clapper was probably suspended. The first specimen is of a good grade of gold, and a truncated conical shape; it is undecorated. The flange is on the left side of the slot. The base of the second specimen is constricted so that the greatest width is one-third of the way up from the base. It is of more reddish gold, probably alloyed with copper, and has a rude human face in low relief above the upper end of the slot. The flange is on the opposite side of the slot from the preceding specimen. A fragment of gold showing

an animal head, in the collection of Mr. Angell and shown as Fig. 6 of Plate CLVI, is probably from a similar bell. It was secured in Taganga.

The bells of the closed type are generally smaller. Three of them were found in the largest pottery vessel in the large grave at Nahuange, the other pair bought at Bonda. The pellets which are found in some of them are small and spherical, probably of metal. The largest and best, shown in Fig. 5, No. 153019, is 3 cm. high and 1.5 wide. It was apparently made of beaten gold, the top apparently a separate piece hammered to the body. A suspension ring was soldered to the top and to this is attached a bent gold wire for suspension. This bell is of truncated conical shape but with the base slightly constricted. The slot extends across the base and halfway up the sides with thickened rim. Somewhat similar is the bell shown in Fig. 7, No. 153023, 1.8 x 1.1 cm. The top was apparently joined to the body by beating; from this a hollow tube projects upwards in which are transverse holes so that it can be suspended by a cord or wire through the holes and up through the tube. Fig. 6, No. 153024, shows a connected pair of elongated bag-shaped bells, 2 x 1.9 x 0.7 cm., probably cast together. Each has a slot in its hemispherical base. A small suspension ring of wire technique, probably soldered, lies at the center of the top, between the two parts.

The pair of small gold bells, No. 153022, shown in Figs. 2 and 3 of Plate CXLVIII, was bought at Bonda. The body is hemispherical with a flat back which is freed from the rest of the body by a deep slot. The upper half is decorated with a conventionalized human face, details of the low relief showing eyes, nose, and mouth. They measure 1.5 x 1 cm. and were apparently cast.

On two arm-bands of thick braided cotton cord, No. 152397, which were a part of the paraphernalia of a Kagaba-Arhuaco shaman, shown in Plate CLXI and in Figs. 2 and 3 of Plate CLXIII, are nine gold bells which presumably came from ancient Tairona graves, five on one band and four on the other. These are very similar in size and shape, but at least four slightly variant types are found. They vary from 1.2 to 1.5 cm. in height, and from 1.2 to 1.7 cm. in width; the shortest is also the widest. The quality of the gold is very good. Practically all retain their clappers, small perfectly spherical loose balls, of a dark metallic color, probably metal with a high copper content. The bases are flat; on the sides near the base just below the ends of the slot are two holes in each specimen, generally encircled by a raised rim, by which the bell is attached to

the cotton band. The sides vary from straight to very concave, but always converge towards the base, and the tops are convex, varying from nearly flat to almost hemispherical. The slots extend across the tops and from one-half to two-thirds of the way down the sides, generally bordered by relief wire technique. The slots are of various widths. The sections of the bells range from circular to slightly oval.

In other collections no examples of the open type bell with suspended clapper have been noted, but there are a number of the slotted type with rattling pellet, and some of these are of new forms.

The very small bells shown as Figs. 2 and 3 of Plate CXLVIII are apparently very characteristic of the Tairona region. They were obviously used in pairs or groups as they seem always to be found thus. Gregory Mason secured an identical pair at Bonda; these are now in the University Museum. Five similar ones are in the Berlin Museum (Plate CXLIX, Fig. 6) but each of these seems to have a ring for attachment at top and bottom and they were apparently connected in a string. Above one of these, and apparently connected with it, is a plain slotted bell like an elongated symmetrical bivalve mollusc with a large suspension ring at the pointed end. A similar specimen without ring is in the American Museum and is shown in Plate CLIV, Fig. 18. This is of an alloy of gold and copper.

Two larger and more ornate bells, one in the Carnegie and one in the Berlin Museum, are shown in Plate CLIII, Fig. 5, and Plate CXLIX, Fig. 11. Each is surmounted by an animal head with ornate side appendages of wire scrolls. The body of the Berlin bell is non-zoomorphic, but that of the Pittsburgh specimen is modified by four low protuberances which represent the legs of the animal.

Gold bells in the shape of toads, generally very conventionalized, are very characteristic of the Tairona region but are considered under Biomorphie Pendants. The rear lower part of the body is flat and slotted horizontally, the body being hollow.

A small slotted gold bell of thin metal, presumably of ancient Tairona origin, is on one of the Goajiro coconut-shell bead necklaces. A sketch of it is shown in Plate CXXI.

MISCELLANEOUS OBJECTS

Two tiny buttons of gold with twin perforations for attachment, No. 153046, were secured at Pueblito. Unfortunately these were not found when the collection was studied and so could not be figured or further described.

A very well-made gold button in the Carnegie Museum may be seen in Plate CLIII, Fig. 3. This is probably shown from below, with a central projection pierced by perforations for attachment which probably do not penetrate the upper surface. In the second and third rows of Plate CLIV, Figs. 3-11, are a number of small gold objects now in the American Museum, all from the vicinity of Santa Marta, and all from the tombs at San Pedro Alejandrino. The natures of most of them are evident from the photograph. Figs. 3 and 4 are beads or bangles; Figs. 5 and 6 are buttons, the former shown from below. Figs. 9 and 10 are of thin gold, quasi-hemispherical, and rest on four points, and 11 is thin, of ferrule shape, hollow and cylindrical with a convex top.

A fragmentary small gold disk, 2.5 cm. in diameter, with a central hole, shown in Plate CLVI, Fig. 4, is in the collection of Mr. Angell. It is probably flat and of thin gold. It was found in a stone-lined tomb at Chocuenca, Matagiro.

A gold fragment is shown as Fig. 10, of Plate CXL. This, No. 153047, is one of two bits of thin gold plate showing scroll design in repoussé. They were excavated at Pueblito.

Two fragments of thin gold, Nos. 153044, 153045, each 1.4 x 3 cm., which probably covered wooden objects, were found in the large vessel in the large grave at Nahuange; these are not figured.

A small chisel, probably of gold plate on a copper base, is shown as Fig. 2 of Plate CLIV. The smaller end, slightly flaring, terminates in a sharp blade. The dimensions are 4.6 x 0.7 x 0.4 cm. It was found in the chamber graves at San Pedro Alejandrino and is now in the American Museum. A larger object, 6 x 2.5 cm., of apparently similar material and shape, has recently been secured by the Harvard Peabody Museum.

An interesting object, No. 152009, was purchased from the Goajiro Indians and is shown in Plate CLXIII, Fig. 1. This is a double-headed ax of banner-stone shape, made of bone or ivory with a large central cylindrical shaft by which it could be hafted. This is probably not of ancient origin, but is of archaeological interest on account of the ornamentation which consists of fragments of gold objects, doubtless from Tairona graves, set in a matrix of pitch with which the object is covered. Most of these are thin, convex, and undecorated, but four examples show braided wire technique, and several others globules or knobs in a ring or line.

In the Museum in Berlin is a bone object practically identical with the above, 12 cm. long, from the Goajira Peninsula. Like the

Field Museum specimen, the bone is so well preserved that it may not be an ancient object. It is probably of recent manufacture. It is well made and smooth. While now plain, one side shows traces of some kind of pitch or black gum, and it was doubtless originally covered with a mosaic of gold fragments like the specimen above described.

COPPER OBJECTS

Very few objects of pure, or nearly pure, copper were found; possibly they were originally more common but have disappeared by oxidation. In a small pottery vessel in the large grave at Nahuange (p. 34) was found a ring, possibly a bracelet, of thin copper wire, No. 153095; this is shown in Plate CLV, Fig. 1. It is 6.5 cm. in diameter, of hammered copper wire. Other fragments of copper ornaments, Nos. 153096, 153657, and 153673, were found in pottery vessels in two of the graves at Pueblito (p. 92). These may be fragments of bracelets like the preceding specimen, thinner in the center, thicker at the ends.

The finest copper object found, unfortunately so broken and fragmentary as to be unrestorable, was a copper whistle, No. 153097, found in site 6 at Pueblito (p. 71); fragments are shown in Plate CLV, Fig. 2. It may have been a pendent ornament rather than a whistle. It was probably cast on a clay core which is now entirely gone, the rear being open. There are crescentic wings to each side with a horizontal suspension tube at the top with raised ferrules at either end. The front part projected forward and showed a low relief ornament of the head of a bird with a globular eye encircled by a relief line in wire technique.

In an urn at Gairaca were found many small shell objects, No. 153050, encrusted with, and held together by, copper.

A small awl, apparently of pure copper, is in the American Museum and is shown as Fig. 1 of Plate CLIV. This came from the vicinity of Santa Marta. It is 4.5 cm. in length with a pointed end, and much resembles copper awls from Peru. The shape is rude, the cross section rectangular.

In the same Museum are many large pieces of sheet copper from which as many disks as possible, 2 cm. in diameter, had been cut out, the specimens being the residue from disk manufacture. The provenience being indefinite and inaccurate, it is uncertain whether these are pre- or post-colonial in time. They were collected in the Santa Marta region by Dr. F. C. Nicholas.

Among the recently acquired objects from Santa Marta in the Peabody Museum of Harvard University is a disk of copper 4 cm. in diameter with a turned-over edge. With this was found a loop or crescent of copper wire of the approximate shape of the gold nose-rings, about 3 cm. in maximum diameter.

OTHER METALS

A puzzling find was made at Los Cónegos (pp. 58, 59). This was a piece of a thin plate of very hard, brittle, shiny metal like speculum metal, No. 153049, and identified by Mr. Nichols as white brass. As it was found by a workman, its aboriginal origin is not above doubt, though the assistant, ordinarily trustworthy, claimed to have found it in a burial urn.

Three iron objects, probably all from Colonial Spanish days, were excavated. Two of them, one an iron blade, No. 153099, the other an iron bolt, No. 153100, were found near the surface at Pueblito (pp. 87, 90). Another, apparently not kept, or lost, was found at Bonga (pp. 127, 128).



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(4½ x 7½)

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Field Museum of Natural History

Anthropology, Vol. XX, Plate LXV



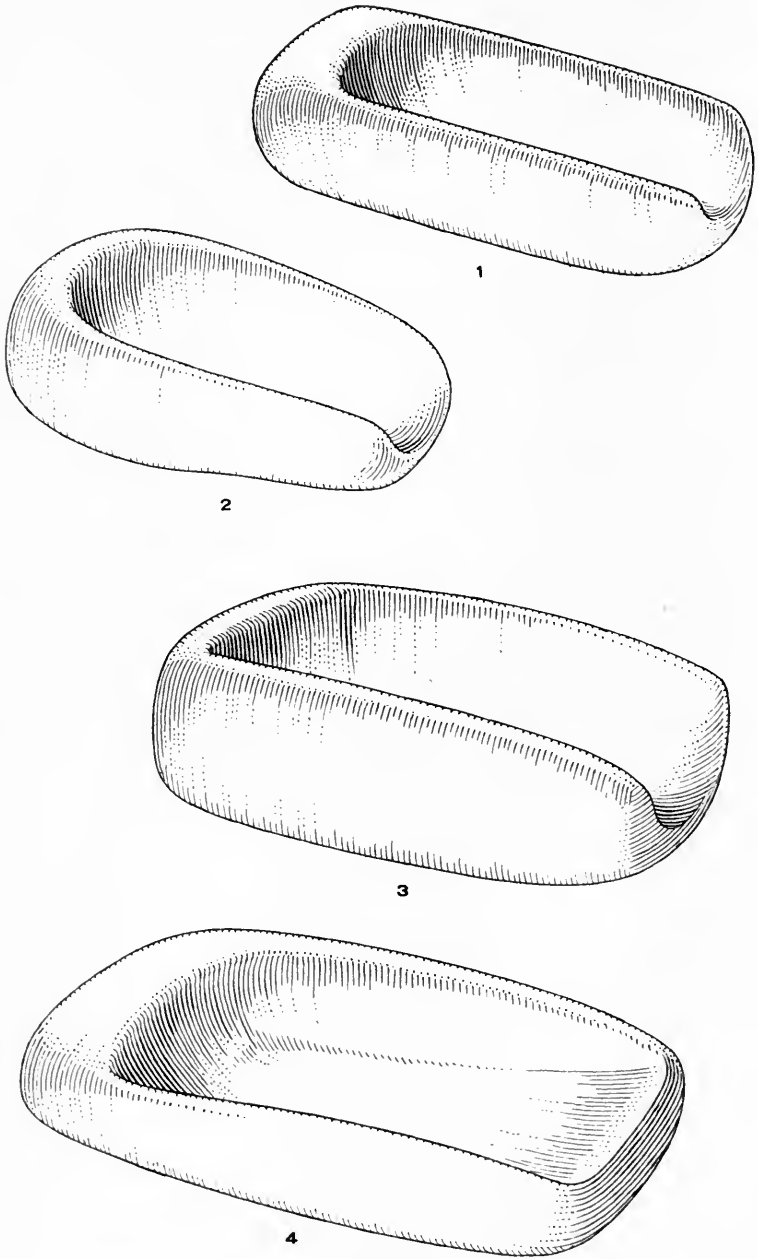
STONE SCULPTURES

Fig. 1. Carved bird, Taganga(?), American Museum of Natural History.

Figs. 2, 3. Incised stone pillars from Cerro de la Campana

Scale: Fig. 1, 1:3; Figs. 2, 3, 1:20

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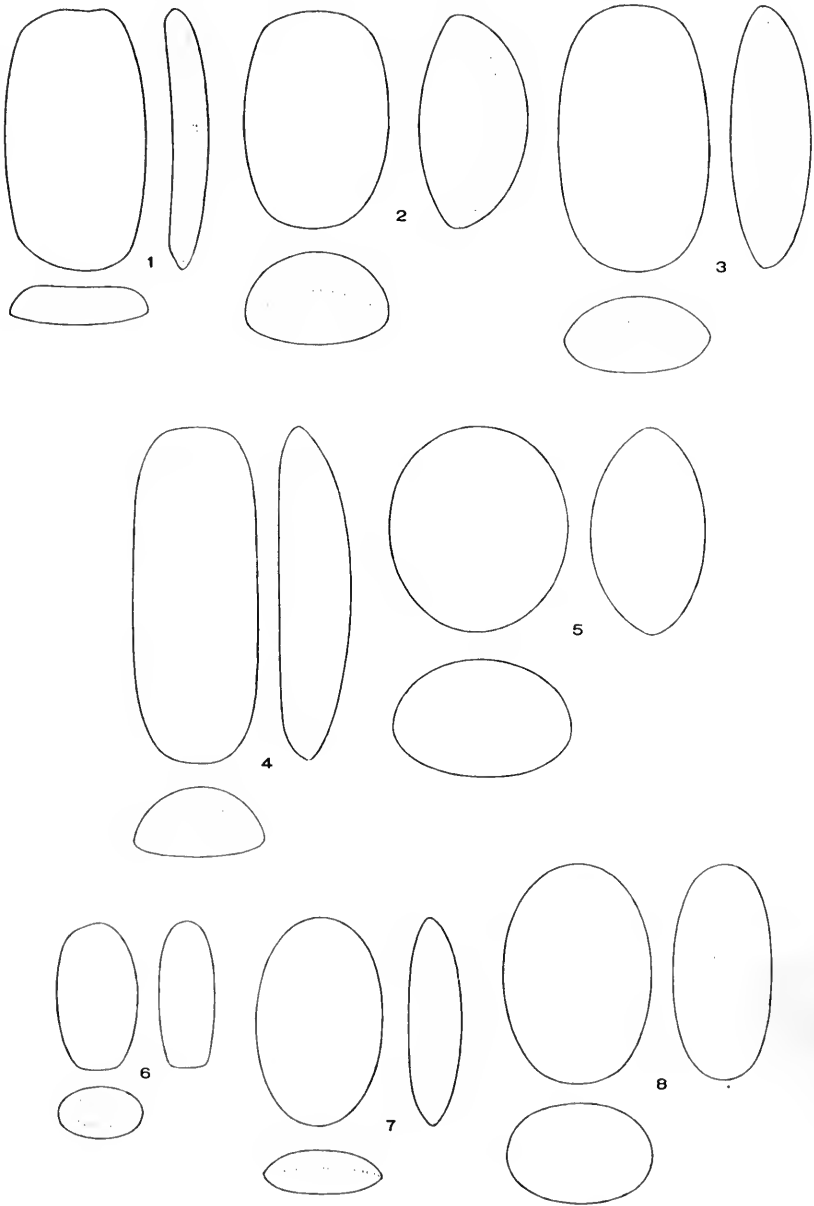


METATES OR MEALING-STONES

Figs. 1, 2. Taganga. Figs. 3, 4. Gairaca

Scale 1:7

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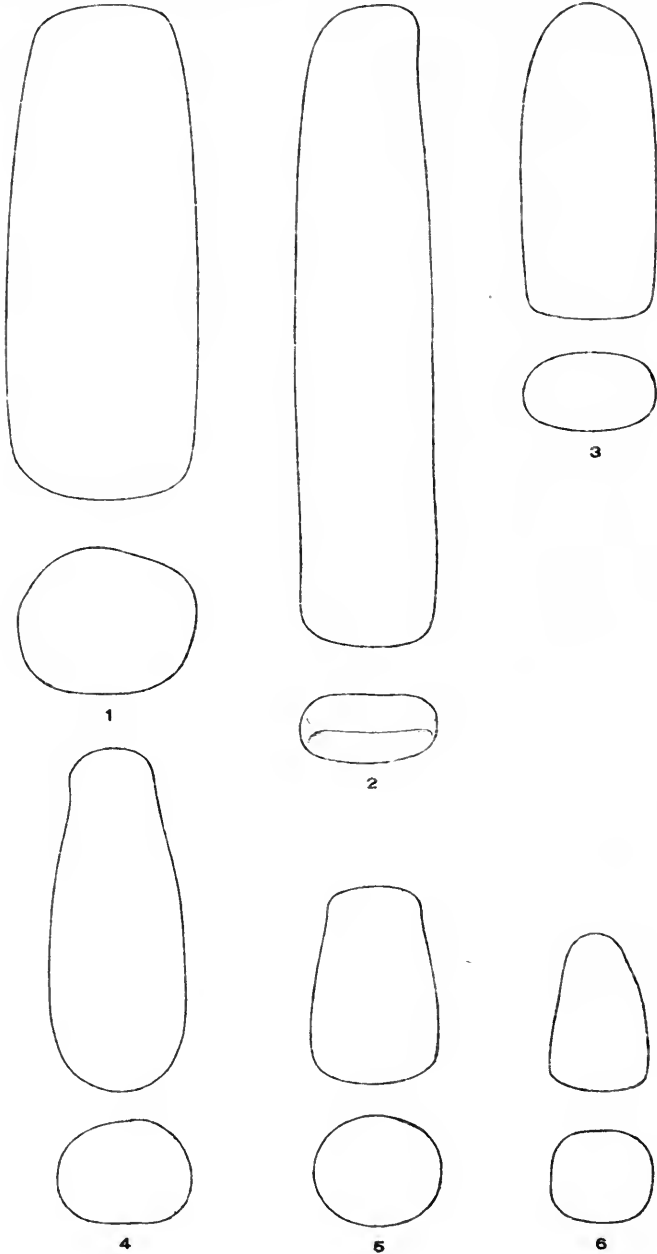


MANOS AND SIMILAR OBJECTS

Figs. 1, 7. Gairaca. Figs. 2, 5. Pueblo Bernardo. Fig. 3. Taganga. Figs. 4, 6. Nahuange.
Fig. 8. Cañaveral

Scale 1:5

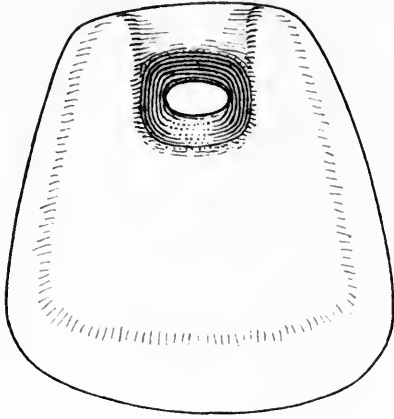
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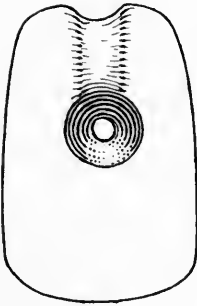
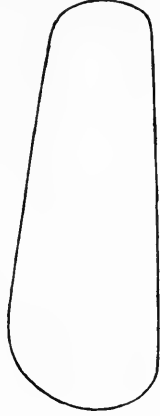
PESTLES

Fig. 1. Pueblito. Figs. 2-4. Gairaca. Fig. 5. Taganga. Fig. 6. Nahuange
Scale 1:3

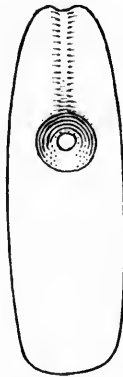
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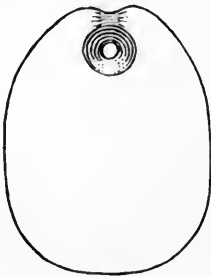
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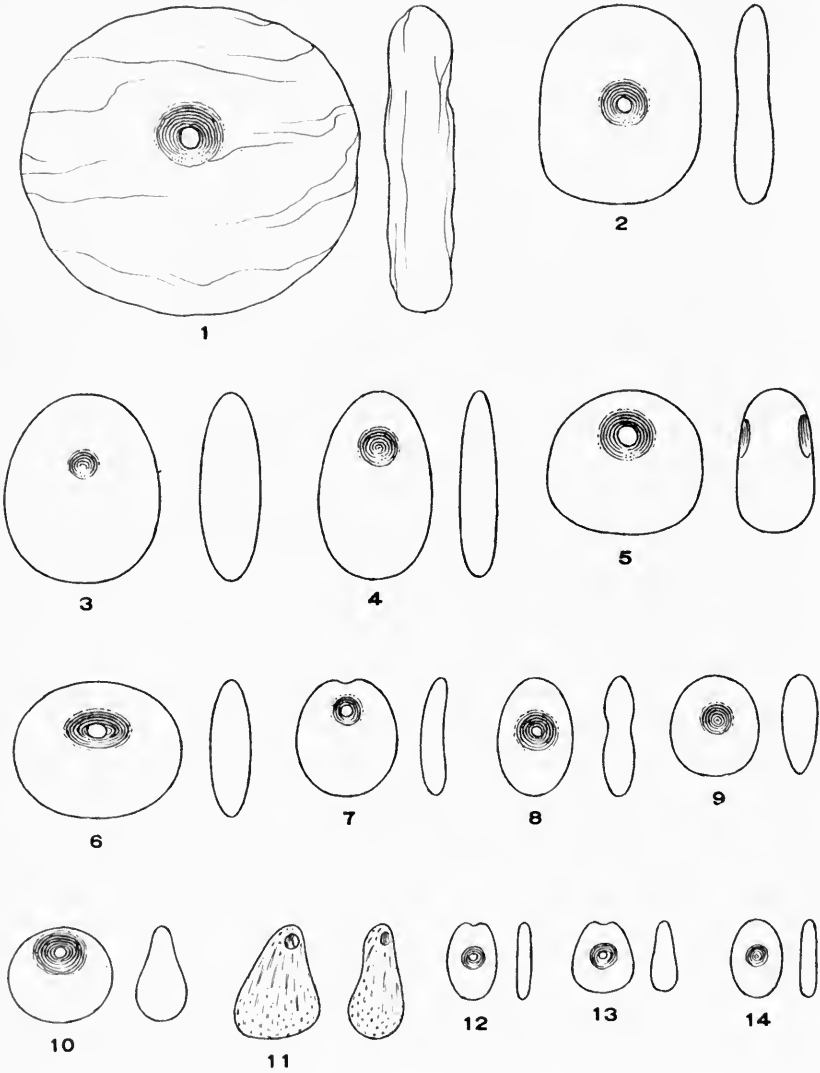


"ANCHORS"

Fig. 1. Gairaca. Figs. 2-4. Taganga. Fig. 5. Pueblito

Scale 1:6

Neg # 85282
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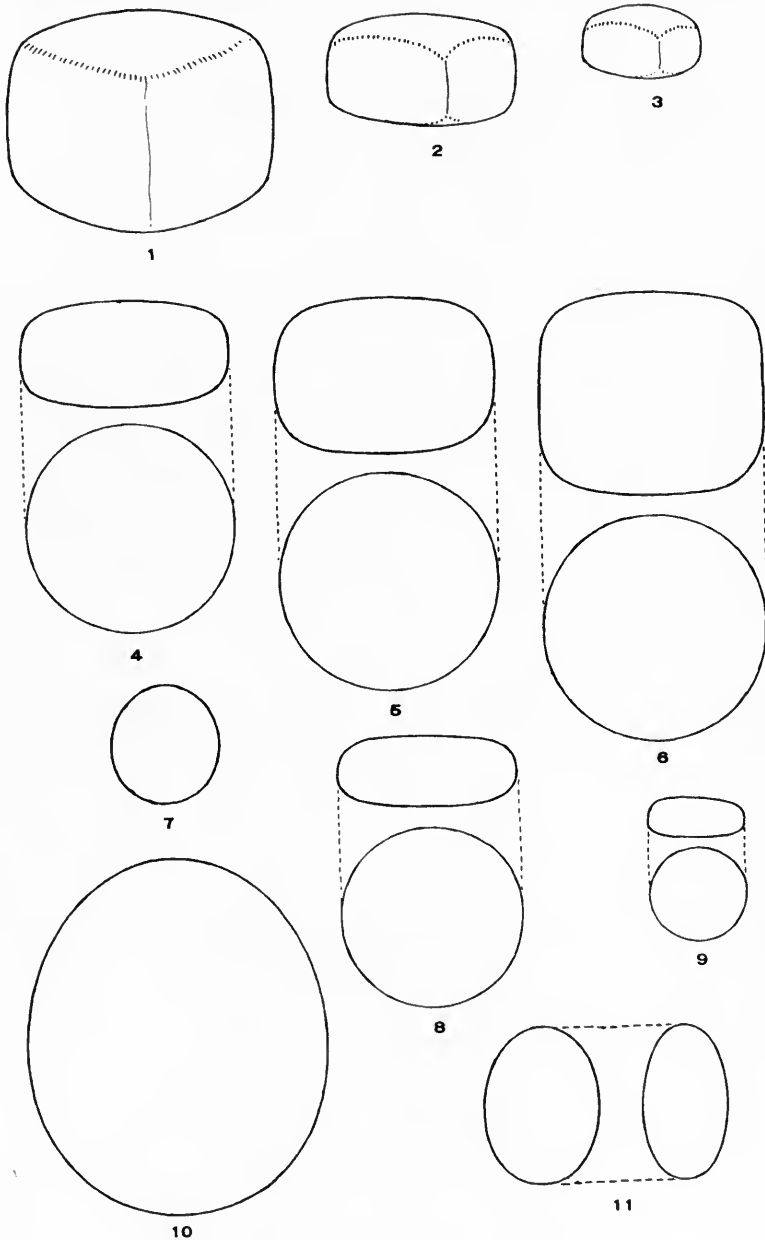


"NET WEIGHTS"

Figs. 1, 6, 7, 10. Pueblito. Figs. 2, 8, 9, 12-14. Taganga. Fig. 3. Palmarito.
Fig. 4. Locality uncertain. Figs. 5, 11. Gairaca

Scale 1:5

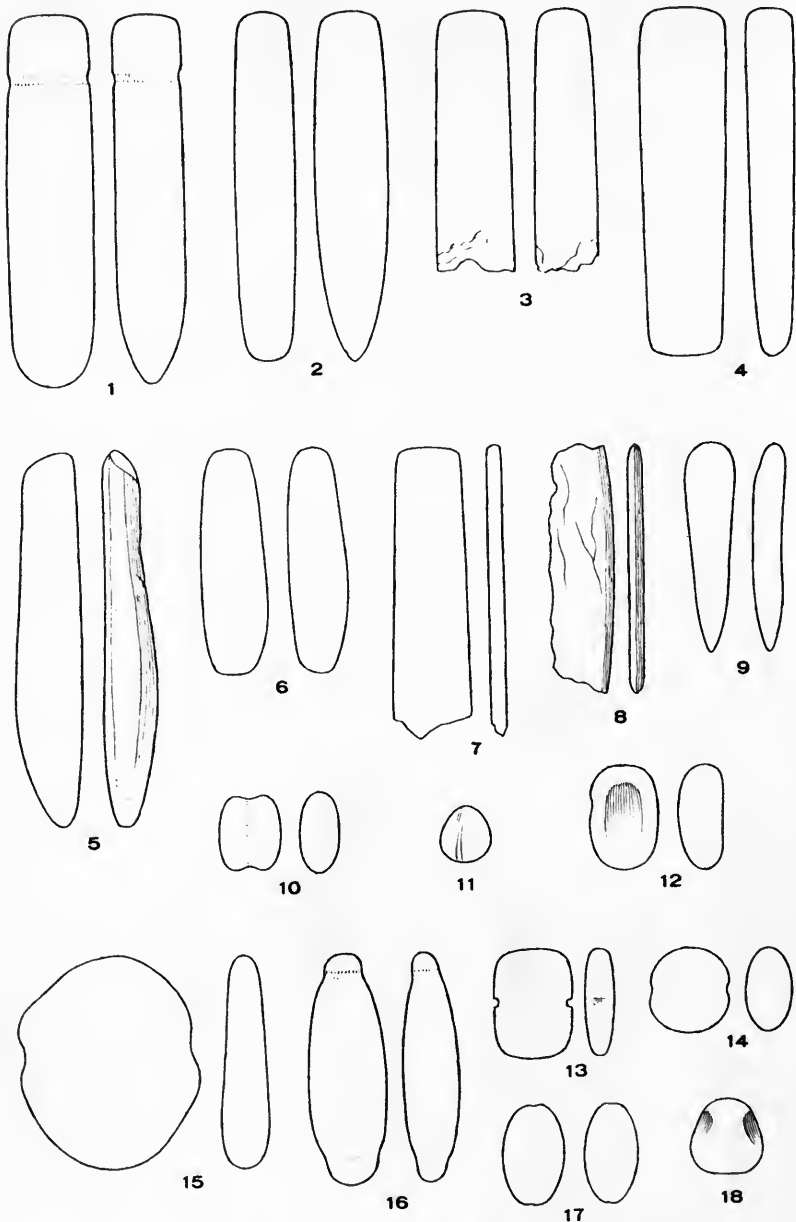
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SMALL ROUND OR SQUARE STONE OBJECTS

Figs. 1, 2, 4, 7, 10, 11. Pueblito. Figs. 3, 6. Taganga. Figs. 5, 8. Gairaca.
Fig. 9. Locality uncertain

neg # 85290
(5x9) al#72



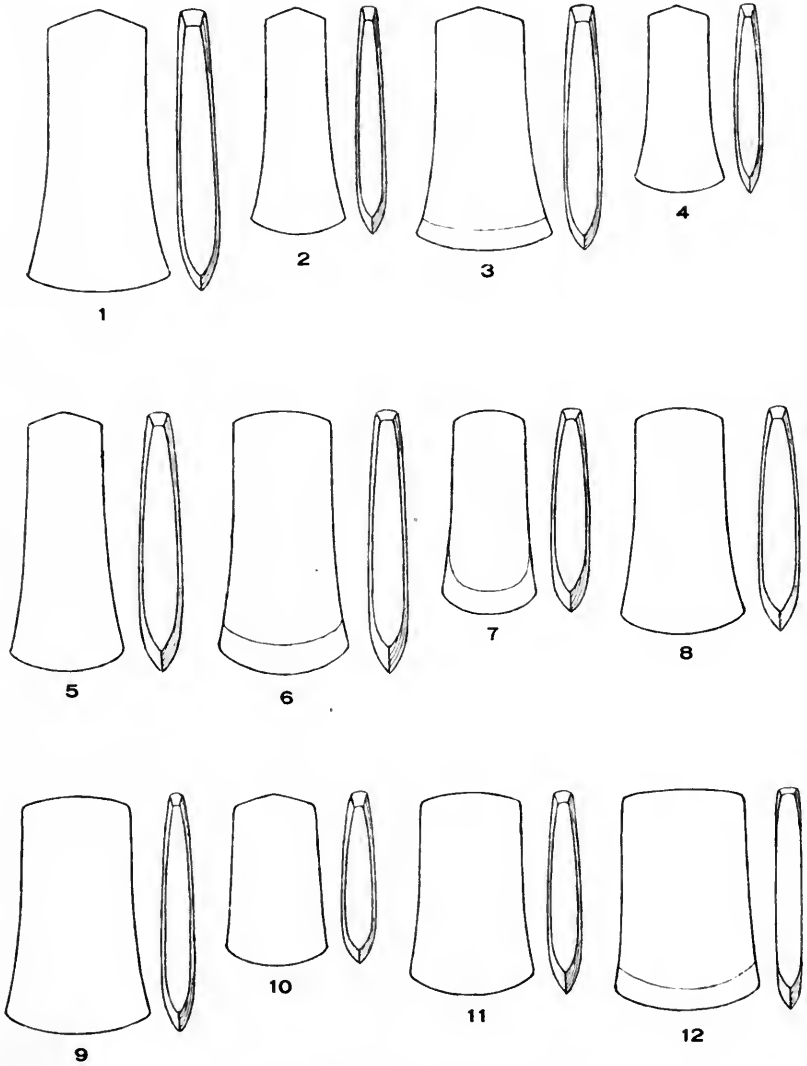
MISCELLANEOUS STONE IMPLEMENTS

Figs. 1, 16. Guachaquita. Figs. 2, 5, 10, 12, 17. Taganga. Figs. 3, 4, 11, 13. Gairaca. Figs. 6, 7, 9, 18. Pueblito. Fig. 8. Nahuange. Figs. 14, 15. Cañaverl. Fig. 1. Grooved "wedge." Fig. 2. Ungrooved "wedge." Figs. 3, 4. Smooth stone bars. Fig. 5. Asymmetrical implement. Fig. 6. Pestle-like stone. Fig. 7. Thin rectangular object. Fig. 8. Coarse stone with blade edge. Fig. 9. Awl-like stone. Figs. 10, 11. Grooved stones. Fig. 12. Troughed pebble. Figs. 13-15. Notched stones. Fig. 16. Stone with double grooves. Fig. 17. Stone with battered ends. Fig. 18. Stone with four faces

Scale 1:5

Neg # 85283

(5x7) alt # 72



AXHEADS OR CELTS

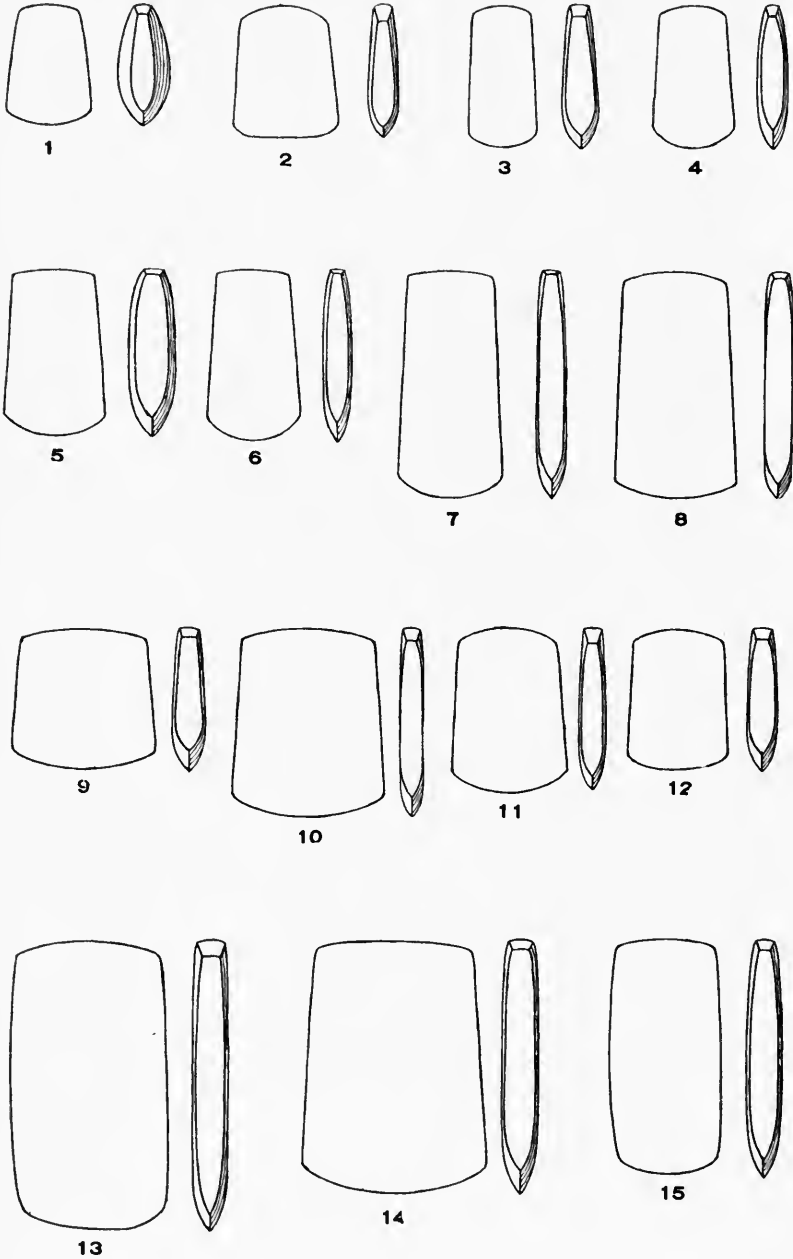
Figs. 1-3. Bonda. Fig. 4. Mandigua. Figs. 5-7, 11, 12. Gairaca. Fig. 8. Terán.
Figs. 9, 10. Pueblito

Scale 1:5

Neg # 85288
(5x7) alt#72

Field Museum of Natural History

Anthropology, Vol. XX, Plate LXXIV

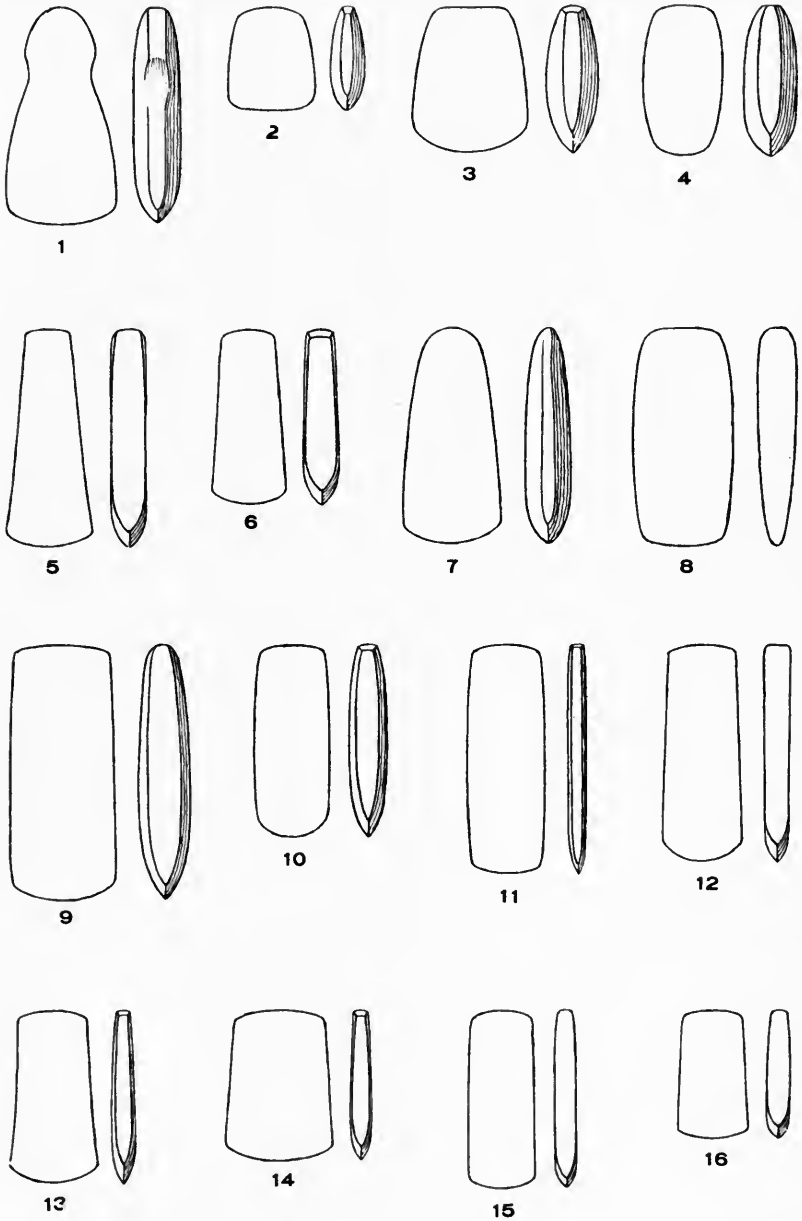


AXHEADS OR CELTS

Figs. 1, 3, 4, 6, 10, 11, 15. Pueblito. Figs. 2, 13. Taganga. Figs. 5, 7, 8. Gairaca.
Figs. 9, 12. Mandigua. Fig. 14. Nahuange

Scale 1:4

Reg # 85291
(5x7) alt # 72

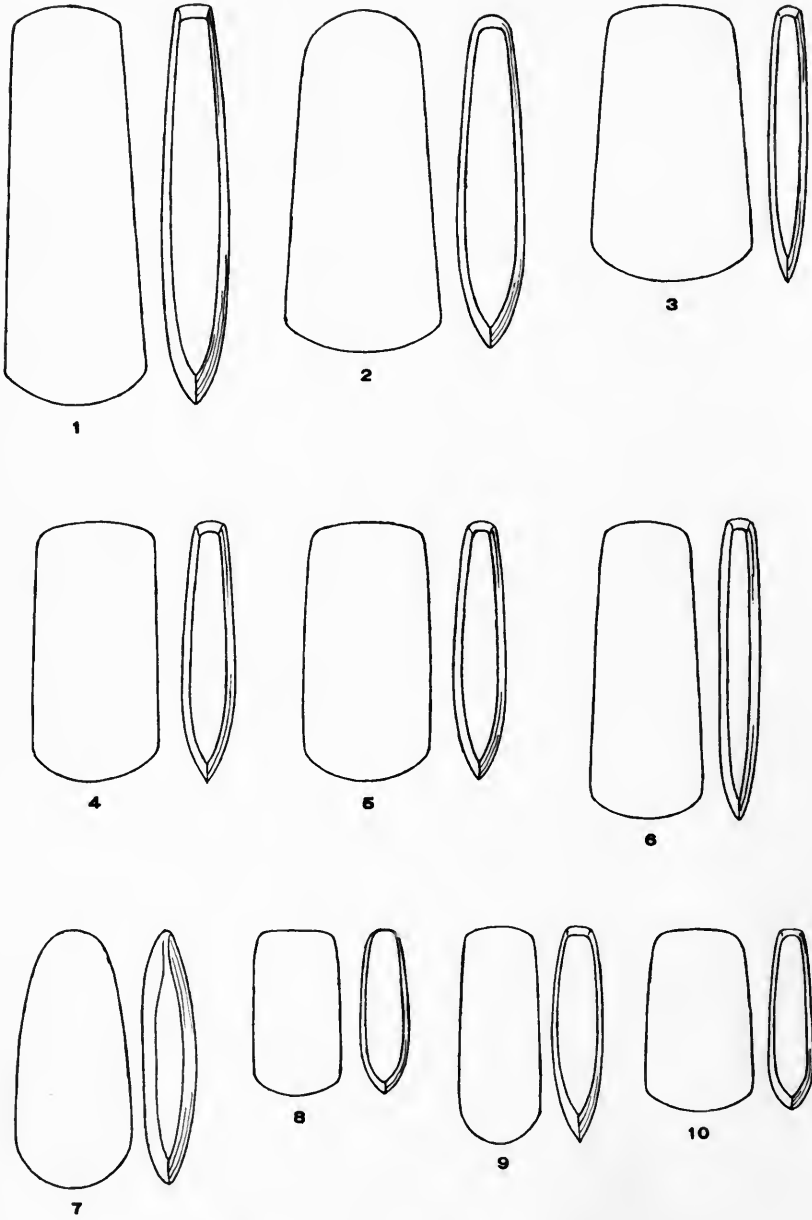


AXHEADS OR CELTS

Figs. 1, 2, 5, 9-13. Pueblito. Fig. 3. Bonda. Figs. 4, 16. Taganga. Fig. 6. Gairaca.
Figs. 7, 8, 14, 15. Nahuange

Scale 1:4

Key # 85285
(5x7) al#72



MASSIVE AXHEADS OR CELTS

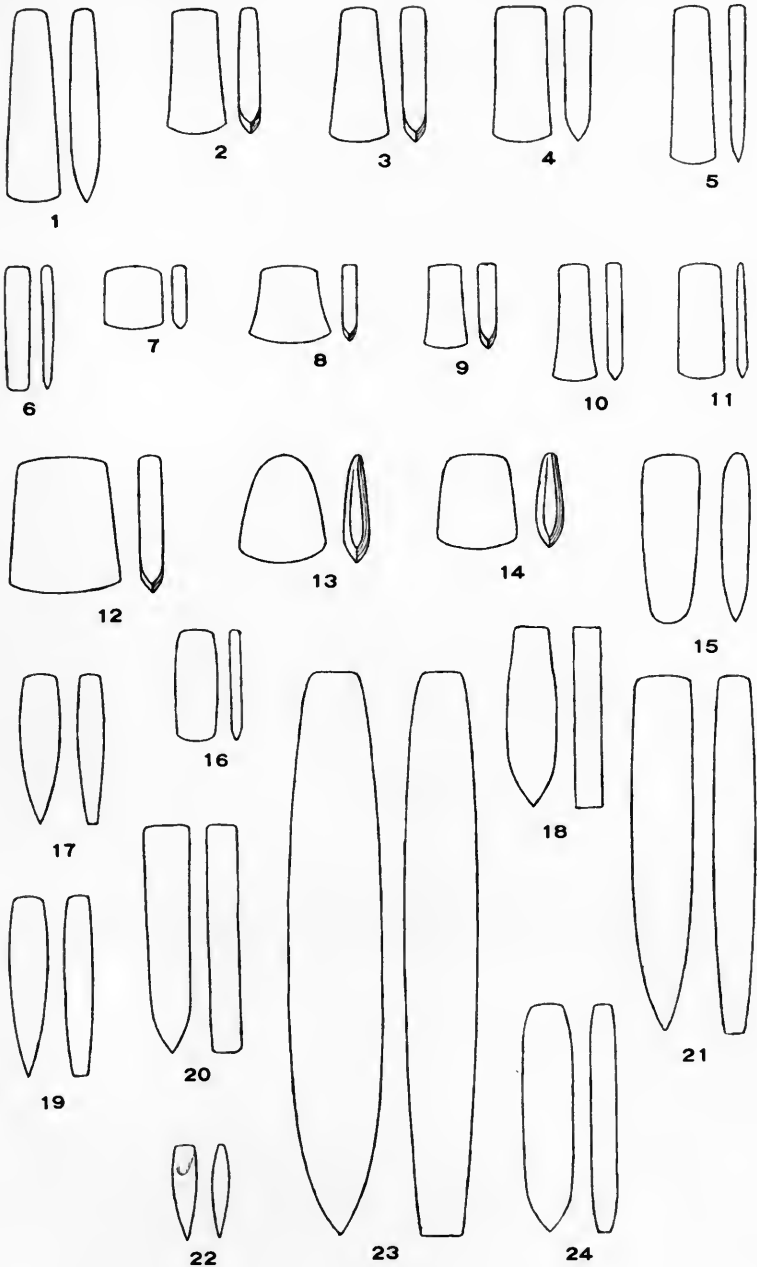
Fig. 1. Bonda. Figs. 2, 5. Terán. Fig. 3. Cañaveral. Figs. 4, 6-10. Taganga

Scale 1:4

Key # 85292
(5X7) alt # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate LXXXVII



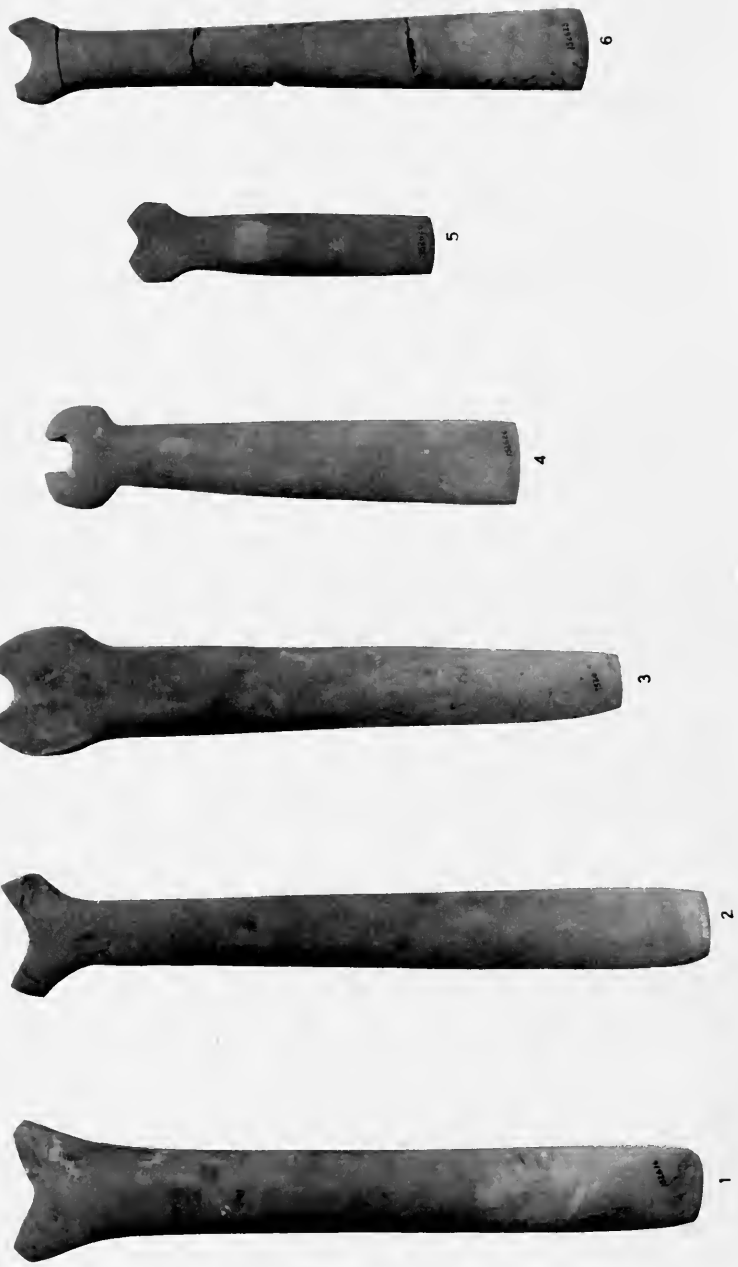
SMALL CELTS AND CHISELS

Figs. 1-3, 17, 20. Taganga. Figs. 4, 7, 10, 11, 13, 15, 16, 19, 21, 23. Pueblito. Figs. 5, 6. Gairaca. Fig. 8. Terán. Figs. 9, 14. Bonda. Fig. 12. Guachaquita. Figs. 18, 22. Mandigua. Fig. 24. Nahuange

Neg # 85 480
(4 ³/₄ x 7 ¹/₄) alt # 72

Anthropology, Vol. XX, Plate LXXVIII

Field Museum of Natural History



CEREMONIAL BATONS, PUEBLITO
Scale 1:2

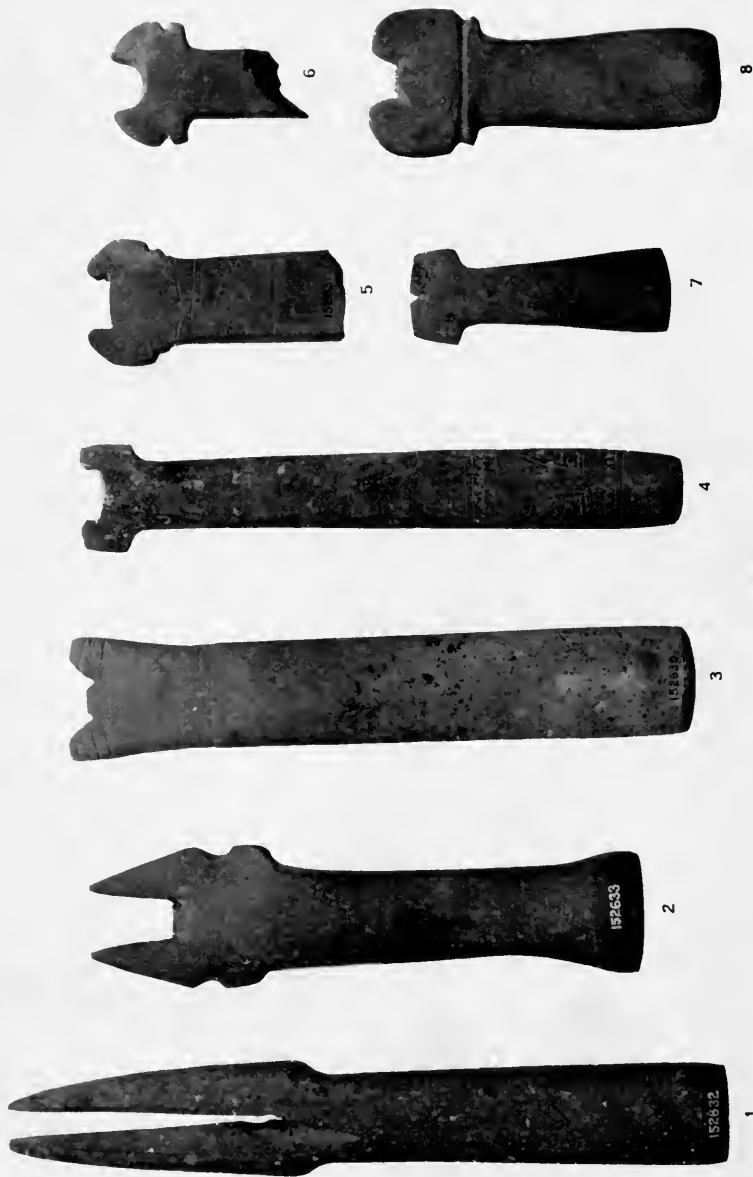
Neg # 75482
(5x7 1/2)

alt # 72



CEREMONIAL BATONS, PUEBLITO

Scale 1:1



Key # 75484
(4 $\frac{3}{4}$ x 7 $\frac{1}{2}$) al H 72

CEREMONIAL BATONS
Figs. 1-5, 7, 8. Pueblito, Fig. 6. Tzaganza
Scale 2:5

neg # 95510
(5 1/4 x 8) al # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate LXXXI

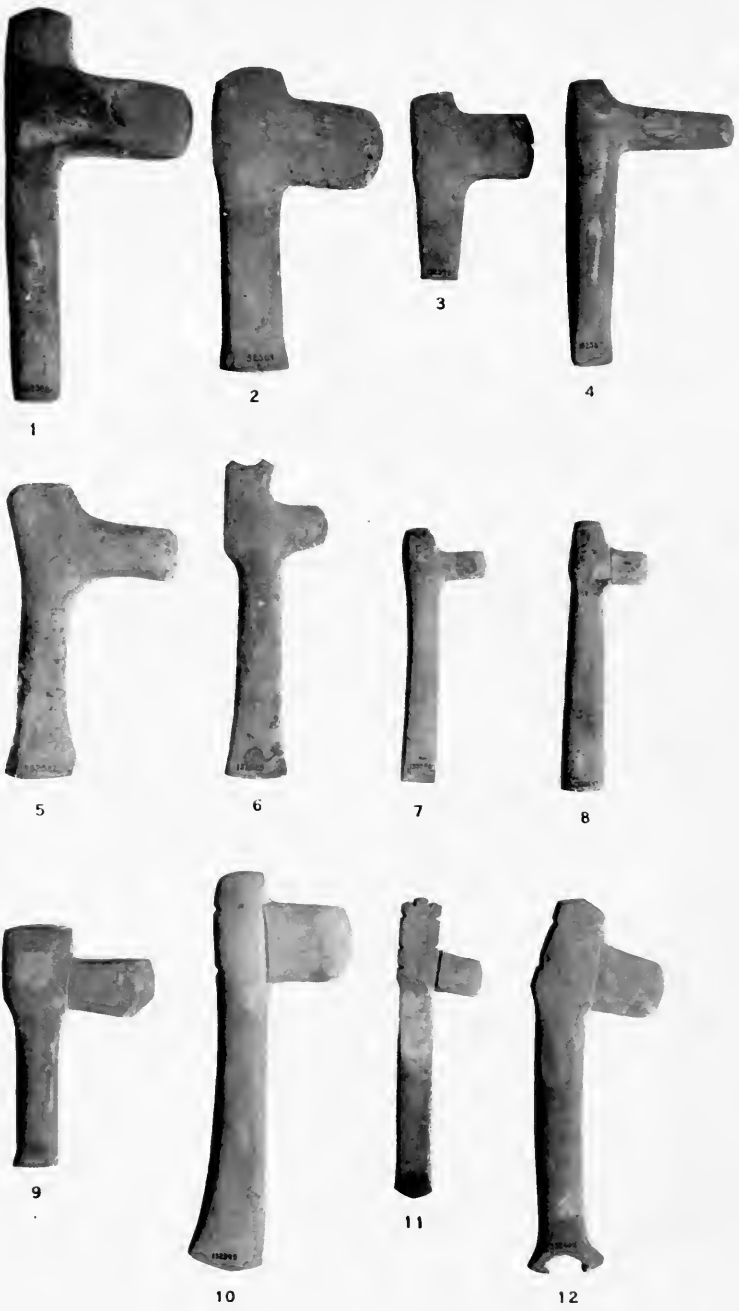


CEREMONIAL BATONS, PUEBLITO

Scale 1:3

neg # 75488
(4½ x 7½)

al#72



MONOLITHIC AXES

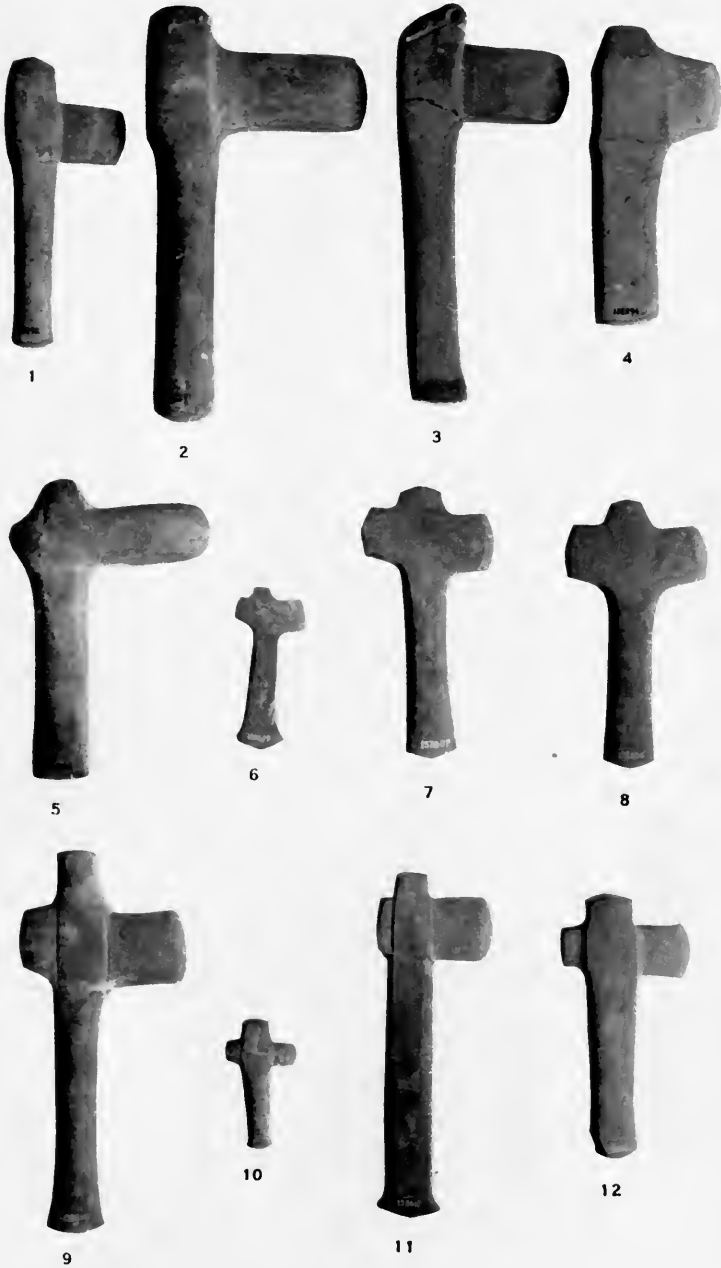
Figs. 1, 5. Nahuange. Figs. 2-4, 6-12. Pueblito

Scale 1:4

Key # 75485
(4½ x 7½) alt # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate LXXXIII



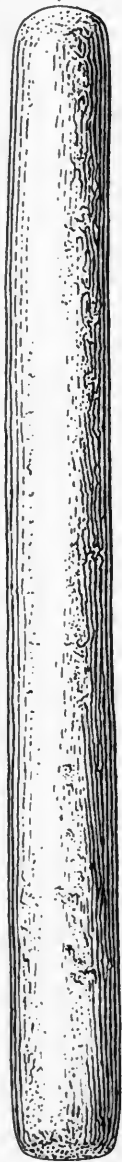
MONOLITHIC AXES, PUEBLITO

Scale 1:5

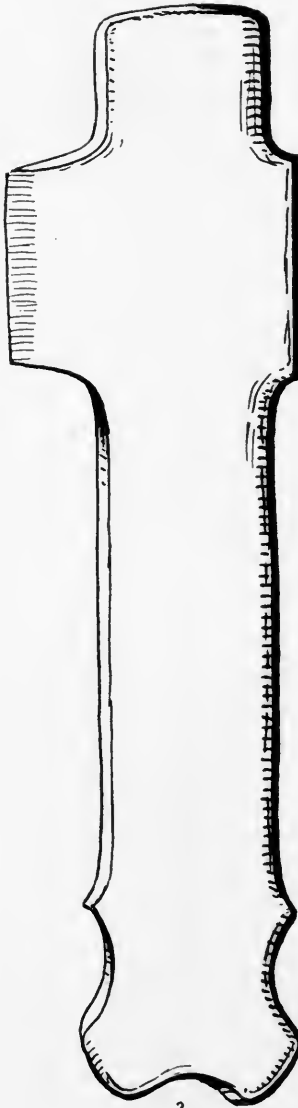
Key # 85293

(5 x 7 1/4)

al # 72



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STONE OBJECTS

Fig. 1. Pestle, Carnegie Museum, Pittsburgh. Fig. 2. Monolithic Ax, Trocadero Museum, Paris.
Fig. 3. Baton, Museum für Völkerkunde, Berlin

Scale: Fig. 1, 3:11; Fig. 2, 3:5; Fig. 3, 1:3

Neg # 75486
(4 3/4 x 7 1/2)

al # 72



BROAD-WINGED ORNAMENTS, PUEBLITO

Scale 1:4

(5 1/2 x 1 1/2) ax 11.1



BROAD-WINGED ORNAMENTS
 Figs. 1, 7. Nahuange. Figs. 2-6, 8-10. Pueblito
 Scale 1:3

neg # 75483
(4 1/2 x 7 1/4)
alt # 72



BROAD-WINGED ORNAMENTS, PUEBLITO

Scale 1:4

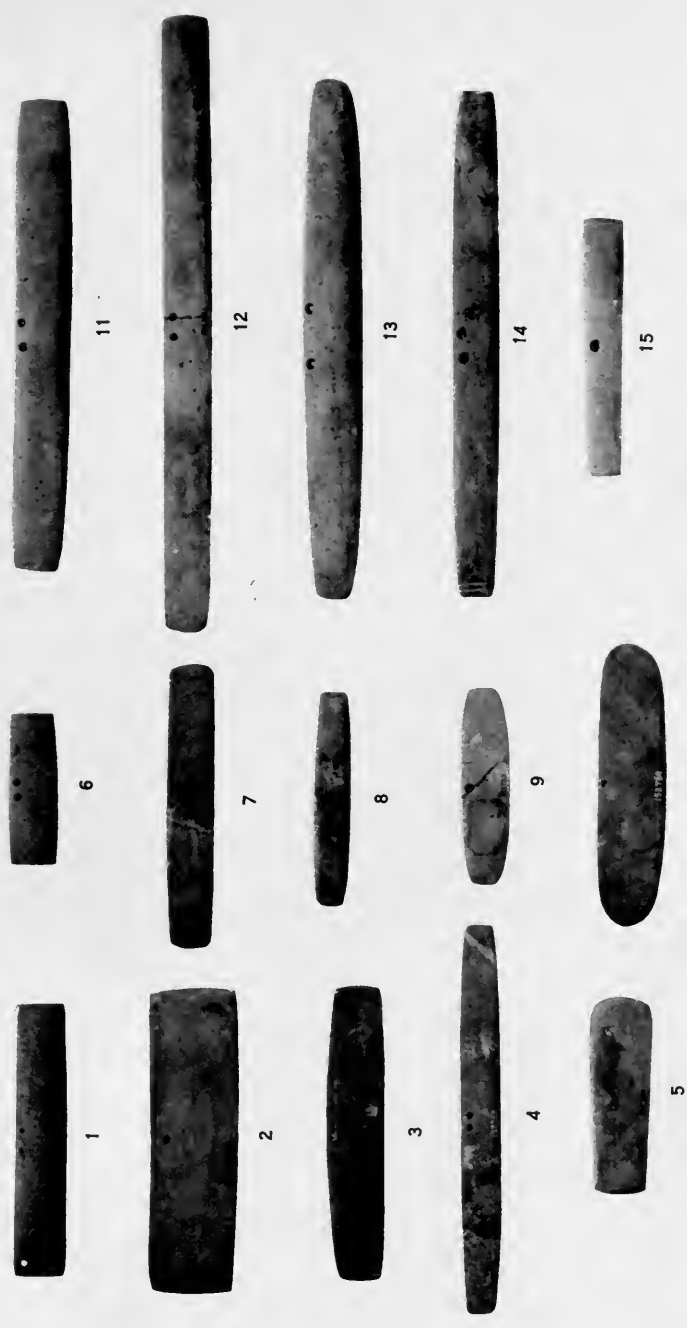
neg. 15711
(4 1/2 x 7 3/4) alt # 22



BROAD-WINGED ORNAMENTS
Figs. 1-5, 7-11. Pueblo. Fig. 6. Dibuila
Scale 1:3

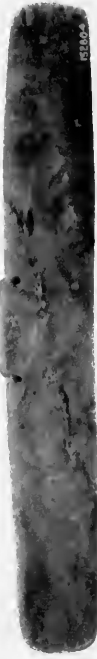
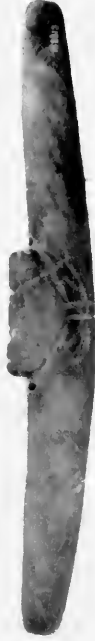
Key # 75478

(4 1/2 x 7 1/2) al # 72



BROAD-WINGED ORNAMENTS
 Fig. 1. Nahuange. Figs. 2-15. Pueblito
 Scale 1:4

1000-050001 (34x 12x) wt 1.2



BROAD-WINGED ORNAMENTS OF JADE
Fig. 1, Taganga. Figs. 2-7, Nahuange
Scale 1:3

neg # 75511 al # 72
(6 1/4 x 8)



JADE ORNAMENTS

Figs. 1, 2, 13. Taganga. Fig. 3. Bonda. Figs. 4-12. Nahuange. Fig. 14. Pueblito

Scale 1:3

Neg # 75512
(4 3/4 x 7 3/4) alt # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate XCII



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HUMAN FIGURES OF JADE AND SLATE

Figs. 1-4, 6. Nahuange. Fig. 5. Pueblito

Scale 4:9

749 # 75509

(4½ x 7½) al # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate XCIII



STONE "SEATS" OR "TABLES," PUEBLITO

Scale 1:4

Neg # 75487
(5½ x 7¾) al # 72

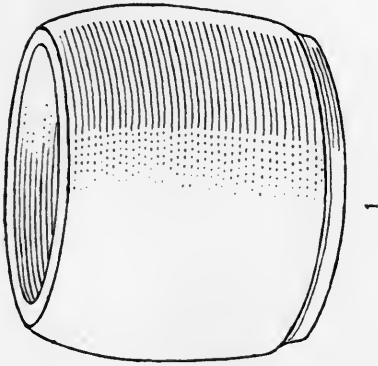


MISCELLANEOUS CEREMONIAL STONE OBJECTS, PUEBLITO

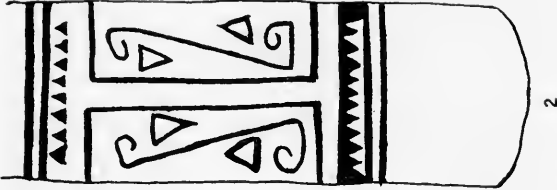
Fig. 1. Greenish stone of crocodile design. Fig. 2. Greenish stone in shape of human sternum. Fig. 3. Black incised stone ring. Figs. 4, 5. Greenish stone "bells." Figs. 6, 7. Greenish stone bowls

Scale 2:5

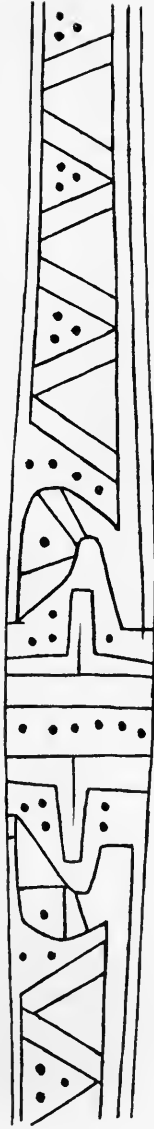
neg # 85302
(5 1/2 x 8 1/4) alt # 2



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STONE OBJECTS, PUEBLITO

Fig. 1. Restoration of steatite bowl. Fig. 2. Incised decoration on handle of baton shown in Plate LXXX, Fig. 4.

Fig. 3. Incised decoration on ring of black stone shown in Plate XCIV

Scale: Fig. 1, 3:4

Neg # 85525
(5 1/2 x 7 3/4) Q# 72



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CEREMONIAL STONE OBJECTS, PUEBLITO
Fig. 1. Statuette of green stone. Fig. 2. Zoomorphic bowl of granite
Scale: Fig. 1, 2:3; Fig. 2, 3:4

Reg. # 85800

(5½ x 7½) alt #72

Field Museum of Natural History

Anthropology, Vol. XX, Plate XCVII



MISCELLANEOUS CEREMONIAL STONE OBJECTS

Fig. 1. Nahuange. Figs. 2-7. Pueblito. Fig. 1. Blade of monolithic ax? Fig. 2. Perforated object of white stone. Figs. 3, 4. Fragments of objects of black slate. Fig. 5. Bar of red tuff. Fig. 6. Chisel-wedge of green slate. Fig. 7. Rectangular object of green slate

Scale 1:3

neg # 75514
(5 1/2 x 7 3/4) alt # 72



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STONE FIGURINES

Fig. 1. Dibulla. Figs. 2, 3, 5. Pueblito. Fig. 4. Bonda

Scale 7:9

Key # 75516-A
(6x8) alt # 72



MISCELLANEOUS SMALL STONE OBJECTS

Figs. 1, 4-6, 9, 10, 12, 14, 15. Pueblito. Fig. 2. Pueblo Viejo. Fig. 3. Teràn. Figs. 7, 8. Bongá. Fig. 11. Gairaca. Fig. 13. Vista Nieve. Fig. 1. Labret. Fig. 2. Notched object. Figs. 3, 4. Drilled pebbles. Figs. 5-8. Miniature seats. Figs. 9-10. Square, thin, concave object. Fig. 11. Thin square object. Fig. 12. Small stone cylinder. Fig. 13. Heavy black plummet. Fig. 14. Thick stone disk. Fig. 15. Drilled disk

Scale 3:5

Neg # 75508
(4 $\frac{3}{4}$ x 7 $\frac{1}{2}$) @ # 72



RUDE BEADS AND CYLINDERS

Figs. 1, 4, 6, 7, 9-13. Pueblito. Figs. 2, 3. Locality uncertain. Fig. 5. Pueblo Viejo.
Figs. 8, 15. Bonda. Figs. 14, 16. Taganga

Scale 1:2

Reg # 75577
(5 x 7 $\frac{3}{4}$) alt # 72

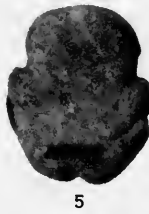


STONE ORNAMENTS IN THE SHAPE OF SHELLS
Figs. 1, 3-6. Pueblo Viejo. Fig. 2. Dibulla. Fig. 7. Santa Rosa
Scale 1:2

Neg # 75579
($4\frac{3}{4} \times 7\frac{1}{4}$) Q#72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CII

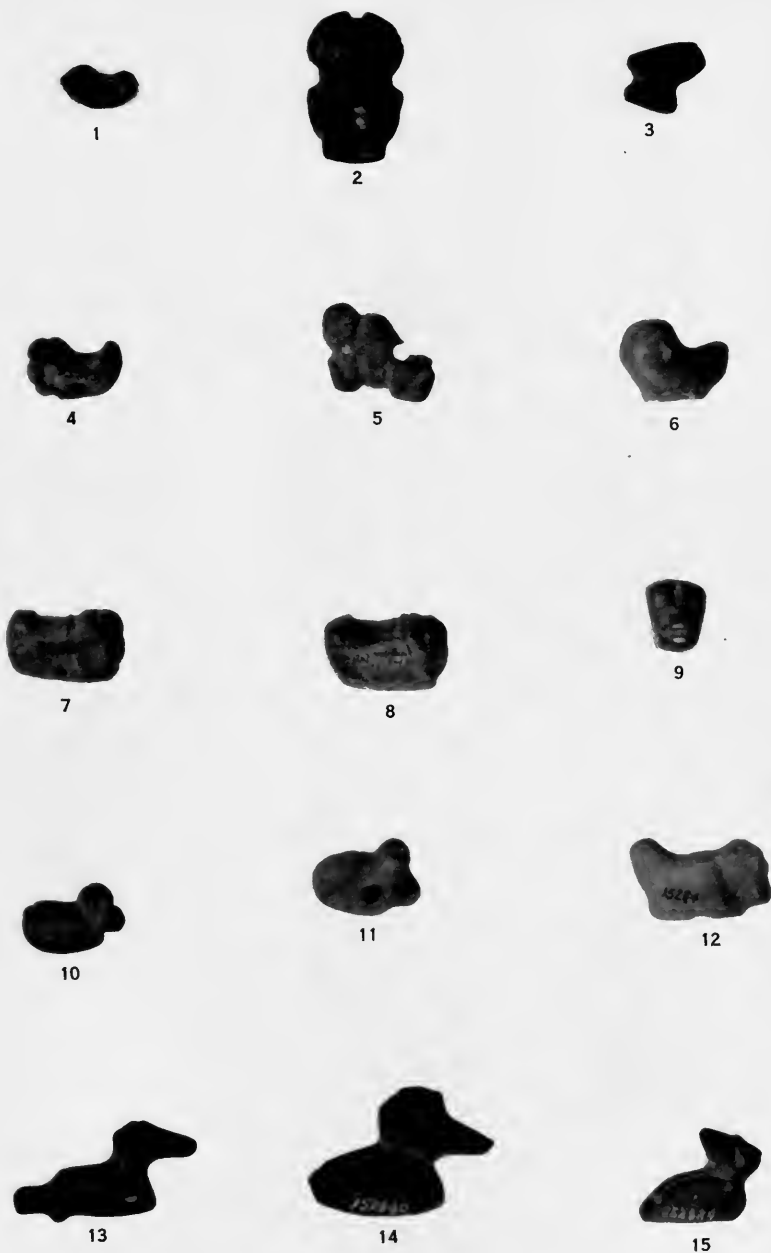


SMALL STONE ANIMAL PENDANTS

Figs. 1, 2. Dibulla. Fig. 3. Nahuange. Figs. 4, 9. Bonda. Fig. 5. Gairaca.
Fig. 6. Pueblo Viejo. Figs. 7, 8. Pueblito

Scale 6:7

Reg # 75565
(5x7½) alt # 72

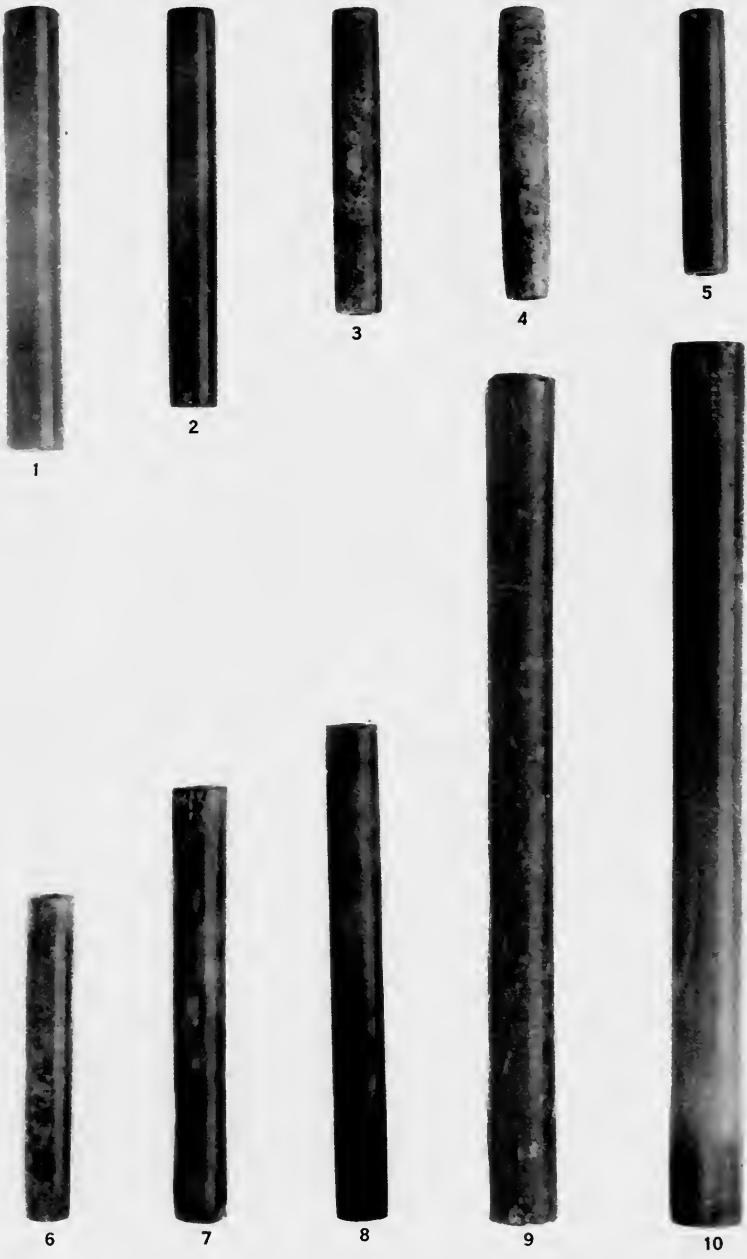


ANIMAL PENDANTS OF CARNELIAN AND BROWN CLAY-STONE
Figs. 1, 3, 6. Pueblito. Figs. 2, 7. Bonda. Fig. 4. Terán. Figs. 5, 12, 13. Dibulla. Fig. 8.
Mandigua. Figs. 9, 14. Gairaca. Figs. 10, 11, 15. Locality uncertain
Scale 4:5

Reg # 75572
($4\frac{3}{4} \times 7\frac{1}{2}$) Q#72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CIV



LARGE TUBULAR CARNELIAN BEADS, NAHUANGE
Scale 5:7

neg # 75559
(5 1/4 x 7 1/2) alt # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CV



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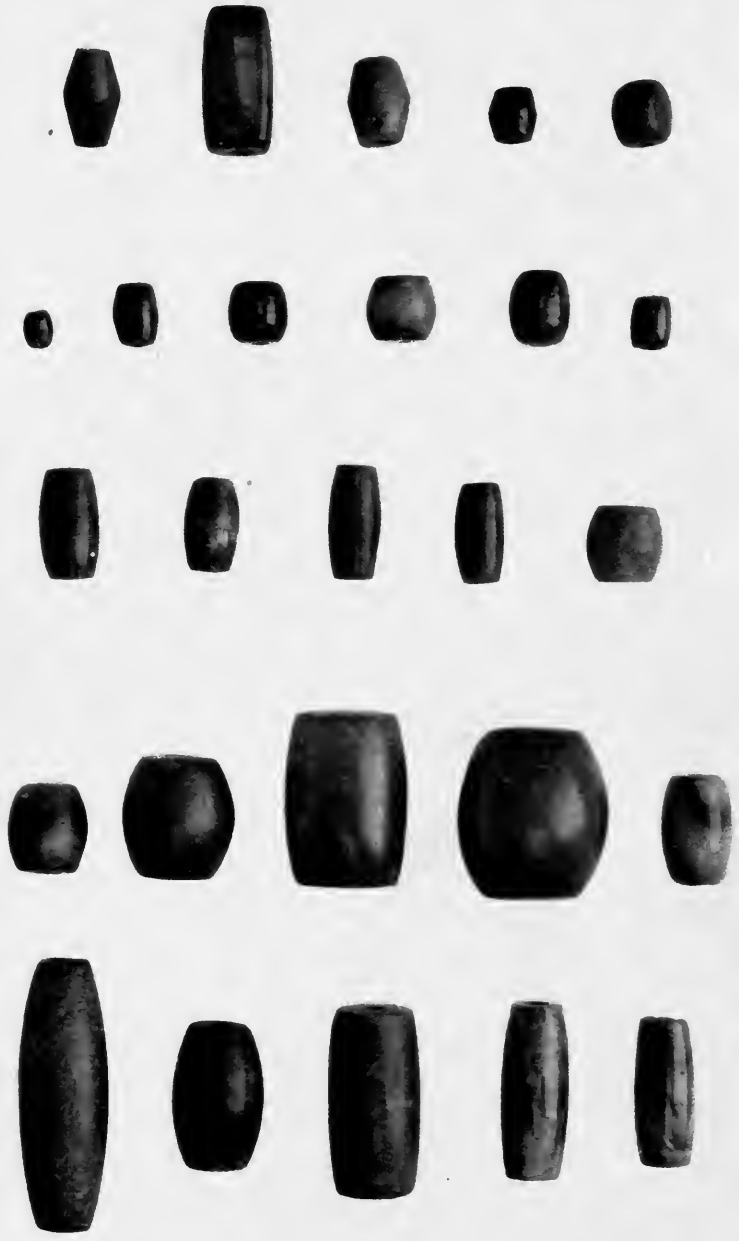
TUBULAR CARNELIAN BEADS, NAHUANGE

Scale 7:10

neg # 75580
(4 $\frac{3}{4}$ x 7 $\frac{1}{2}$) @ # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CVI



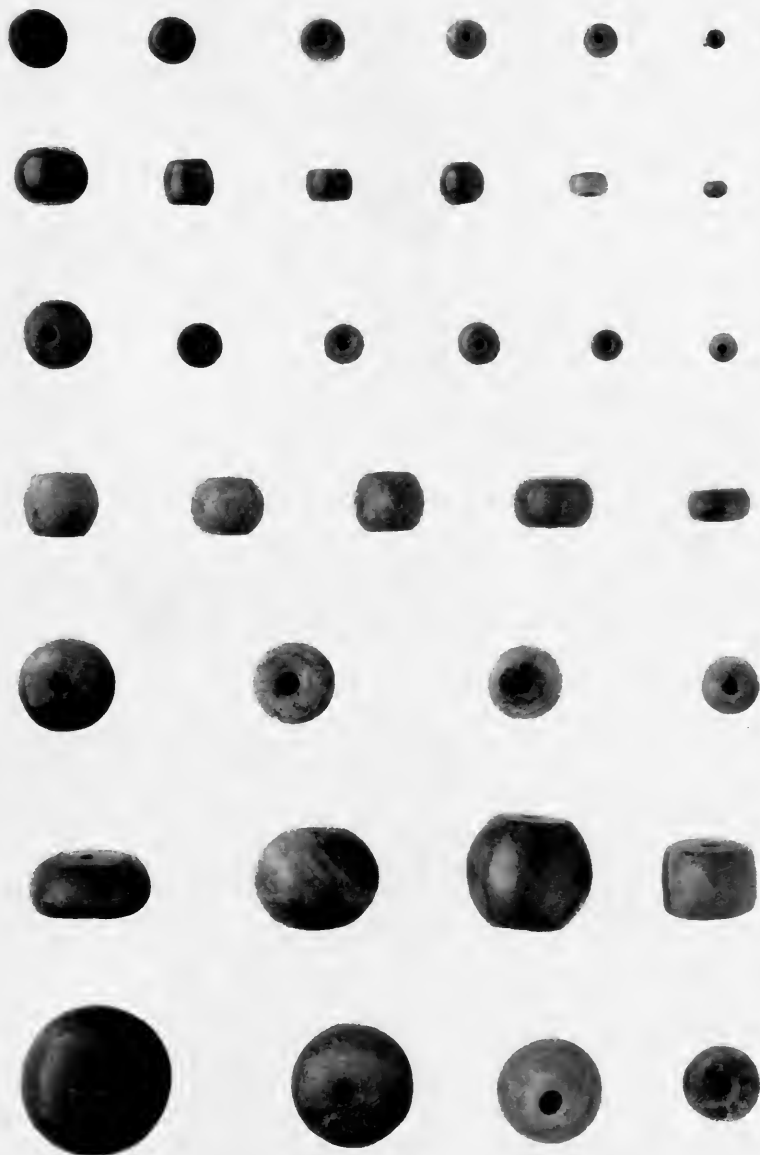
BICONICAL, CIGAR- AND BARREL-SHAPED CARNELIAN BEADS
Tairona culture; localities uncertain
Scale 7:10

neg # 75558

(5 1/4 x 7 1/2) alt # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CVII



SPHEROIDAL AND DISCOIDAL CARNELIAN BEADS

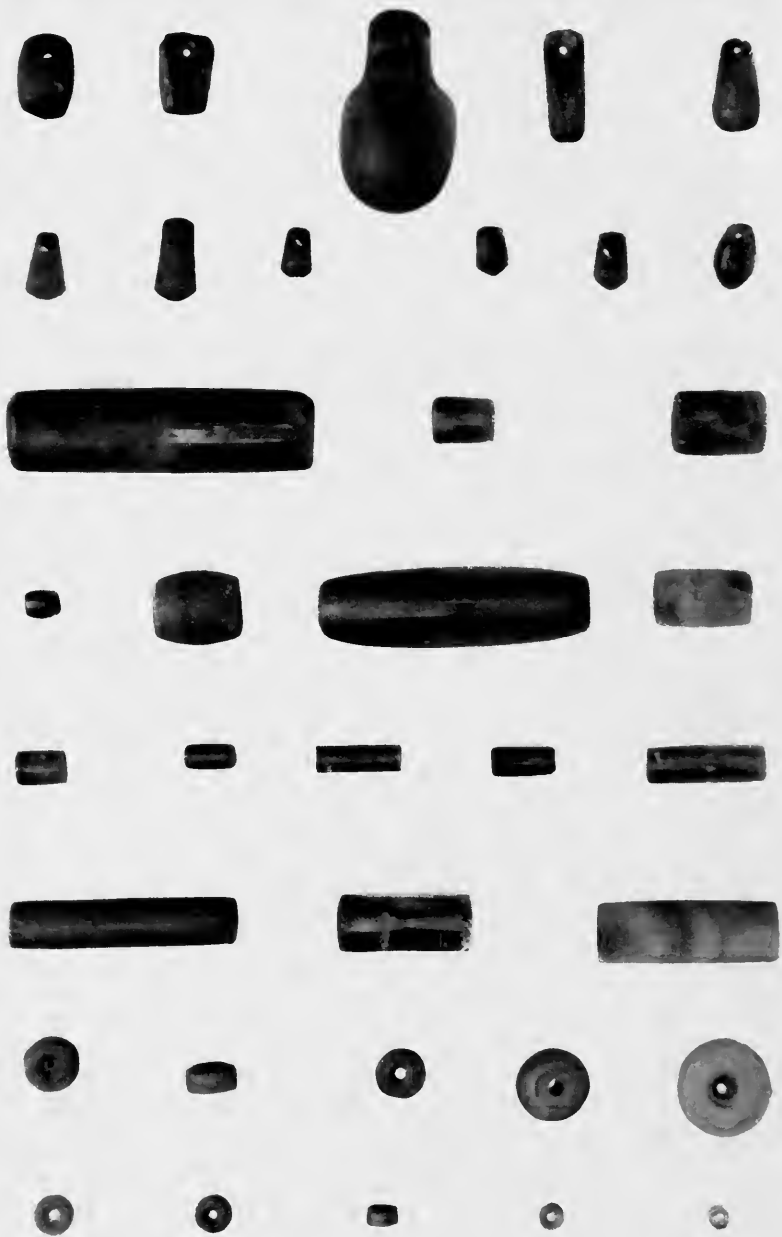
Tairona culture; localities uncertain

Scale 1:1

neg # 75582
(5 x 7½) alt # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CVIII

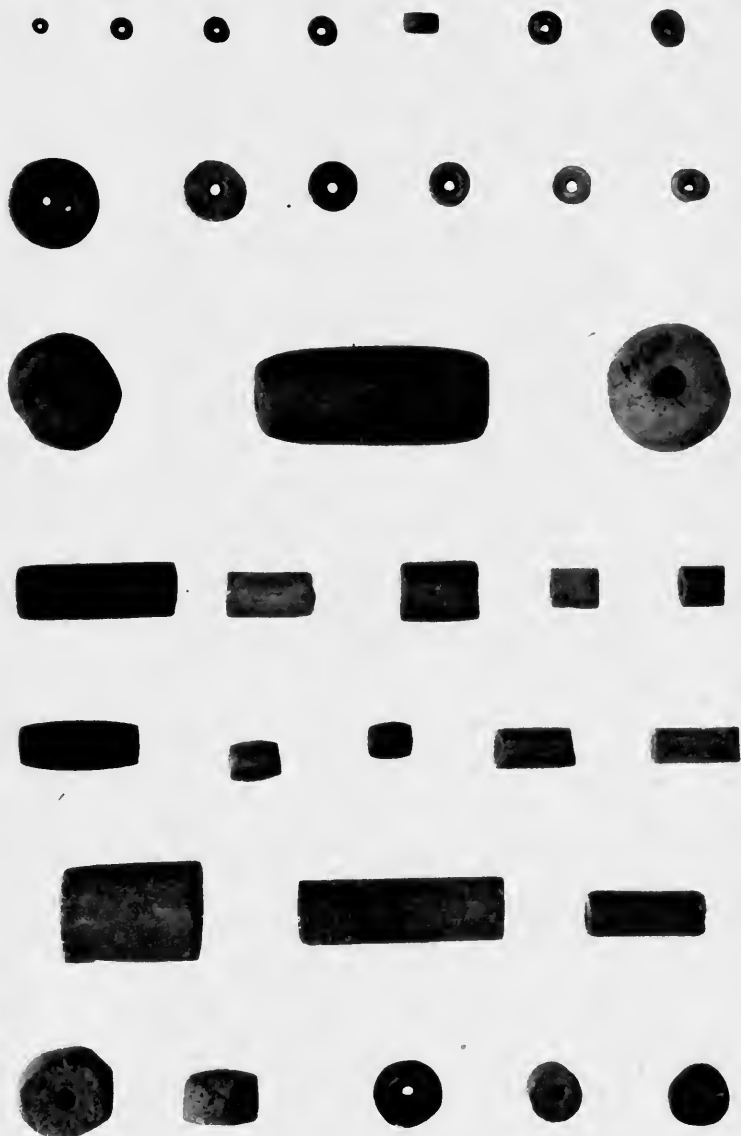


PENDANTS AND BEADS OF QUARTZ CRYSTAL
Scale 2:3

Key # 85799; 75588
(5½ x 7½) alt # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CIX



BEADS OF JADE, SLATE, SERPENTINE, AND STEATITE

Scale 4:5

Neg # 75563

(5x7) alt#72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CX



PENDANTS AND BEADS OF BROWN CLAY-STONE, ARECIFE

Scale 3:5

Neg # 75574

(4 ³/₄ x 7 ¹/₂)

al # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CXI



CYLINDERS OF ORNAMENTAL STONES

Scale 4:5

Neg # 75571
(4 $\frac{3}{4}$ x 7 $\frac{1}{2}$) alt # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CXII



Y-SHAPED PENDANTS OF CARNELIAN, PROVENIENCE UNCERTAIN

Scale 8:11

Key # 75561

(4 $\frac{3}{4}$ x 7 $\frac{1}{4}$) alt # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CXIII



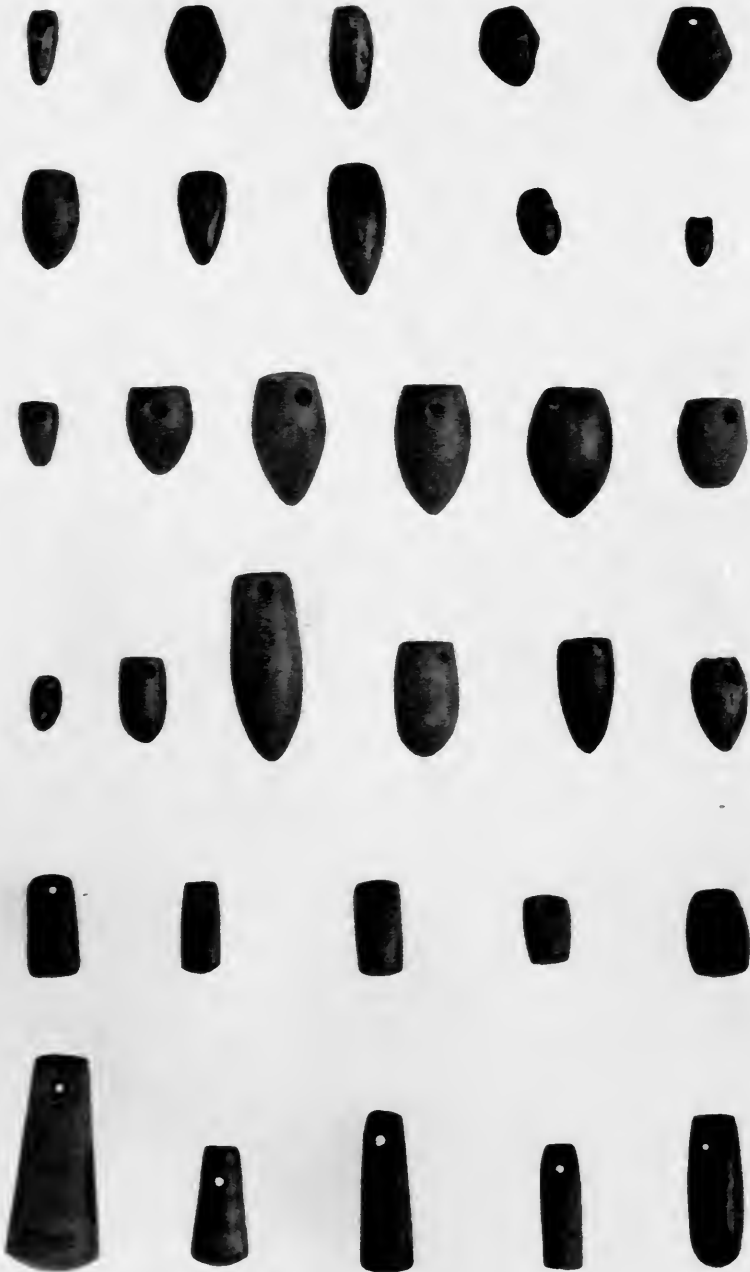
V-SHAPED PENDANTS OF CARNELIAN, LOCALITIES UNCERTAIN

Scale 1:1

Neg # 75584
(5 x 7 1/2) al # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CXIV



CARNELIAN PENDANTS, LOCALITIES UNCERTAIN

Scale 7:8

Neg # 75570
(4 3/4 x 7 1/4) al # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CXV



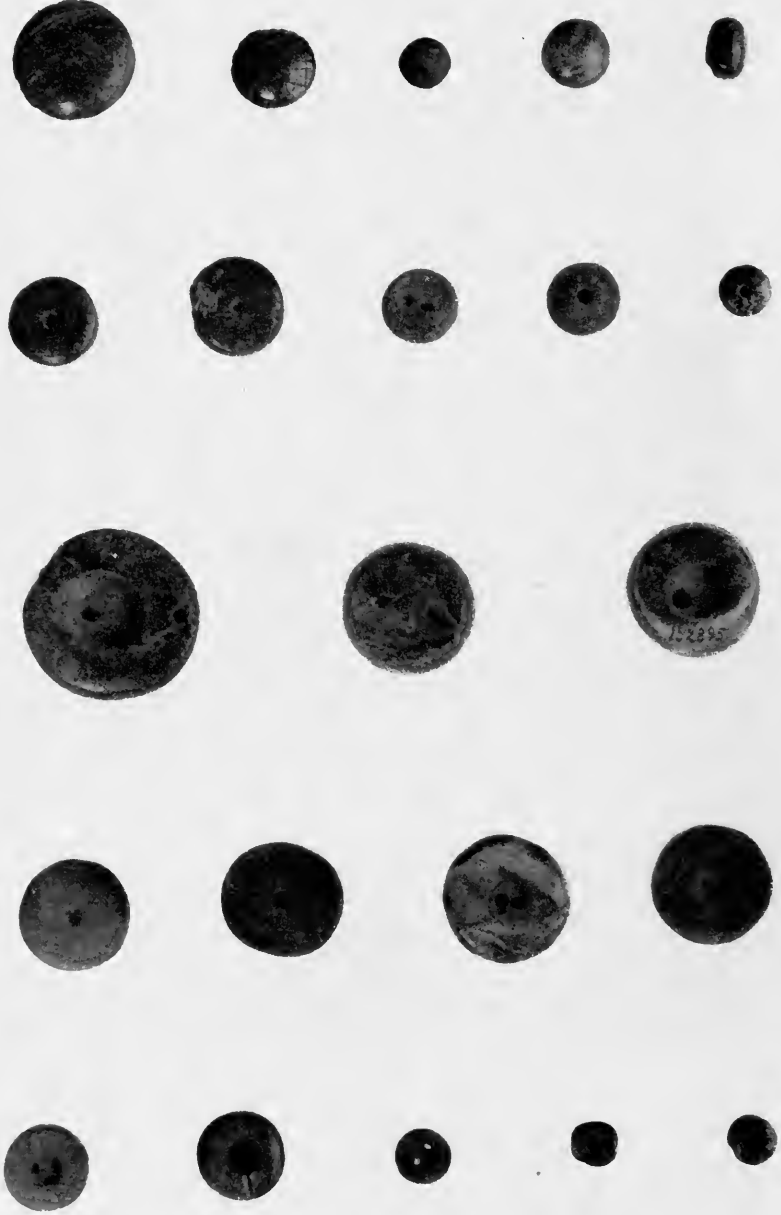
ASYMMETRICAL CARNELIAN PENDANTS

Scale 4:11

neg # 75569
(4 3/4 x 7 1/2) alt # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CXVI



"BUTTONS" OF CARNELIAN, UNCERTAIN PROVENIENCE
Scale 4:5

Reg # 85389
(4 $\frac{2}{4}$ x 6 $\frac{3}{4}$) alt # 72



CEREMONIAL OBJECTS OF STONE, MUSEUM OF THE AMERICAN
INDIAN, HEYE FOUNDATION

Fig. 1. Baton. Fig. 2. Head of large baton. Fig. 3. Human figurine of jade. Fig. 4. Figure of bat
or bird, San Pedro Alejandrino. Fig. 5. Miniature seat. Fig. 6. Miniature seat, Pueblo Viejo.
Fig. 7. Pendant with human figure, Gairaca

Scale 1:2

Key # 85397
(4½ x 6½) alt # 72



CEREMONIAL OBJECTS AND ORNAMENTS OF STONE, CARNEGIE MUSEUM,
PITTSBURGH

Fig. 1. Ornament of jade. Fig. 2. Bowl of diorite. Fig. 3. Pendant of jade. Fig. 4. Broad-winged
pendant ornament. Figs. 5, 6. Small pendants of carnelian. Figs. 7, 8. Carnelian pendants in
animal form

Scale 13:20

neg # 85399
(4 3/4 x 6 3/4)
al # 72



ORNAMENTS AND CEREMONIAL OBJECTS OF STONE, AMERICAN MUSEUM OF NATURAL HISTORY

Fig. 1. Undrilled object of carnelian, near Santa Marta. Figs. 2, 3. Small thin nephrite pendants, Valle Dupar. Figs. 4, 5. Nephrite pendants, near Don Diego. Figs. 6-10. Miniature seats, Santa Marta. Fig. 11, 12. Miniature seats, Santa Marta. Fig. 13. Unfinished miniature seat(?), Dibulla. Fig. 14. Implement of black stone, Santa Marta

Scale 3:5

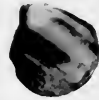
Key # 85400
(4 3/4 x 6 1/2)
alt # 72



1



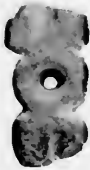
2



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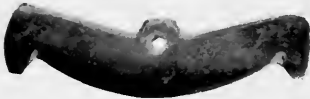
10



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14

STONE PENDANTS, AMERICAN MUSEUM OF NATURAL HISTORY

Figs. 1, 2. Crystal, Don Diego. Fig. 3. Carnelian, San Pedro Alejandrino. Figs. 4-12. Animal forms, mainly of brown clay-stone. Figs. 13, 14. Brown clay-stone, Don Diego

Scale 3:4

Neg # 85398
(4 3/4 x 6 1/4)
al # 72

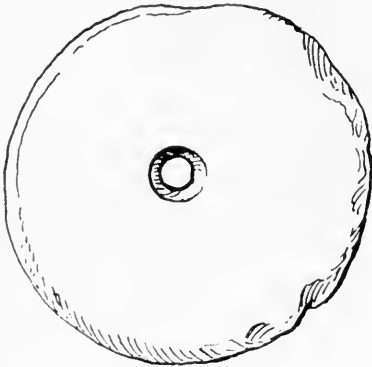


STONE OBJECTS, NATIONAL MUSEUM, BOGOTA, COLOMBIA

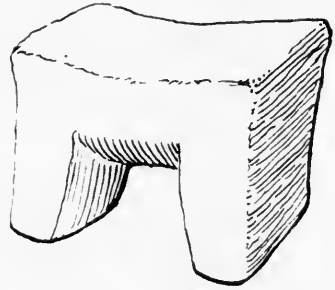
Figs. 1, 2. Ornaments of pagodite in form of shells, Dibulla. Figs. 3, 5. Objects of serpentine in form of animals. Fig. 4. Pendant of serpentine. Fig. 6. Pendant of jade(?). Figs. 7-9. Pendants of carnelian in form of animals

Scale 9:16

Neg # 85803
(5 x 7 3/4)
al # 72



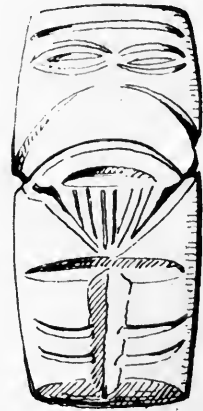
1



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STONE AND SHELL OBJECTS, MUSEUM FÜR VÖLKERKUNDE, BERLIN

Fig. 1. Drilled steatite disk, San Francisco. Fig. 2. Miniature steatite seat, Cabecera de Don Diego. Fig. 3. Four-legged stone seat, La Palma. Fig. 4. Rude human figurine of incised steatite, Don Diego. Fig. 5. Crocodile head of shell. Fig. 6. Carnelian pendant of animal form, Gairaca

Scale: Figs. 1, 2, 5, 6, 1:1; Figs. 3, 4, 1:2

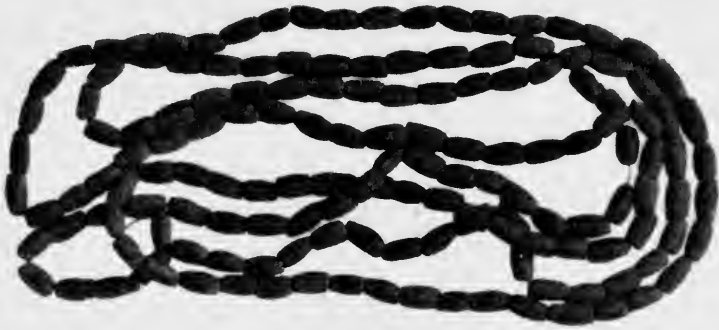
Key # 75573

(4 1/2 x 7 1/2)

al # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CXXIII



POTTERY BEADS AND OBJECTS OF RESIN, NAHUANGE

Scale 9:11

neg # 85303
(4 3/4 x 5 1/4)
al # 72



OBJECTS OF BONE AND RELATED STRUCTURES

Figs. 1, 2. Two bone tubes, San Pedro Alejandrino, Collection of Mr. W. M. Sutherland. Fig. 3. Carved human astragalus, Nahuange. Figs. 4-6. Drilled pieces of bone, Nahuange. Fig. 7. Piece of tail of sting-ray, Gairaca. Fig. 8. Drilled fossil shark's tooth, Pueblito

Scale: Figs. 1, 2, 1:3; Figs. 3-8, 5:4

neg # 85295
(4 1/2 x 7)
al # 72



1



2

HUMAN FIGURINE OF BONE, GAIRACA

Scale 2:1

Reg # 85300
(4 3/4 x 6 3/4)
al # 72



CARVED BONE STAFF-HEADS, MUSEUM OF THE AMERICAN INDIAN, HEYE FOUNDATION

Front, side, and rear views

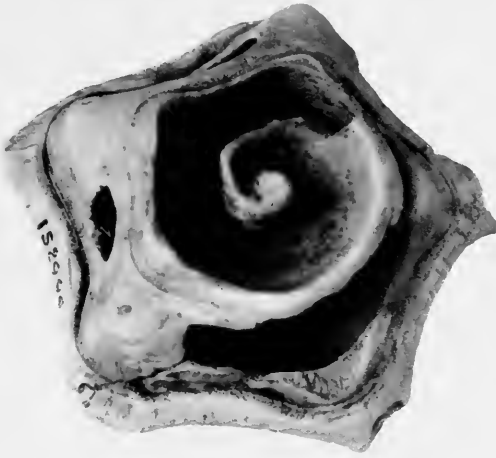
Scale 7:10

neg # 75586 (4 3/4 x 7 5/8)

al # 72

Field Museum of Natural History

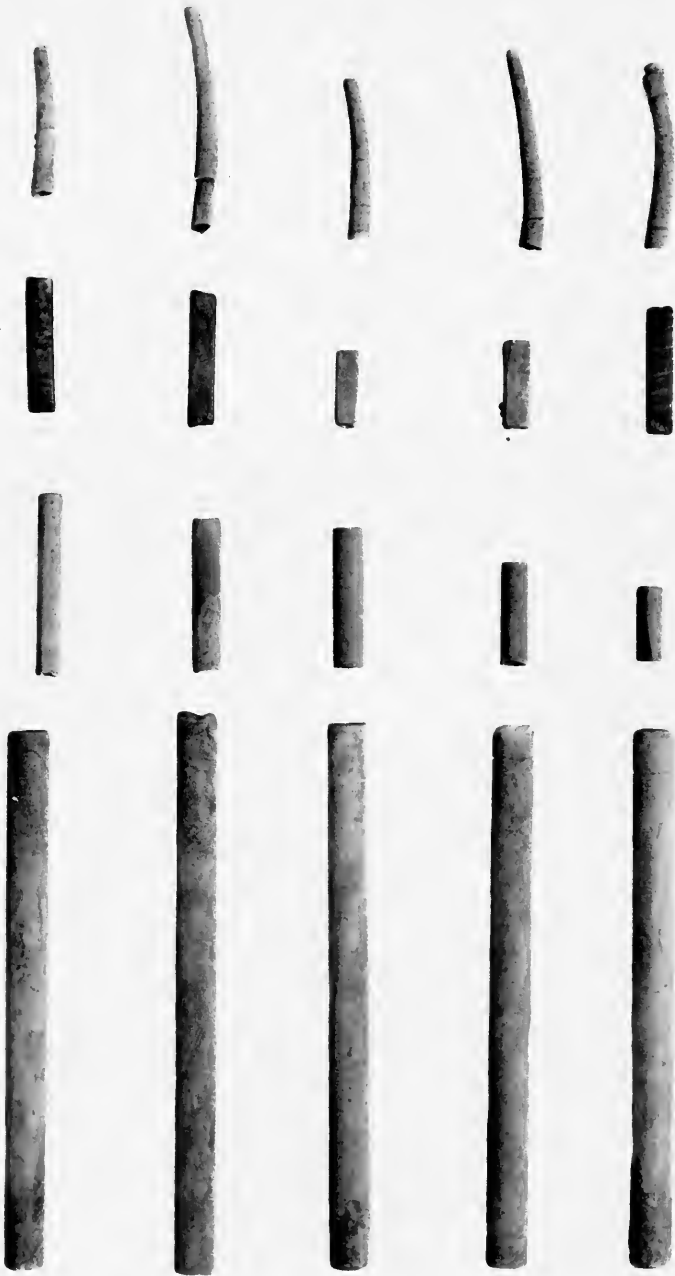
Anthropology, Vol. XX, Plate CXXXVII



RATTLES AND ORNAMENTS OF NATURAL SHELL

Scale 6:7

neg # 15516
(4 $\frac{3}{4}$ x 7 $\frac{3}{4}$)
al#72



DENTALIA AND SHELL BEADS

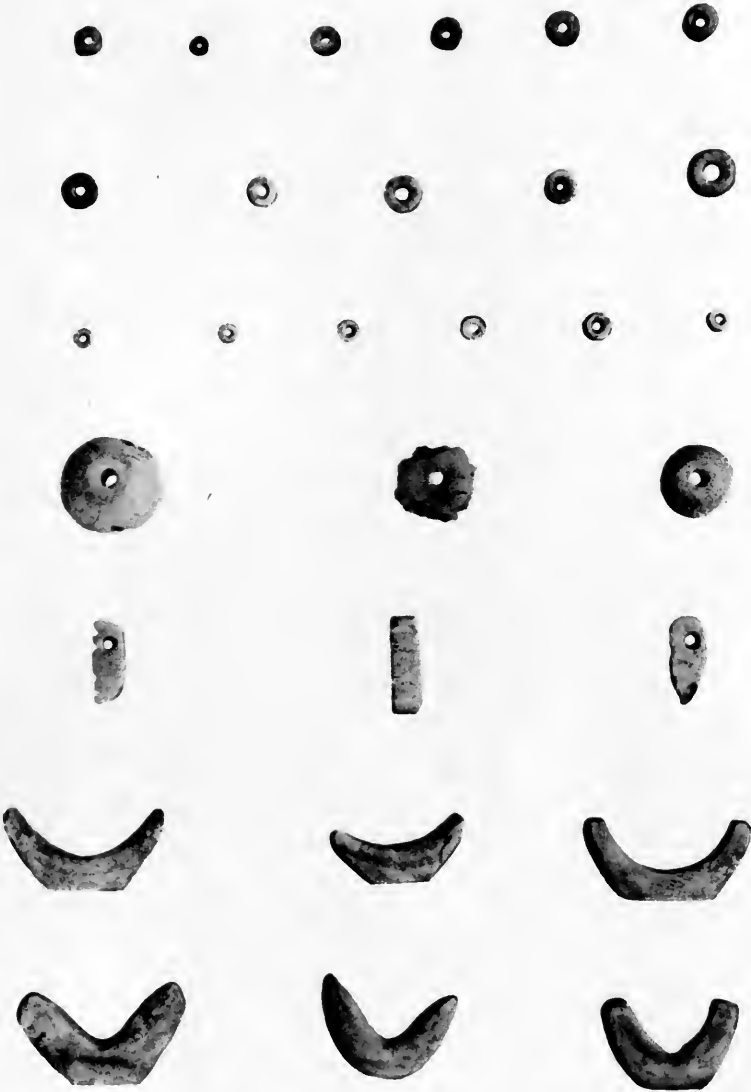
Row 1 (top). Dentalia, Nahuange. Row 2. Shell beads from fillet of Arhuaco shaman. Row 3. Shell beads, Nahuange. Row 4. Long shell beads, Nahuange

Scale 3:4

neg # 75553

(5x7)

al # 72



SHELL BEADS AND PENDANTS

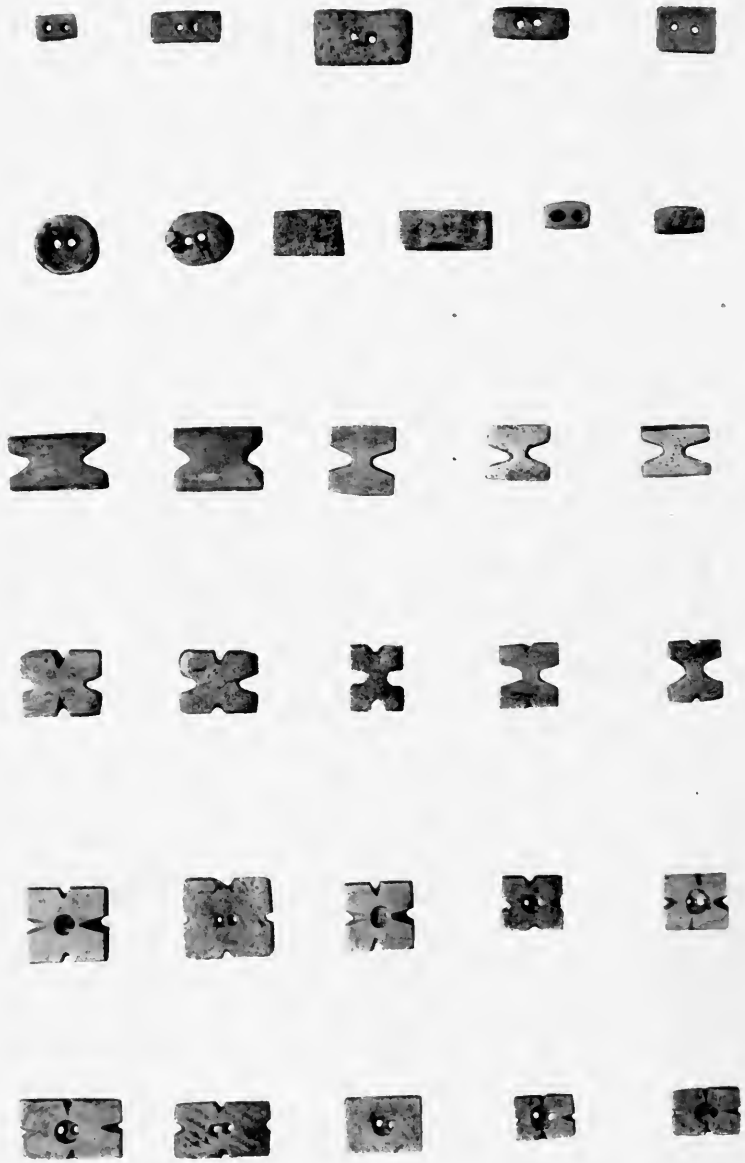
Row 1 (top). Taganga and Durcino. Row 2. Pueblito, Nahuange, and Taganga. Row 3. Nahuange. Row 4. Gairaca. Row 5. Gairaca and Taganga. Rows 6, 7. Nahuange

Scale 4:5

Reg # 75554
(4 3/4 x 7 1/4)
alt # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CXXX



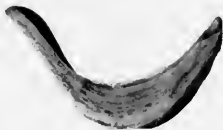
SHELL "BUTTONS," NAHUANGE
Scale 4:5

Key # 75587

$(4\frac{3}{4} \times 7\frac{1}{2})$
22#32



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MISCELLANEOUS SHELL OBJECTS

Figs. 1, 3. Pendants, Nahuange. Fig. 2. Undrilled object, Gairaca. Fig. 4. Labret, Taganga.
Fig. 5. Pendant, San Sebastian. Fig. 6. Undrilled object, Dibulla. Figs. 7, 8. Gairaca

Scale 3:4

Neg # 75583
(4 3/4 x 7 1/2)
al # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CXXXII



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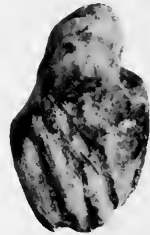
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BIOMORPHIC SHELL FIGURINES

Figs. 1-3, 5, 7-9. Gairaca. Figs. 4, 6. Pueblito

Scale 3:4

Field Museum of Natural History

Anthropology, Vol. XX, Plate CXXXIII



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CROCODILE HEADS OF SHELL, NAHUANGE
Scale 5:7

Reg = 75575
(5 x 6 3/4)
cel # 72

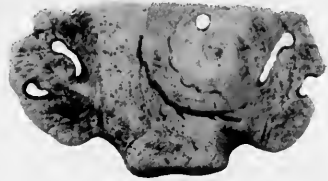
Neg # 75585
(5x7 1/2)
alt # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CXXXIV



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CROCODILE HEADS OF SHELL, NAHUANGE

Fig. 1. Front view. Fig. 2. Rear view, upside-down. Fig. 3. Lower view. Fig. 4. Upper view

Scale 2:3

Neg # 85385
(4 1/2 x 6 1/2)
al # 72



CROCODILE HEADS OF SHELL, MUSEUM OF THE AMERICAN INDIAN, HEYE FOUNDATION
Scale 4:5

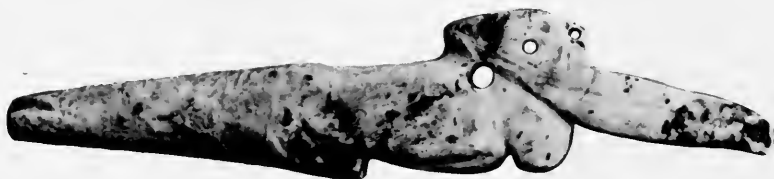
Key # 85387
(4 1/2 x 6)
alt # 72



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OBJECTS OF SHELL, MUSEUM OF THE AMERICAN INDIAN,
HEYE FOUNDATION

Fig. 1. Human figure, Taganga. Fig. 2. Circular ornament, Cinto. Fig. 3. Pelican, Taganga.
Fig. 4. Pendants

Scale 11:9

Reg # 85384
(4½ x 6½) al # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CXXXVII

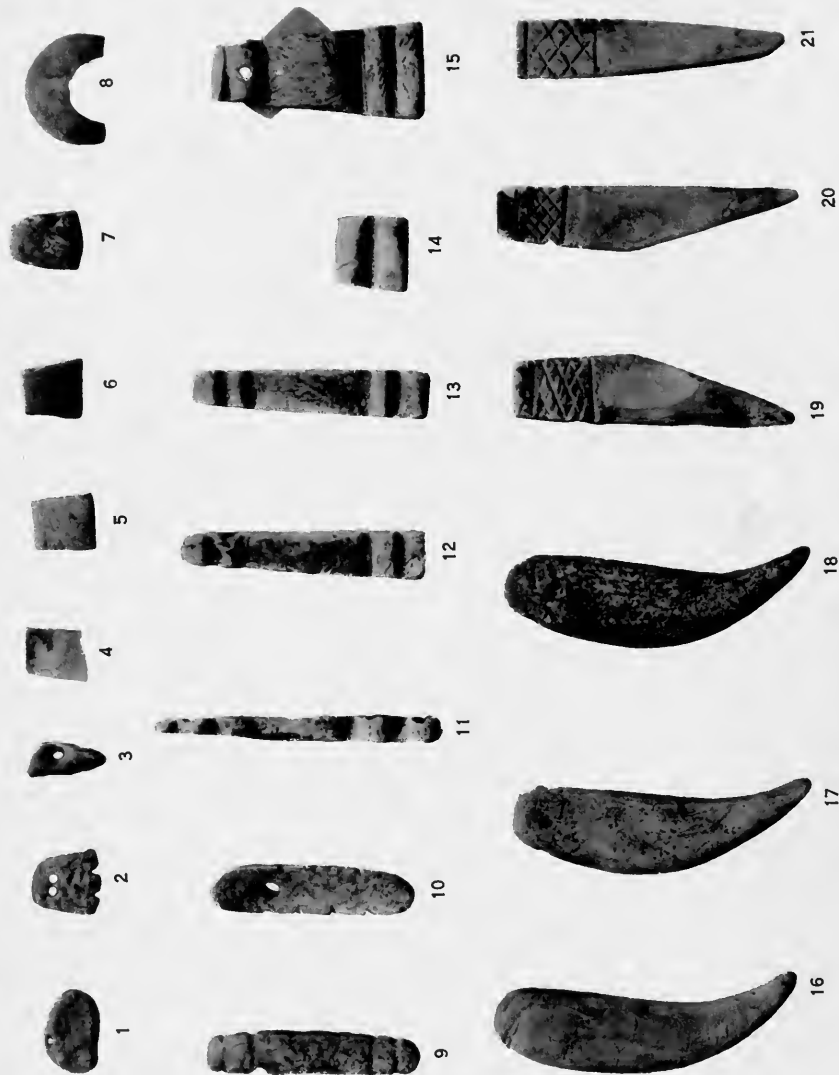


OBJECTS OF SHELL, BONE, AND MOTHER-OF-PEARL, SAN PEDRO ALEJANDRINO,
AMERICAN MUSEUM OF NATURAL HISTORY

Figs. 1, 2. Pendants of shell in animal form. Fig. 3. Undrilled objects of mother-of-pearl. Figs. 4, 5. Circular pendants of shell. Fig. 6. Fragments of carved bone tubes. Fig. 7. Long shell beads. Length of longest, 14.5 cm.

Scale 2:3

Key # 85383
(5x6 1/2)
al # 72



PENDANTS OF SHELL, SAN PEDRO ALEJANDRINO, AMERICAN MUSEUM OF NATURAL HISTORY

Key # P5390
(5x6 1/2) alt # 72



OBJECTS OF SHELL, CARNEGIE MUSEUM, PITTSBURGH

Figs. 1, 2, 3. Fragments of circular or crescentic ornaments. Fig. 4. Bird. Figs. 5, 6. Pelicans. Fig. 7. Small figurine of animal. Fig. 8. Small button. Fig. 9. Long rectangular beads. Fig. 10. Pendant in shape of jaguar tooth. Fig. 11. Animal tooth pendant. Figs. 12, 13. Small pendants

Key # 75578
(4 $\frac{3}{4}$ x 7 $\frac{1}{2}$) alt. 12



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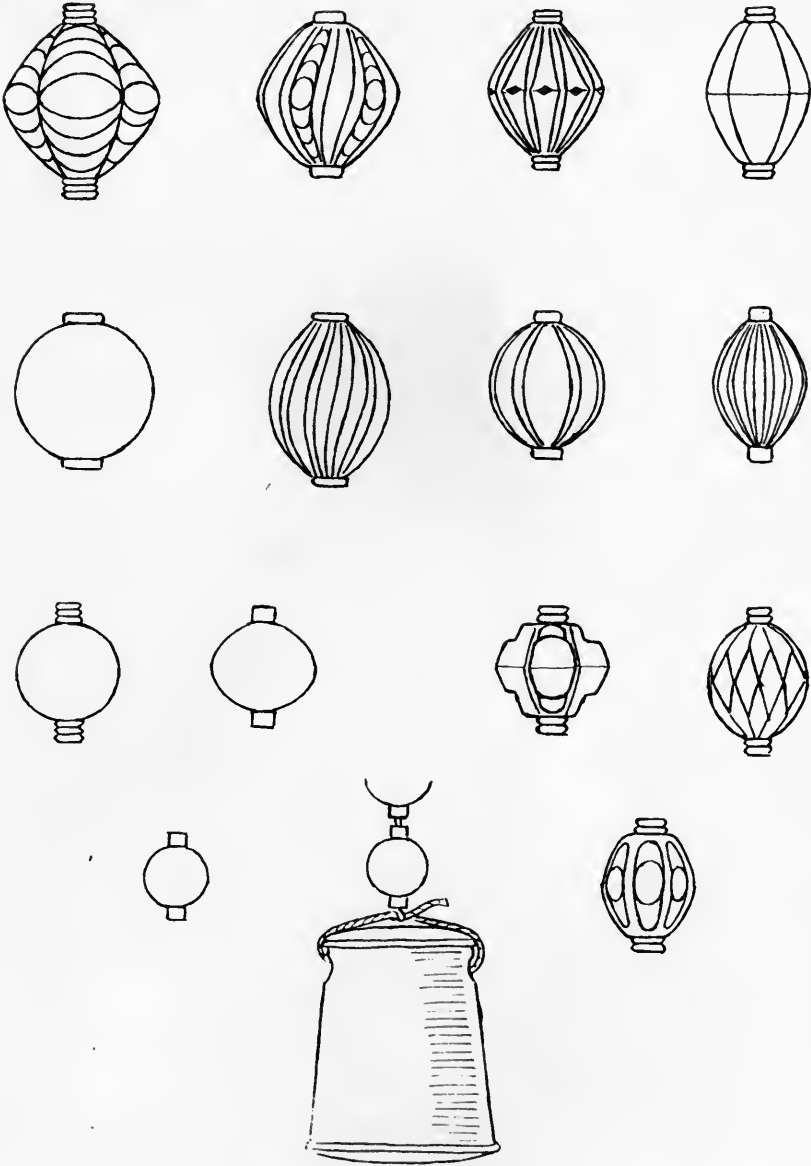
GOLD BEADS

Figs. 1-9, 11-16. Nahuange. Fig. 10. Pueblito
Scale 5:7

Reg # 85286
(5 1/4 x 7 1/2) al # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CXXI



TINY GOLD BEADS AND BELL

Probably of archaeological origin; from Goajiro. In necklaces about 40 cm. long, doubled

Neg # 75557
(5x7 $\frac{1}{4}$) al # 72



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GOLD RINGS, TYPE A

Figs. 1, 2, 4, 5. Nahuange. Fig. 3. Pueblito

Scale 2:3

Reg # 75562
(5x7) al # 72



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GOLD RINGS, TYPE B

Figs. 1, 2, 4. Nahuange. Figs. 3, 5. Pueblito

Scale 5:9

Key # 75560
(4 $\frac{3}{4}$ x 7 $\frac{1}{2}$) alt # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CXLIV



CIRCULAR GOLD PLAQUES, NAHUANGE

Scale 5:12

My # 75555
(4 $\frac{3}{4}$ x 7 $\frac{1}{2}$) al # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CXLV



CRESCENTIC GOLD PLAQUES, NAIHUANGE

Scale 4:7

Fig # 75566
(4 1/2 x 7)



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GOLD PENDANTS

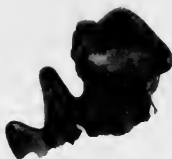
Figs. 1-3, 5, 6, 8, 9. Nahuange. Fig. 4. Gairaca. Fig. 7. Pueblito

Scale 3:4

Reg # 75568
(4 3/4 x 7 1/4)



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GOLD ZOOMORPHIC PENDANTS

Figs. 1, 3, 4. Gairaca. Figs. 2, 6. Pueblito. Figs. 5, 7-10. Nahuange. Figs. 1-4. Toads.
Figs. 5-10. Birds

Scale 6:7

Key # 95567
(5x7) alt # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CXLVIII



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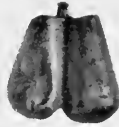
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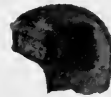
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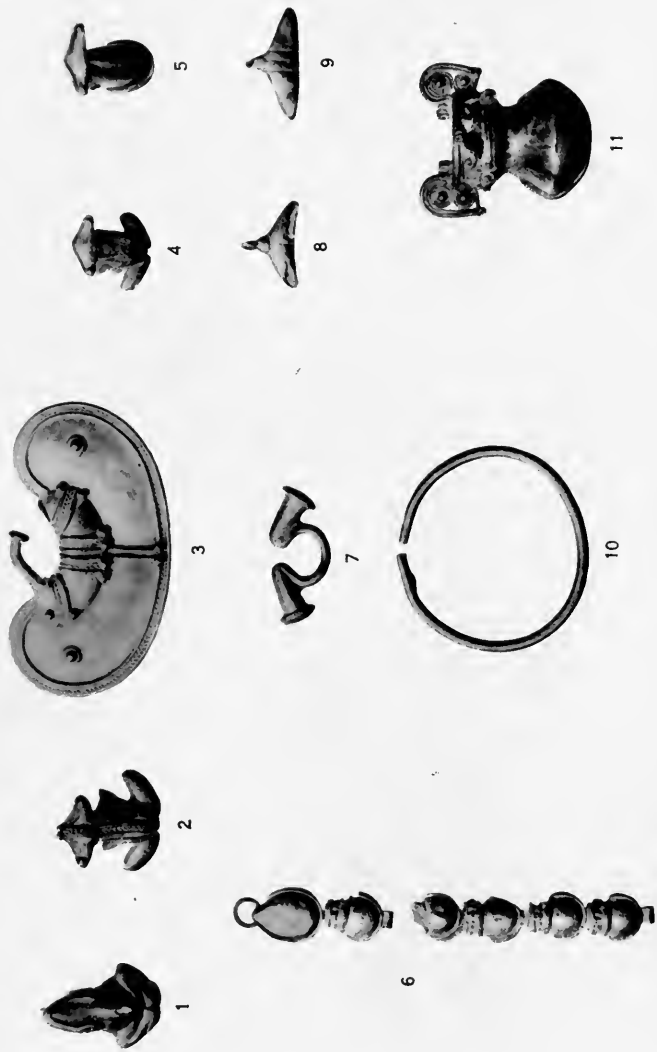
11

GOLD BELLS AND BIOMORPHIC FIGURES

Figs. 1, 4. Pueblito. Figs. 2, 3. Bonda. Figs. 5-7, 9-11. Nahuange. Fig. 8. Gairaca. Figs. 1, 4. Open base bells. Figs. 2, 3, 5, 7. Slot bells. Fig. 8. Head of jaguar. Fig. 9. Jaguar. Fig. 10. Human form. Fig. 11. Bird

Scale 5:6

Mg # 85298-A
(4 1/2 x 6 1/2)
al # 72



GOLD OBJECTS, MUSEUM FÜR VÖLKERKUNDE, BERLIN
 Figs. 1, 2, 4. Toads. Fig. 3. Pendant ornament. Fig. 5. Toad bell. Fig. 6. Tiny bells. Fig. 7. Looped ornament. Figs. 8, 9. Triangular ornaments. Fig. 10. Wire ring. Fig. 11. Effigy bell

11 (4314 X 7) alt 71 12

Field Museum of Natural History

Anthropology, Vol. XX, Plate CL

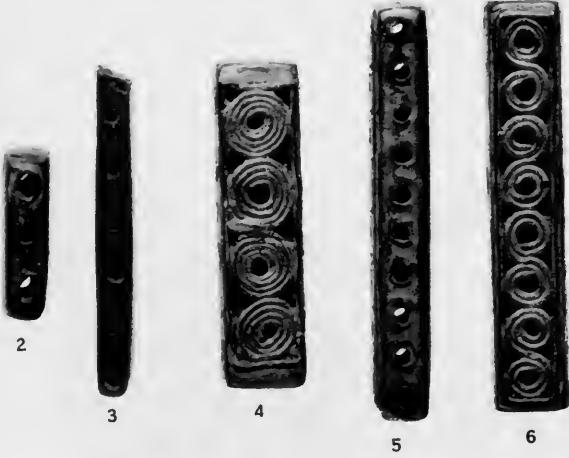


GOLD PENDANTS, MUSEUM FÜR VÖLKERKUNDE, BERLIN

Neg # 85388
(4 1/2 x 7) cat # 72



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GOLD ORNAMENTS, MUSEUM OF THE AMERICAN INDIAN, HEYE FOUNDATION

Uncertain provenience. Fig. 1. Ornate nose-ring(?). Figs. 2-6. Bead-strand spreaders.

Figs. 7, 8. Pendants in animal form

Scale 1:1

neg # 85393
(4 1/2 x 7) alt # 72



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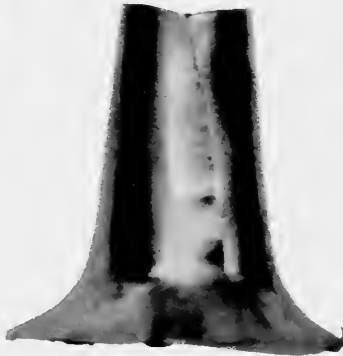
4



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GOLD ORNAMENTS, MUSEUM OF THE AMERICAN INDIAN,
HEYE FOUNDATION

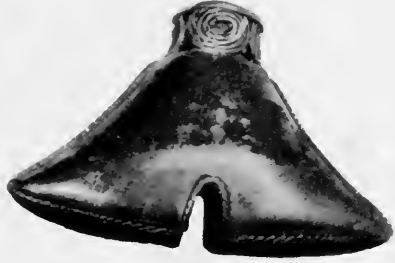
Fig. 1. Pendant of anchor shape. Fig. 2. Flat crescent, Bonda. Fig. 3. Looped pendant, Taganga.
Fig. 4. Looped pendant. Fig. 5. Large bead. Fig. 6. Toad, La Cueva. Fig. 7. Ferrule-shaped
object of thin gold, Cinto

Scale 1:1

Neg # 85394
(4 1/2 x 6 3/4)
alt # 72



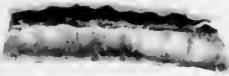
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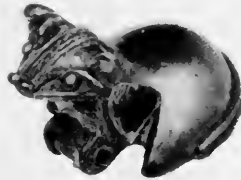
4



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GOLD AND COPPER ORNAMENTS, CARNEGIE MUSEUM, PITTSBURGH
Fig. 1. Copper alloy conventionalized bird. Fig. 2. Gold pendant. Fig. 3. Gold button.
Figs. 4, 6. Tubular beads of thin rolled gold. Fig. 5. Effigy bell. Fig. 7. Toad bell

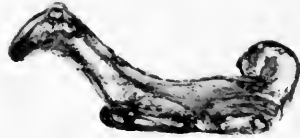
Hy # 85386
(4½ x 6½)
alt # 72



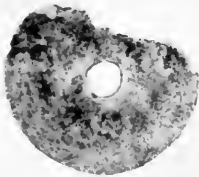
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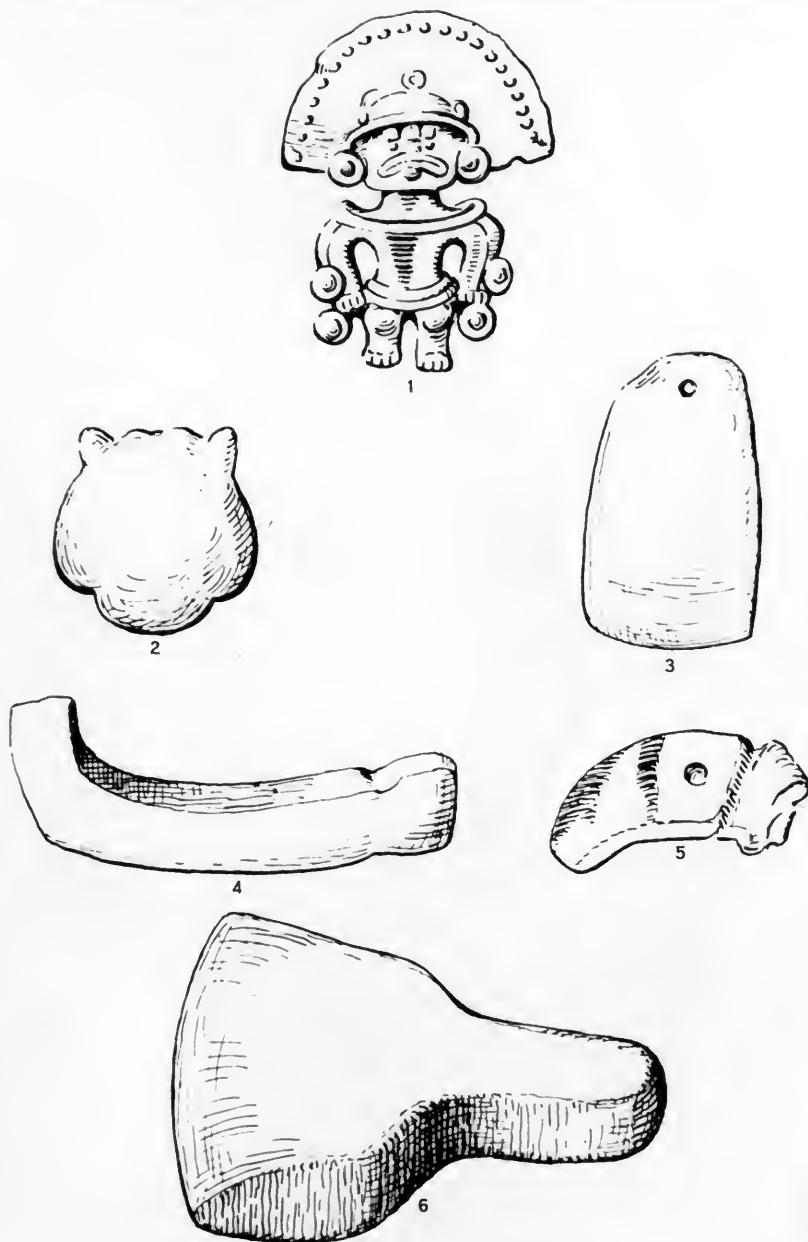


6

GOLD OBJECTS

Collection of Mr. W. R. Angell. Fig. 1. Pendant, Matagiro. Figs. 2, 3. Toads. Fig. 4. Small gold disk, fragmentary, Matagiro. Fig. 5. Bead-strand spreader with eagle figure. Fig. 6. Animal(?) possibly from a bell, Taganga

Neg # 85301
(5x7 1/4) al # 72



GOLD AND STONE OBJECTS IN PRIVATE COLLECTIONS

Figs. 1, 4. Collection of Mr. W. M. Sutherland. Figs. 2, 3, 5, 6. Collection of Mr. W. R. Angell.
Fig. 1. Human figure of gold, Arecife. Fig. 2. Ornament of jade, Santa Rita. Fig. 3. Stone
pendant, Santa Rita. Fig. 4. Stone ceremonial object, Minca. Fig. 5. Carnelian pendant,
Matagiuro. Fig. 6. Axhead of unusual form, La Tigrera

Scale: Fig. 1, 6:5; Fig. 2, 3:2; Fig. 3, 2:3; Fig. 4, 1:3; Fig. 5, 7:5; Fig. 6, 5:6

neg # 85391
 (4 1/2 x 6 3/4) alt # 72



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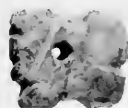
5



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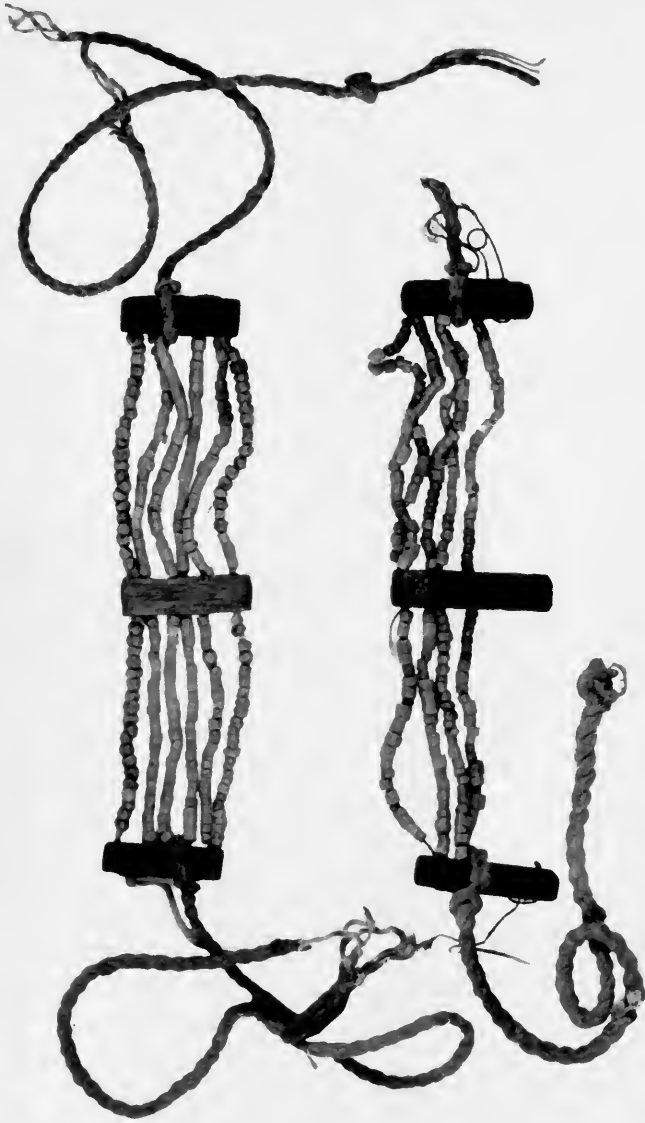
VARIOUS OBJECTS, UNIVERSITY MUSEUM, PHILADELPHIA

Fig. 1. Ring of shell. Fig. 2. Greenstone pendant in animal form, La Cueva. Fig. 3. Gold bead. Fig. 4. Tubular gold bead. Fig. 5. Alloy animal figure, Bonda. Fig. 6. Pendant of carnelian in animal form, La Cueva. Fig. 7. Rude incised human figure of stone, Pueblo Viejo. Fig. 8. Miniature seat of steatite, La Cueva. Fig. 9. Green stone pendant in form of bird, La Cueva. Fig. 10. Pendant of crystal, Gaira. Fig. 11. Pendant of crystal, San Pedro Alejandrino. Fig. 12. Pendant of shell. Fig. 13. Ornament of shell, Taganga. Fig. 14. Ornament of shell, San Pedro Alejandrino

Neg # 44155
(4 1/2 x 7) al # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CLIX



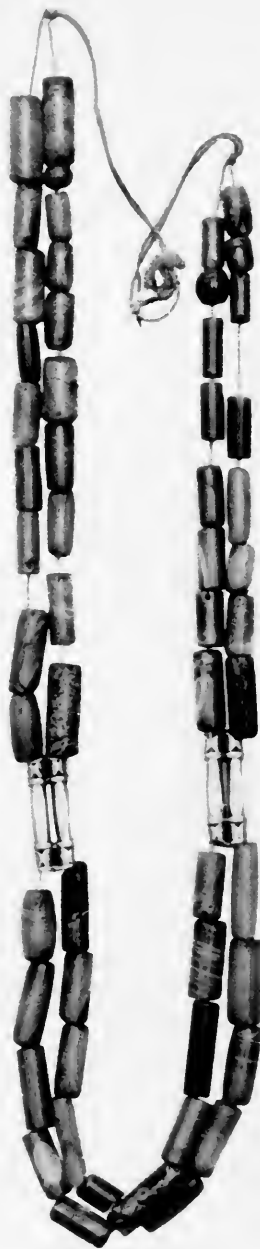
ANKLETS(?) OF KAGABA-ARHUACO SHAMAN, CONTAINING ARCHAEOLOGICAL
BEADS OF RED SHELL AND GREEN JADE

Scale 2:3

neg # 49156
(3 1/4 x 8) alt # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CLX



1

NECKLACE OF KAGABA-ARIHUACO PRIEST, CONTAINING ARCHAEOLOGICAL
GOLD ORNAMENTS AND FINE CARNELIAN BEADS

Scale 4:5

Neg # 85297

(4½ x 7½) al # 72

Field Museum of Natural History

Anthropology, Vol. XX, Plate CLXI



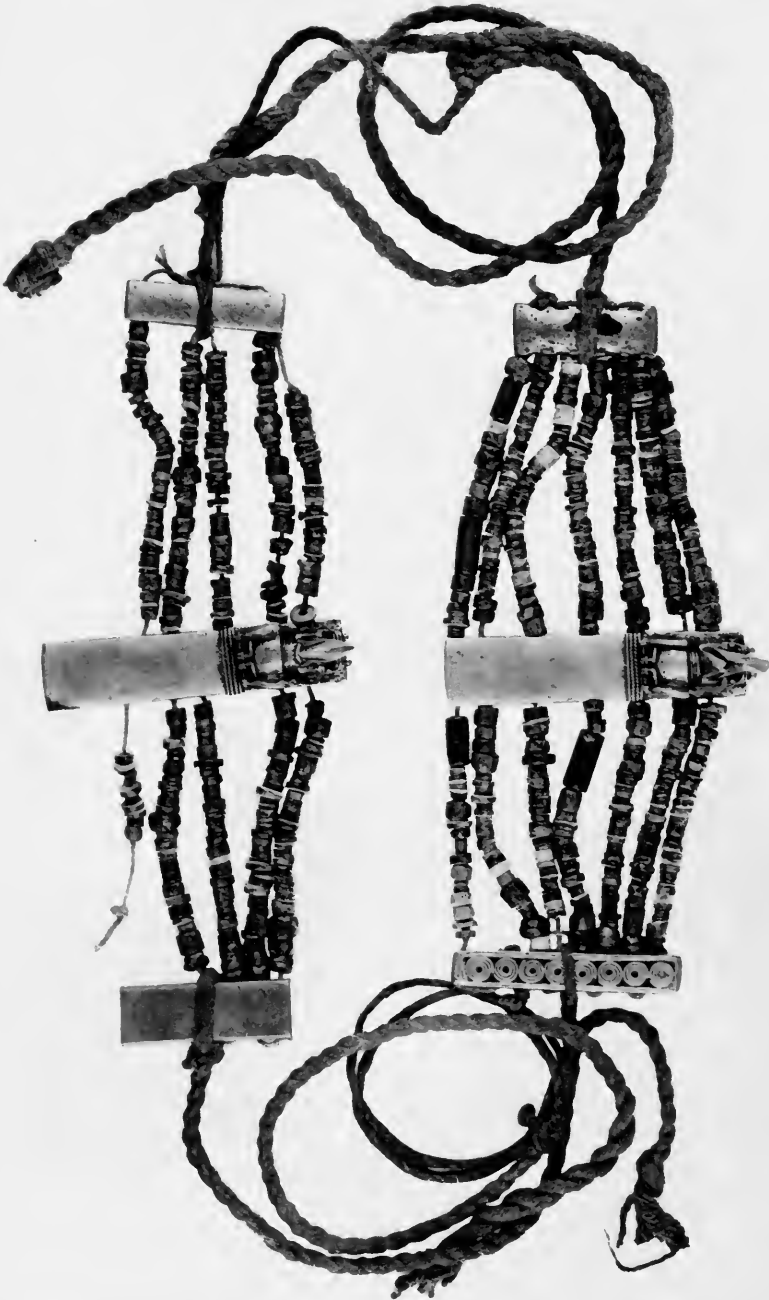
KAGABA-ARHUACO SHAMAN'S DECORATIONS

Fig. 1. Arm-bands containing archaeological gold bells. Fig. 2. Fillet containing archaeological beads of shell

Fig # 49154
(4 1/2 x 8) al # 72

Field Museum of Natural History

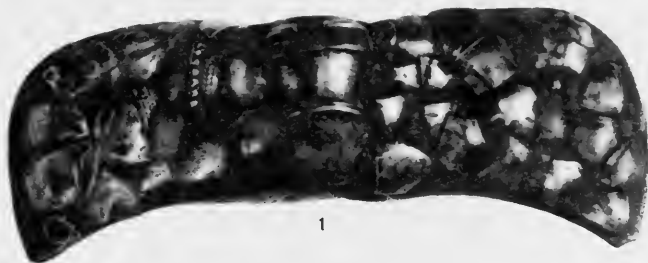
Anthropology, Vol. XX, Plate CLXII



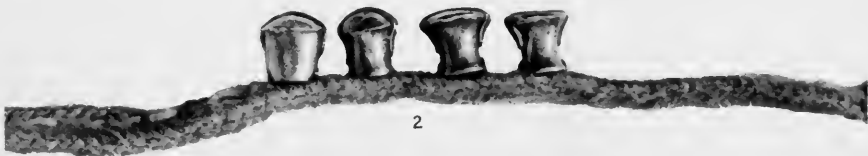
BRACELETS(?) OF KAGABA-ARIHUACO PRIEST, CONTAINING ARCHAEOLOGICAL GOLD ORNAMENTS AND BEADS OF SHELL, JADE, AND CARNELIAN

Scale 8:13

neg # 75564
(5x7 1/4) al # 72



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GOAJIRO AND KAGABA-ARHUACO SPECIMENS, CONTAINING
TAIRONA ARCHAEOLOGICAL OBJECTS

Fig. 1. Goajiro ivory ornament with mosaic of archaeological gold. Figs. 2, 3. Archaeological gold bells on arm-bands(?) of Kagaba-Arhuaco priest. Figs. 4, 5. Bracelets(?) of Kagaba-Arhuaco priest, containing archaeological gold ornaments and beads of shell, jade, and carnelian

Scale 3:5





