

COSTA RICAN
STONework

•

THE
MINOR C. KEITH
COLLECTION

J. ALDEN MASON

VOLUME 39 : PART 3
ANTHROPOLOGICAL PAPERS OF
THE AMERICAN MUSEUM OF NATURAL HISTORY
NEW YORK : 1945

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PREFACE

THIS MONOGRAPH WAS WRITTEN in 1925 when I was Assistant Curator in charge of Mexican and Central American archaeology at the American Museum of Natural History. At that time the Minor C. Keith Costa Rican Collection occupied a large part of the Middle American Hall, and the large stone sculptures were among the most impressive features therein. I felt that these extraordinary and esthetic stone objects should be more widely known, a feeling shared by Dr. Clark Wissler, then Curator of Anthropology. Unfortunately, my connection with the Museum terminated with the end of that year. The publication of the report was therefore postponed, and further impeded in 1934, when the collection, after having been on loan and exhibition for 20 years, was placed on sale. Through the generosity of several friends of the Museum, half of the collection was purchased for the Museum, while the rest passed into the possession of the Brooklyn Museum. Many of the objects herein described are, therefore, now in the latter museum; these have been indicated in the text or captions, where specimen numbers are followed by the designation BM. Ten years later, in 1944, it was decided to publish the work. The text was then slightly enlarged in order to incorporate some of the discoveries and publications of the intervening 19 years. However, few

excavations have been made recently in this region, and our scientific knowledge of its archaeology has not greatly increased. The monograph remains, therefore, mainly a factual description and presentation of the objects.

The drawings were made and the photographs retouched by Mr. William Baake, at the personal expense of Mr. Clarence L. Hay. To him, my colleague and office-mate of those days, my sincere appreciation is given for this, and for many other acts of friendship and of encouragement in my work. The drawings were made without regard to their combination on plates, with the unfortunate result that frequently those now grouped on one plate give no conception of comparative size. To meet this difficulty, measurements of the objects are given on pp. 309-317.

In addition to Mr. Clarence L. Hay, to Dr. Clark Wissler, and to Dr. Harry L. Shapiro, my thanks are due and given to Miss Bella Weitzner for the great amount of editorial work that she has done on the typescript, illustrations, and captions, which my unexpectedly early departure from the American Museum left in a very unfinished condition.

J. ALDEN MASON

University Museum, Philadelphia
March 8, 1944

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INTRODUCTION

IN 1872 THE LATE MINOR C. KEITH, then a young man of 24, became associated with railroad building in the Central American republic of Costa Rica. In the course of his surveys and engineering excavations he constantly encountered graves and other remains of the ancient pre-Columbian populations of this country; these kindled in him an active unceasing interest in their art and artifacts. His first collection, consisting mainly of large stone statues, he generously presented to the United States National Museum in Washington. Then he assembled a personal collection which before long assumed considerable proportions. Later, Mr. Keith, sensing the tremendous possibilities of the banana industry and the peculiar advantages for the cultivation of bananas enjoyed by eastern Costa Rica, began actively to promote this industry and trade. While founding, with other far-seeing pioneers, what is now the United Fruit Company, he utilized his unique opportunities for the satisfaction of his antiquarian penchant.

In the hitherto undeveloped and almost unexplored forests and jungles of eastern Costa Rica, the machete of the peon, clearing the land for banana plantations, and the shovels of the engineers, building rights-of-way and roadbeds for the railroads, uncovered ancient cemeteries replete with admirable products of ancient and extinct civilizations. Especially at Las Mercedes, one of the large banana plantations of the United Fruit Company in the valley of the Santa Clara, one of the affluents of the Reventazón, was a great, rich, and absolutely untouched ancient cemetery discovered. Such unrifled cemeteries are as rare in America and as important to the Americanist as are untouched tombs of the Pharaohs to the Egyptologist. Many such sites were despoiled by the early Spanish conquerors, and only pottery and stone fragments indicate their location today. A similar fate has befallen many sites discovered in modern times. The unlettered residents, ignorant of the scientific value of the objects, even from a monetary point of view, flocked to the place, drawn by the lust of the treasure hunter; the stone slabs were broken to permit their readier removal; pottery vessels were smashed in the feverish haste to examine

their contents; only the goldwork was retained and this was often melted down to bullion. Such would have been the fate of Mercedes, but for the presence of Mr. Keith. Luckily for American archaeology, he was in the fortunate executive and financial position to stay the hand of the vandal, the treasure hunter, and souvenir seeker, and to engage a body of workmen to excavate all the graves with care. He was thus able to retain all the treasures, amounting to more than 10,000 pieces, in a single compact collection. The result was the acquisition of one of the largest, most important, and intrinsically most valuable homogeneous collections of American archaeology in the world, for the intact preservation of which generations of archaeologists to come will be duly grateful.

In later years, Mr. Keith, his interest in Costa Rican archaeology whetted, employed other persons to excavate, and also purchased additional small collections from various parts of Costa Rica, from the central highlands, the southern area near the Panama border, and the northwestern section, mainly on the Nicoya Peninsula. Thus the collection was augmented until it contained more than 16,000 specimens.

Mr. Keith's collection was brought gradually to this country and until 1914 remained in his country home at Babylon, Long Island, where it was catalogued and exhibited in part. Agreeing with the opinion of archaeologists that such an extraordinary collection should be made accessible to science and to the public, Mr. Keith in that year lent it for a period of years to the American Museum of Natural History. A selection was made by Dr. H. J. Spinden, then on the staff of the Museum, and the major part of the collection brought to the Museum, the remainder being deposited in the Museum of the American Indian, Heye Foundation, New York.

In 1924 the writer, then Assistant Curator in the Department of Anthropology, wishing to make this unrivaled collection more accessible to the archaeologists of the world, proposed the preparation of the present publication, a suggestion approved by the Museum authorities. It was deemed best to describe the collection in several parts, tentatively divided as to stonework, pottery, and metal, and to inaugurate

the work with the stonework, the most unusual and impressive, yet withal the most readily prepared division. Most unfortunately, the unexpected early termination of the writer's service in the American Museum in 1925 prevented as finished and complete a work as he had planned and as the scope of the project warranted. To give as much of the waning time as possible to the completion of the main portion of the collection, it was decided to defer entirely consideration of the smaller and most variant portion of the collection, the Chorotegan specimens from the Nicoya Peninsula, and to restrict the work to the central, eastern, and southern portions of Costa Rica, the region of the Güetar, Talamanca, Quepo, and Coto cultures. Similarly, the fine, small, ornamental objects of jade and other semi-precious stones have not been considered in the present paper. This was due not only to the lack of time, but mainly to the fact that these objects, especially those of jade, are apparently not indigenous to the territory considered, but are imported from the Chorotegan Nicoya region where they occur in much greater abundance.¹ Even within this scope, the writer was unable to delve as deeply into original sources as planned, or to consider as fully as desired the questions of comparison, distribution, classification, and similar scientific deductions. However, the work was projected as a descriptive album or atlas, affording archaeologists access to hitherto unpublished and unique material, rather than as a monograph on the stonework of Costa Rica. It is hoped that, as such, its scientific lapses and lacunae will be excused.

While the archaeologists will be ever grateful to Mr. Keith for the collection and preservation of this extraordinary material, they will equally regret that his foresight did not include the recording of details of the excavation data. Probably this was too much to expect of a busy pioneer. Apparently no notes were kept, and all scientific deductions must be based on an empirical study and comparison of the objects

themselves. Frequently, even the provenience is uncertain and must be tentatively assigned by a comparison with specimens of known provenience. Had the localities been more accurately recorded, and had the contents of each grave been noted and the surface or scattered finds segregated, it would in all probability have been possible to establish local types, artistic and technical developmental sequences, and even culture sequences, with their deduced results bearing on the question of pre-Columbian historical migrations and cultural interrelations. May the writer not interpose a plea that in possible future cases such records, so indispensable to the archaeologist, be kept.

Since this monograph was originally written, careful scientific archaeological excavations have been made or reported in several regions peripheral to Costa Rica: in eastern Panama and northern Colombia by Linné,² in central Panama (Coclé) by Lothrop,³ in Honduras by Strong,⁴ Yde,⁵ and Stone.⁶ Though mainly treating of the pottery, these have thrown much light upon, and at least established the fundamental bases for, the sequence of culture in these regions. However, in Costa Rica, in Nicaragua, and in western Panama very little of such work has been done. Lines has published much descriptive and interpretative work on Costa Rica, and at least one report of a controlled excavation⁷; Stone⁸ has given a report on the Terraba region, and Osgood⁹ and Linné¹⁰ have thrown some light on western Panama, but these touch only slightly, if at all, on the stonework and its correlation with pottery types. The Güetar region of central Costa Rica, the provenience of the majority of the objects considered herein, has been virtually, if not entirely, neglected. There is no sound scientific basis, therefore, for any opinions as to the relative ages of the objects in the Keith Collection and their position in historical sequence. Such opinions as are diffidently presented herein are based on an empirical study of the objects themselves, on the assumption, by no means

¹ Hartman, 1907, 85, writes: "On the whole mainland of Costa Rica objects of jade are very rare. In all my excavations on the highlands I only came across a few small beads of this mineral. But some fine specimens of jade amulets have been found sporadically in graves on the slopes of Irazu, and even on the Atlantic coast at Mercedes, and one or two other places. All these finds, however, have been of Nicoyan origin."

² Linné, 1929.

³ Lothrop, 1937, 1942.

⁴ Strong, 1935; Strong, Kidder, and Paul, 1938.

⁵ Yde, 1938.

⁶ Stone, 1941.

⁷ Lines, 1936.

⁸ Stone, 1943.

⁹ Osgood, 1935.

¹⁰ Linné, 1929.

always tenable, that those that appear the most archaic, unstylized, and unspecialized, are the older.

The Minor C. Keith Collection originally consisted of 16,308 specimens, 15,427 of which were recorded in the main catalogue and 881 in a special catalogue of gold and jade ornaments. The majority of these, 8097 of the main collection and 874, virtually the entirety of the ornaments, were originally selected and deposited in the American Museum, the remainder going to the Museum of the American Indian, Heye Foundation, New York.

Two-thirds of this collection represents the Güetar culture of the central Costa Rican highlands, about one-sixth the Chorotegan culture

of the Nicoya Peninsula, and one-sixth the Quepo, Coto, and Chiriquí cultures of southern Costa Rica and western Panama. These proportions may be slightly incorrect, inasmuch as approximately a fifth of the entire collection is recorded as "probably Mercedes," though a part of it is evidently Nicoyan material, which group has not been considered in the present study. But apart from these 2935 specimens, 6862 others, or 44 per cent of the entire collection, are from the Mercedes site; this, together with those probably of the same provenience, gives an actual majority for this site.

By far the bulk of the collection consists of pottery, the stonework comprising only about one-eighth of the total, fewer than 2000 pieces.

ARCHAEOLOGICAL AREAS IN COSTA RICA¹

THE ARCHAEOLOGY OF COSTA RICA falls into two main divisions, that of the northwest and that of the remainder of the republic. The northwestern division represents the work of the pre-Columbian populations of the Nicoya Peninsula and the adjacent mainland west of the cordillera. The tribes occupying this area, the Nicoya and Orotiña of the Chorotegan culture, were closely affiliated with the peoples of Nicaragua to the north and more distantly related in culture with other groups extending even to southern Mexico. Their work² is represented in the Keith Collection by many objects from different localities, but this section has not been considered in the present work.

The archaeology of the mainland of Costa Rica is again divisible into two main sections, that of the north and that of the south. These two are more closely related to each other than either is to the Chorotegan; the line of demarcation between them is not well known and

possibly indefinite. The culture to the north is ascribed to the Güetar Indians, a tribe now extinct but probably closely related to the present Talamanca; that to the south is ascribed to the Quepo and Coto, tribes closely related to the Chiriquí of western Panama and probably represented today by the Boruca or Brunca. All these groups speak or spoke kindred tongues, related to the Chibcha of Colombia.³

Both of these latter divisions are represented by specimens in the Keith Collection, though in varying proportion. The great site of Mercedes supplies by far the majority of the objects, that, and the sites of Cartago and Curridabat, representing the northern or Güetar culture. A small collection from the locality of Las Pacayas is decidedly variant and of uncertain culture, though probably Güetar. The southern Quepo, Coto, and Chiriquí cultures are represented by small collections from the sites at Buenos Aires, Paso Real, Palmar, and Lagarto.

EASTERN FOOTHILL SITES

LAS MERCEDES

The eastern or Caribbean coast of Costa Rica is a relatively low, humid region of heavy rainfall, an area covered with a dense forest. Apparently well populated at the time of the Spanish Conquest, the native tribes have disappeared, either by extinction or removal to regions more remote from civilization, and the tropical forests have overwhelmed the sites of their ancient settlements. These, and the cemeteries which yield most of the archaeological remains, are discovered only by accident during the clearing of the ground attendant upon the development of banana plantations, to which this region is preëminently suited. It was probably inhabited in aboriginal days by tribes of the Talamanca group, related linguistically to the Chibcha of Colombia. Their interior boundary abutted upon the territory of the Güetar, a tribe of related tongue, now extinct, who occupied the more open grassy highlands of Costa Rica.

Near the boundary between the lowland jungle and the highland meadows, but definitely in the former area, is the site of Mercedes. Apparently a place of little importance and not noted on even the most detailed maps of Costa Rica, it is today known chiefly on the books of the United Fruit Company as the site of one of its large banana plantations. However, it was obviously one of the most important sites in pre-Columbian Costa Rica, and today is a place of premier importance to the student of Costa Rican archaeology. This is mainly due to the pioneer work by Mr. Keith, a portion of the results of which is here presented. Later, in 1896, C. V. Hartman of the Royal Ethnographical Museum, Stockholm, Sweden, visited the site and made some excavations and studies there, though without great material results. The details of his work are incorporated in his large work, "Archaeological researches in Costa Rica."⁴ In 1916-1917 the late Alanson Skinner, on behalf of the Museum of the American Indian, Heye Foundation, New York, con-

¹ Joyce, 1916; Lothrop, 1926; Lines, 1938a, 1943.

² See especially Hartman, 1907.

³ Mason, 1940; Johnson, 1940.

⁴ Hartman, 1901.



FIG. 1. Map of Costa Rica showing archaeological sites. 1, Curridabat; 2, Las Pacayas; 3, Buenos Aires; 4, Paso Real; 5, Lagarto; 6, Palmar.

ducted excavations and studies at Mercedes, Anita Grande, and Costa Rica Farm. His hitherto unpublished notes on this work are incorporated as Appendix IV of S. K. Lothrop's work, "Pottery of Costa Rica and Nicaragua," and Lothrop also gives a brief description of the site.¹ To these two publications the reader is referred for detailed data concerning Mercedes and the archaeological work conducted there.

Mercedes, in the Santa Clara Valley, is apparently a site on the inland edge of the great Atlantic coast forest, in dense impenetrable jungle near the Novillo (or Dos Novillos) and Camarón rivers, both tributaries of the Reventazón.

Lothrop's² description of Mercedes is so con-

cise and informative that it may well be quoted here in full:

This site, perhaps the most famous in Costa Rica, is situated on the west bank of the Rio Dos Novillos, an affluent of the Rio de la Reventazón. The most outstanding feature was a circular platform mound, 30 meters in diameter and 6.5 meters in height, on three sides of which ran low mounds which surrounded courts. Hartman's excavations showed that the large mound was constructed by means of a circular stone wall which was filled with earth. He also found evidence that the stone statues nearby once stood on the upper rim.

In the vicinity of the main group are smaller and very low mounds, also constructed by filling in a circular stone wall. These contain tombs. The tombs, roughly rectangular in shape, consist of stone walls of river boulders, while the floor and roof are covered with large stone slabs. Hartman found no skeletons, owing to the very damp climate, but the size of the tombs shows that the bodies were placed in an extended position (Hartman, 1901, pp. 6-39).

¹ Lothrop, 1926, vol. 2, 439-440, 451-467, Pls. 201, 203, 204.

² Lothrop, 1926, vol. 2, 439-440.

This site was discovered at the time of building the railroad and as it has been exploited almost continuously until recently, it may be said to be exhausted. A large part of the Keith collection originated here. In addition to the excavations conducted by Dr. Hartman, Mr. Alanson Skinner has worked here, and a description of his excavation is given in Appendix IV.

A further point of interest is the association of European articles with the typical grave finds (Hartman, 1901, p. 21).

The most striking feature of the site is a series of mounds which attain a maximum height of 6.5 meters and a diameter of 30 meters. These were faced with stone and filled with dirt. Close to their upper edges originally stood large stone figures, their bases set in sockets. In this connection Hartman writes:

... they proved to be a number of oblong stones, each about 1 m. long, set in a narrow square and very firmly fixed. Placed in an upright position in the centre of this socket ... we found the broken part of the left leg of the statue ... , which was lying at the base of the mound, while 3 m. to the right of this socket, the corresponding socket ... of the companion figure was met with, but the stones had, in this case, been partly disturbed by the fall.¹

Probably the large figures in the present collection, as well as those presented by Mr. Keith to the United States National Museum in Washington, originally occupied similar positions on this or other mounds. Mr. Keith, in a personal letter, states, "The collection which I sent to Washington—which was principally idols—was found on the surface." On the surface in the forest Hartman observed several great massive cylindrical block altars with a ring of carved relief heads around the circular top, the presumption being that the objects resembling these in the present collection were found in similar position. A few broken and apparently discarded stone specimens were found on the surface, but virtually all the artifacts, of stone, as well as of pottery and metal, were found within the graves. Mr. Keith writes, "All the stone objects that are in the possession of the Museum were found within the graves."

At Mercedes, graves were found in small cemeteries consisting of from three to 30 sepulchers, generally very close together and often in tiers, one above another. Apparently,

¹ Hartman, 1901, 9.

judging from reports of the early explorers and their position, graves were made in the ground under the large houses. Thus Fray Bartolomé de Las Casas, who accompanied Columbus on his fourth voyage, writes,² concerning the Indian village of Cariarí, probably on the site of the present city of Limón:

They saw that within the houses, which were of wood covered with reeds, were graves in which were dried, embalmed (myrrhed) dead bodies, without odor, wrapped in cotton cloaks or sheets, and above the grave were slabs on which were carved figures of animals, and on some the figure of the buried man. And with him were gold ornaments and beads and other things which they deemed most precious.

Though differing slightly in detail, all the graves appear to belong to one general type, with the exception of one group found by Skinner in Cemetery 1. Of these he says:

... the graves were wholly unmarked, lacking both the lajas [flat capstones] and the cobble walls. The graves were shallow ... and were distinguishable solely by the deposits of pottery or by an occasional cairn. ... Several whole or broken stone human images ... were found, along with a double-ended flint warclub head, fragments of mortars, a single celt, and a beautiful jade idol.³

A difference both in quality and quantity was also noted in the pottery content of these graves and that of the walled sepulchers. Apparently these graves pertained to a slightly variant culture or period, but all the others, by far the majority, seemingly belonged to a more or less homogeneous culture.

Of the stone sepulchers, Mr. Keith writes:

The excavations were from five to six feet deep, and the remains were generally encased in coffins made of stone slabs. I employed a man by the name of Jesús N. Alpizar to make the collection.

Those excavated by Hartman and Skinner were of several minor types, generally of rectangular or oval shape, and measuring from 2.4 meters long, 1.65 meters broad, and 1.9 meters deep, to 1.4 meters long, 1 meter broad, and 0.75

² Las Casas, 1875-1876, vol. 3 [Book 2], 116: "vieron que dentro de sus casas, que eran de madera cubiertas de cañas, tenían sepulturas en que estaban cuerpos muertos, secos y mirrados, sin algun mal olor, envueltos en unas mantas ó sábanas de algodón, y encima de la sepultura estaban unas tablas, y en ellas esculpidas figuras de animales, y en algunas la figura del que estaba sepultado, y con él joyas de oro y cuentas, y cosas que por más preciosas tenían."

³ Skinner, *in* Lothrop, 1926, vol. 2. 451.

meters deep. Those of the best type were made with walls of layers of flat, oval, water-worn stones, and floors and caps of great stone slabs. Both Hartman and Skinner found traces of bones only at rare intervals, the presumption being that the constant dampness of the soil had caused the complete decay of the skeletal remains in the four centuries of interment.

The graves varied greatly in the nature of their contents, some being quite void of all artifacts, while others contained considerable quantities of pottery and other objects, though all the graves found by Hartman and Skinner seem to have been "poor" compared with those excavated by Alpizar for Mr. Keith. Stone objects were always in the minority. Thus Hartman found only two celts, and Skinner reports on Cemetery 2:

In stone, celts were by far the most abundant. A small table, two beautiful salvillas, a tiger mortar, stone beads, three flint knives, a lozenge-shape flint warclub of the usual style, some edged pieces of iron ore (meteoric?), possibly used as gravers, a perforated disc, many jade beads and one exquisite amulet, and six small stone idols of the squatting type were found. No whole standing idol was discovered, but fragments of beautiful stone objects of unknown use, broken tiger mortars, a large four-legged mortar with the bottom knocked out, and a few other things, were discovered. This is a relatively small showing, considering the richness and variety of the pottery.¹

Concerning Cemetery 3 he writes:

This site is the scene of the greater part of Alpizar's work for Mr. Keith . . .

It was on this knoll that the deep graves, possibly those of caciques, were found and from which so many pieces of gold, stone tables, sacrificial slabs and other fine objects were taken. . . . While we unearched no sacrificial slabs or tablets in the lesser tombs, seats, salvillas, and occasional objects of jade, gold and copper occurred in them.²

With regard to the position of the stone objects he records:

Stone relics, celts, heads, idols, pendants, etc., were nearly always in the eastern end of the grave. . . .³

A comparison of the Mercedes specimens with those from the highlands indicates that the ancient inhabitants of this site were a tribal

group of similar origin, Güetar, and thus they are generally considered. The stonework, however, is slightly variant from, and considerably superior to, that of the highlands, and the difference in blood may have been greater than generally supposed. A minority of authorities considers the ancient population as Talamancan, a group of kindred speech and blood. There can be little doubt that Mercedes was of great religious and ceremonial importance in Costa Rica; the cultural remains are, on the whole, far superior to those found elsewhere in Costa Rica and Panama, and of a nature, art, and technique which could have been developed only under the urge of religious feeling.

CHIPPED SPEARHEADS

The rarity of unpolished flaked and chipped implements is one of the characteristic features of Isthmian archaeology, the presumption being that arrowheads, as today, were made of hard wood, bone, and similar perishable substances. Fine thin regular chipped arrow and spearheads of flint, chert, and similar stones are most uncharacteristic of the Isthmian region. None is mentioned by Holmes⁴ or MacCurdy⁵ from Panama and none by Hartman⁶ from the Costa Rican highlands. They appear to be somewhat more frequent from the Nicoya Peninsula, though none is figured by Hartman⁷ from this region. Linné⁸ reports only a few finds of flaked spear or arrowheads in eastern Panama; a number were found at Rio Indio at a site devoid of pottery. They are missing in the Santa Marta region of Colombia and rare in the great forested area of eastern South America.⁹ At Coclé, in central Panama, a considerable number of flaked points were found,¹⁰ but almost all are rude, usually a single unsymmetrical flake without secondary chipping. In particular, caches of hundreds of such small flakes, of colorful stones, possibly originally contained in pouches, accompanied some burials; these at any rate were probably made purely as mortuary furniture.

⁴ Holmes, 1888.

⁵ MacCurdy, 1911.

⁶ Hartman, 1901.

⁷ Hartman, 1907.

⁸ Linné, 1929, 52-55, Fig. 14.

⁹ Linné, 1929, 55, Map 5, Distribution of arrow, spear and harpoon heads of stone.

¹⁰ Lothrop, 1937, 97, Fig. 64.

¹ Skinner, *in* Lothrop, 1926, vol. 2, 454.

² Skinner, *in* Lothrop, 1926, vol. 2, 456-457.

³ Skinner, *in* Lothrop, 1926, vol. 2, 453.

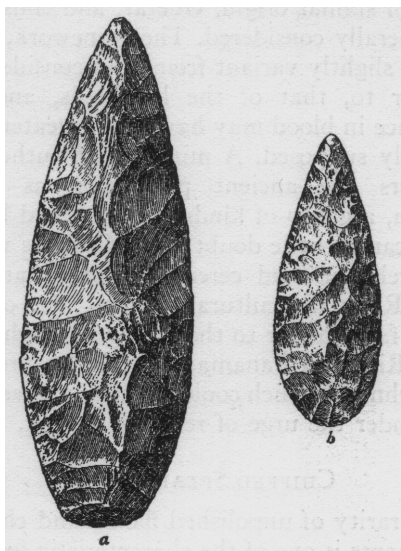


FIG. 2. Chipped spearheads, Mercedes.

Two excellent spearheads (Fig. 2a-b), ostensibly from Mercedes, are found in the Keith Collection. Both are of flaked and chipped chalcidony and of laurel-leaf form, thin with sharp points, rounded bases, and sharp even edges. They are most uncharacteristic of this region and may possibly be importations from farther north.

DOUBLE-BLADED CHIPPED IMPLEMENTS

A large series of chipped implements consists

of objects of a flattened dumb-bell shape. These are, in all probability, ax heads, with double blades and a medial constriction or groove by which they were attached to a haft or handle by means of a thong or withe. They vary and grade from rude massive specimens of chipped flint or chert with irregular rude edges, through more or less regular and symmetrical examples of jasper-chalcidony, novaculite, shale, and basalt, with regular serrated or scalloped edges, to thin tools of smooth ground shale or basalt with large notched edges. In length they vary from 14 to 18 centimeters, and in width from 7 to 10 centimeters. The thicknesses are more variable, ranging from 7 millimeters in the case of the thin smooth shale type to 5 centimeters in the rude flint type. The provenience of the ruder chert and basaltic axes is uncertain, but they are apparently Güetar, if not from Mercedes (Fig. 3b). The best chipped basalt specimen is from Mercedes, as is one of the smoothed shale types (Fig. 3a, c). Two smooth shale ax heads are in the small collection from Cartago, another Güetar site.

Double-bladed axes of this type appear to be peculiar to the Güetar region; none is mentioned by Holmes or MacCurdy as occurring in the Chiriquí district of Panama, and none by Hartman in the Chorotegan region of the Nicoya Peninsula. On the other hand, some rude examples with unserrated edges were found by Hartman at Orosi, another Güetar site, as well

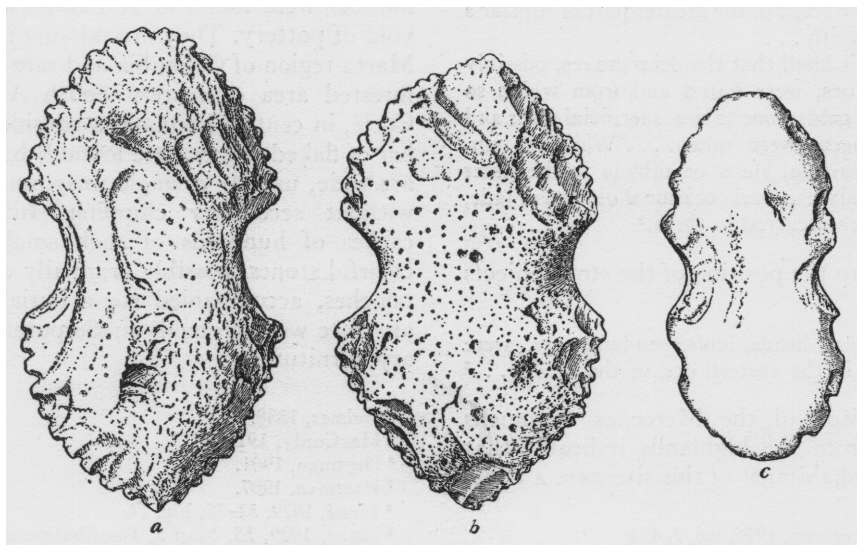


FIG. 3. Double-bladed grooved and chipped ax heads, Mercedes.

as one scalloped-edged smoothed ax like those from Cartago. The type has not been reported from other parts of Panama or Colombia.

CELTS

About 185 celts, ax heads, and related stone implements are definitely noted as derived from Mercedes. In addition, a large number of other specimens are catalogued as "probably Mercedes," but because of this uncertainty these have, as far as possible, been disregarded in the present discussion. The majority of the Mercedes celts fall into two relatively well-differentiated types characterized by definite details. Naturally, all the specimens in each group do not possess all the characteristics of their group. The gradations between types are numerous, and a few celts are even assignable to either type.

Type A may, in the main, be characterized by side angles or edges, and frequently by faceted faces. These celts are generally long and thin, with short blades meeting the side edges at an angle. The butts are normally pointed and virtually always polished, as is the entire celt. The materials are relatively dark and generally shaped by flaking before grinding; this applies especially to a large and definite subtype made of grayish tufa. About two-thirds of the celts may be classified as Type A, being equally divided between tufa and basalt; these may probably be considered the normal Güetar form, related to the Chiriquí type, as exemplified by the specimens from Buenos Aires.

In Type B are included forms which are normally without side angle or edge, and with broader and more curving blades which make little or no angle with the sides. The shapes are comparatively broader and thicker, the faces seldom faceted, and the polls generally blunt. The latter are frequently or normally left unground with the rough pecking which, instead of flaking, was the method of rough shaping. The material averages lighter in color than that employed for Type A. Possibly a third of the Mercedes celts fall into this class, which a comparison shows to be more typical of the Chorotegan region of the Nicoya Peninsula and northwestern Costa Rica.

The most definitely characteristic and localized group of Mercedes celts is that composed of a grayish fine-grained tufa which was chipped roughly to the desired shape and then ground.

Normally, the grinding process did not include the sharp poll which was probably inserted into a handle, nor did it entirely obliterate the marks of chipping over the rest of the surface. Two main subtypes are distinguished: broad-bladed celts and short-bladed chisels. Similar or identical specimens are common from the Chiriquí region of western Panama, and they may be considered as a type characteristic of the Isthmian region.¹ The type is also characteristic of Coclé, where many or most of the forms are indistinguishable from those in Chiriquí and at Mercedes.² Typical examples are also shown by Linné from the San Blas region of the Atlantic coast of Panama,³ from the Pearl Islands in the Pacific,⁴ and from Cupica Bay in the Chocó region of the Pacific coast of Colombia.⁵ However, celts with flat sides and broad polls are also found in most of these, and in other sites throughout this region. In the Santa Marta region of Colombia, however, celts with pointed polls and side edges are unknown.⁶

The chisels of gray fine-grained tufa are technically admirable, and they were apparently made for mortuary purposes. The blades are sharp and unchipped, extremely short, from 5 to 12 millimeters. They are from 9.5 to 18 centimeters long, the maximum width and thickness of 2 to 3 centimeters being at about one-third the distance from the poll. In respect to both length and width of blade, the two smallest chisels are the rudest and are made of a single flake of tufa of relatively triangular cross-section. Only the immediate region of the blade and the main flat flaked surface have been ground, the other two surfaces displaying throughout the marks of flaking and chipping. The poll of the chisel shown in Fig. 4a has been slightly chipped to form a sort of stem. The other 11 larger specimens differ but slightly from one another in size, the main variation being in the amount of grinding. All have pointed, chipped, and unground butts and four more or less well-marked surfaces with quadrilateral cross-section (Fig. 4b).

The chisels of fine-grained gray tufa likewise

¹ Cf. Holmes, 1888, 31-33, Figs. 19-22; MacCurdy, 1911, 24, 25, Figs. 9-12, Pl. 2.

² Lothrop, 1937, 89-93, Figs. 53-57.

³ Linné, 1929, 39, Fig. 12c.

⁴ Linné, 1929, 83, Fig. 18e.

⁵ Linné, 1929, 185, Fig. 51a.

⁶ Mason, 1936, Pls. 73-77.

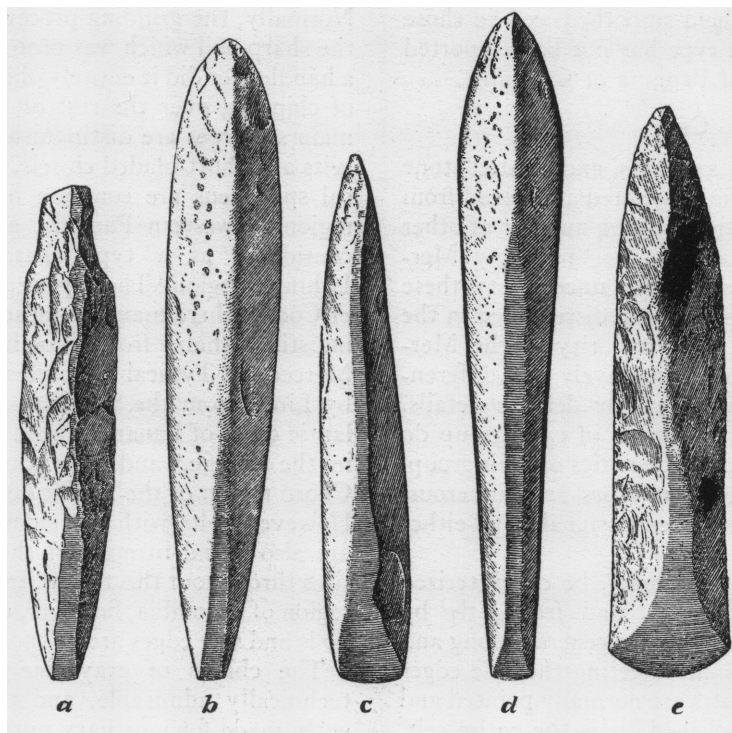


FIG. 4. Range of chisel forms, Mercedes.

form a very homogeneous group, differing only in the amount of grinding over the chipped surfaces by which means they were roughly shaped. A few are ground only in the immediate neighborhood of the blade, some others over the entire surface, virtually effacing all marks of chipping, but in the majority only the outstanding irregularities have been ground down, the depressions remaining. Nearly all the chisels

have pointed polls and short side edges; the sharp, short, and curving blade meets the side edge at an angle, and the cross-section is more or less quadrilateral. The shape and curves of most of them are graceful, the maximum width being at the blade.

Three of this group, one of which is shown in Fig. 4c, are made of a single flake of tufa of triangular cross-section, like the chisel illustrated in Fig. 4a, but all the surfaces have been ground. The others, six in number, have the usual quadrilateral or hexagonal cross-section (Fig. 4e).

A few short celts of similar material and technique may possibly be considered as worked-over broken ends of the more typical longer celts (Fig. 5a). One of these (Fig. 5b) is triangular in cross-section like Fig. 4c.

A small group of small, broad, thin, and well-ground celts of fine-grained tufa or tufa-like stone of rather heterogeneous composition is of somewhat doubtful classification. Five of these have sharp side edges, the dominant characteristic of Type A celts. The shapes are less graceful and regular than those of the

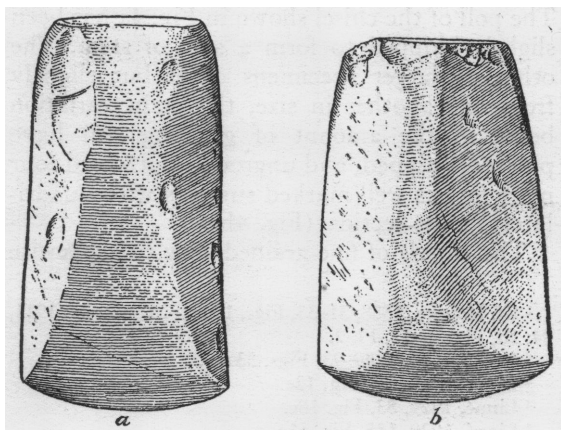


FIG. 5. Short celts, Mercedes.

groups above described; the grinding is more complete, with few traces of chipping; the faces are generally unfaceted, and the polls more blunt. In one specimen (Fig. 6a) the poll is pecked and unground, as in Type B celts, though the depressions of the chipping method of manufacture are evident. Another celt (Fig. 6c) is large, broad, and thin, with a semicircular

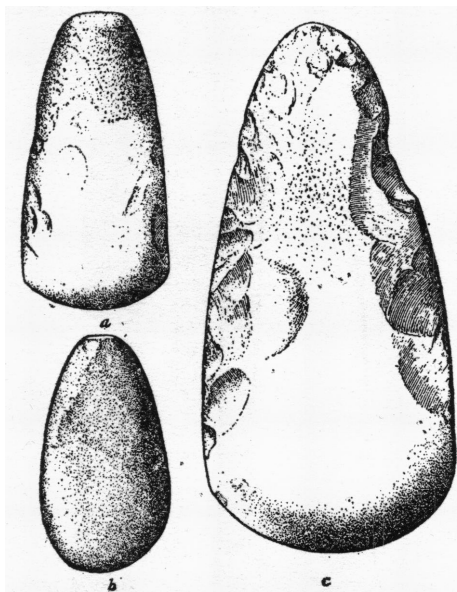


FIG. 6. Broad, thin, sharp-edged celts resembling Type A, Mercedes.

blade and the side edges chipped and unground throughout. In Fig. 6b is a celt with a curved blade, ground side edges, and a flattened butt. The other three specimens differ from all the other celts from Mercedes. The sides are relatively flat thin faces, meeting the broad convex principal faces at an angle. The polls are likewise finished off in a short, relatively flat face meeting the other faces at an angle. The blades are broad, sharp, and slightly curved. In one tufa celt (Fig. 7a) unreduced chipping depressions are noted, but in the other (Fig. 7b) the grinding is more thorough and the method of manufacture not obvious.

Another stone of fine grain employed by the artisans of Mercedes is a very fine-textured black slate. Prominent among a small number of implements of this material in the collection are three chisels of a type very similar to the tufa chisels. They are, however, superior

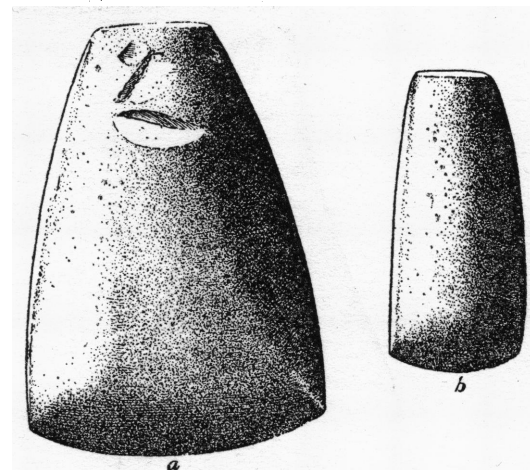


FIG. 7. Broad, thin, flat celts with curved blades, Mercedes.

examples of aboriginal craftsmanship, the finest implements found at Mercedes and the peer of any in America. In shape they follow closely the tufa chisels, being 14 to 18 centimeters long and 2 to 3 centimeters thick, the maximum thickness being close to the pointed butt. The blades are 8 millimeters long and perfectly ground. They differ from the tufa chisels in being much more completely ground and polished. The marks of the chipping are observable only close to the pointed butt, the remainder of the faceted faces rounded off until a virtually oval cross-section has been attained. They betray no evidence of use and were probably manufactured for mortuary purposes (Fig. 4d). Like the tufa chisels, very similar forms are found in the Chiriquí region of western Panama, and the type may be considered characteristic of the Isthmian region.

In a small group of five celts distinctiveness of shape and material are correlated (Fig. 8). The material is a fine-grained hard basalt which takes a high polish. The implements were first chipped roughly to shape and then ground, leaving parts of the celt unreduced and unground, as in the tufa specimens. As in the tufa celts, the grinding varies greatly in extent. The faces are unfaceted, but the side edges are sharp. The shape is very characteristic of the type, being markedly triangular, with relatively pointed butts, and the maximum width at the blade which is normally semicircular. The celt illustrated (Fig. 8) is unusually large and has

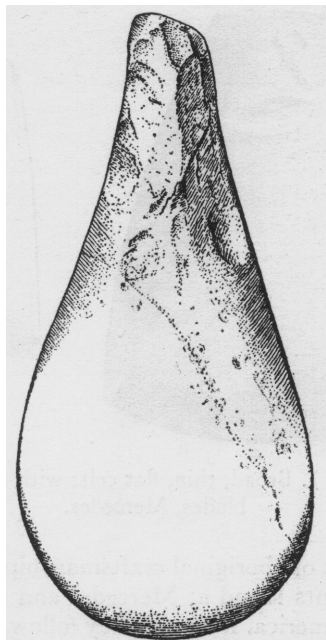


FIG. 8. Celt of fine-grained basalt, with semicircular blade and unfinished poll, Mercedes.

a great semicircular blade which is continuous with the polished blunt side edge. Though the butt is exceptionally rough and unfinished, the rest of the celt is unusually well shaped and ground. The other examples are much smaller; each has a curving blade which meets the unground side edge at a more or less pronounced angle. Virtually identical specimens are found in the Chiriquí region¹ and at Coclé.²

About one-third of the Mercedes celts belong to one more or less homogeneous type with pointed polls, at which traces of chipping are occasionally visible. The side edges vary from sharp to rounded, the curving blades generally meet the side edges at an angle, and the faces vary from more or less flat to regular concave facets. The maximum width is at the blade, and the length is three or four times the width. The materials are fine-grained basalts and porphyries, varying from gray to black. Celts in which these characteristics are most pronounced are of superior size and quality of workmanship and are hexagonal in cross-section, the medial facet being smoothly ground, the side facets regularly pecked. The sides curve

¹ Cf. MacCurdy, 1911, 24, Figs. 7, 8; Holmes, 1888, Figs. 14, 16.

² Lothrop, 1937, Figs. 53-54.

in an artistic and graceful undulation from the pointed poll to the angle of the blade. The largest and best celt (Fig. 9a), like the majority of the large specimens, is made of a fine-grained black basalt. By slight deviations, and with all possible combinations of details, the celts grade down to small light gray examples with blunt polls, unfaceted convex faces, and rounded side edges without angles. The latter are difficult to

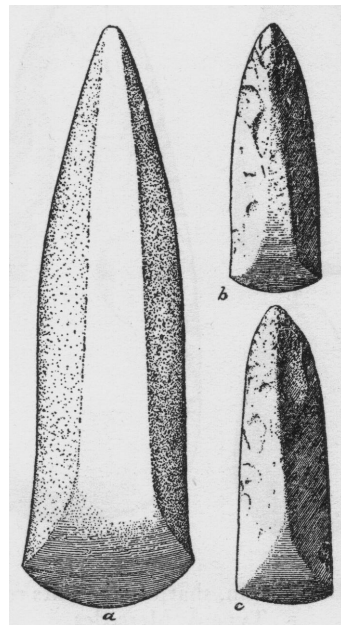


FIG. 9. Celts, hexagonal in cross-section, with pointed poll and curved blades, Mercedes.

distinguish from, and are virtually intermediate to, the smaller celts of Type B (Fig. 9b). In a few celts of black polished basalt like that shown in Fig. 9c, the poll end is unground, showing the chipping. These, and a few others, possess a medial angle or edge in place of a medial facet, the cross-section being quadrilateral instead of hexagonal. This type of celt may be considered as most characteristic of Mercedes. Similar specimens are found in the Chiriquí region, but MacCurdy states that "The faceting of the lateral margins is of rare occurrence" there.³ Even closer approximations to the type are found at Coclé⁴ and on the San Blas coast.⁵

³ MacCurdy, 1911, 24, Pl. 2; Holmes, 1888, 30, 31, Fig. 15.

⁴ Lothrop, 1937, Fig. 54d.

⁵ Linné, 1929, Fig. 12c.

About a third of the celts from Mercedes are distinguished by the absence of the sharp side edge, faceted faces, and chipped polls which seem to be characteristic of Type A. The absence of these details appears likewise to be distinctive of Chorotegan celts from the Nicoya Peninsula, which are duplicated by many of those of Type B. This, however, may not be an acceptable criterion, since, as has been stated, a few celts of the general Type A shape possess unfaceted faces and rounded side edges, while others of general Type B shape have sides that approach angularity, and a number are indeterminably intermediate.

Before considering the most typical of Type B celts, two subgroups merit attention, as they vary sufficiently from the norm to warrant separate classification.

Six celts compose one of these special groups. These are unusually flat, with broad blunt polls, slightly narrower than the blades, at which point the celt reaches maximum width.

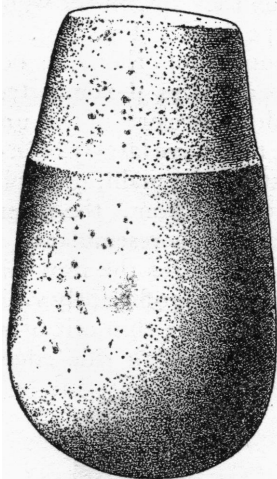


FIG. 10. Celt, Type A, subgroup, with poll deeply pecked, Mercedes.

The blades are flat, sharp, and semicircular, meeting the rounded side edges in a continuous curve, thus somewhat resembling the Type A celt reproduced in Fig. 8. The faces are well smoothed and convex, but for a third of the distance to the blade the butt end is unground and evenly pecked with a definite straight transverse limiting boundary. This pecked surface is generally depressed below the level of the smoothed surface. No specimens of this

type are known from the Chiriquí region or from Buenos Aires (Fig. 10).

A small series of celts or chisels is difficult to classify, inasmuch as they display few of the characteristics of either Types A or B. Similar objects are found in both the Chiriquí¹ and Chorotegan regions. Other Chiriquí² chisels are slightly different, with polls wider than the blades; the latter type is also more characteristic of Coclé,³ and of the Pearl Islands.⁴ The chisels from Santa Marta, on the other hand,

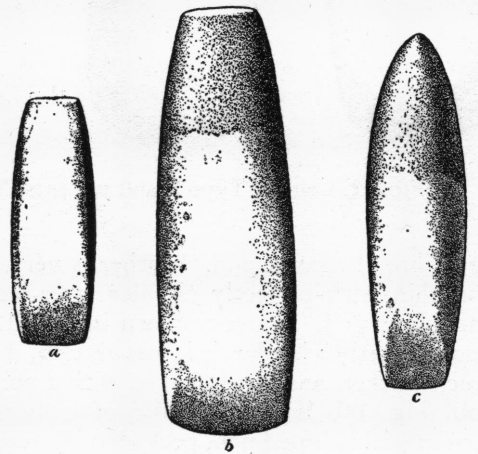


FIG. 11. Celts or chisels intermediate between Types A and B, Mercedes.

tend more towards the Mercedes type.⁵ They are small, of quasi-cylindrical or cigar shape; the blades are short, sharp, and of approximately the same width as the polls; the maximum width is midway of the specimen, and they are well ground. None shows the side edges and faceted faces characteristic of Type A celts, and a minority display the pecked unground polls characteristic of Type B. They vary from 6 to 11.5 centimeters in length and from 1.5 to 3.5 centimeters in width. Four subtypes require special comment, the others being variants and intermediates. The celt shown in Fig. 11a is short, with four convex faces, is more or less quadrilateral in cross-section, and

¹ Holmes, 1888, 33, 34, Fig. 23.

² MacCurdy, 1911, Figs. 9, 10, 12; Holmes, 1888, Figs. 21, 22.

³ Lothrop, 1937, Fig. 57. The footnote on p. 207 gives more comparisons.

⁴ Linné, 1929, Fig. 26b.

⁵ Mason, 1936, Pl. 77.

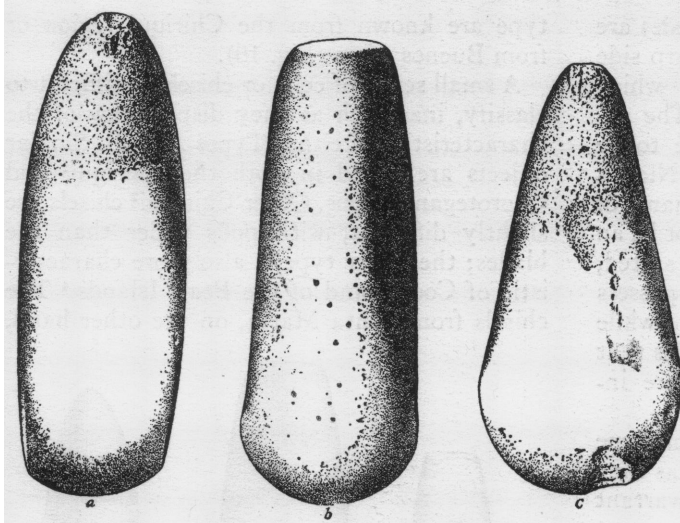


FIG. 12. Celts of Type B and variants, Mercedes.

has a broad convex poll. Another is very long and thin with perfectly circular cross-section and blunt poll. The celt shown in Fig. 11c is also perfectly circular in cross-section, but is much thicker, and cigar-shaped with a pointed poll. Fig. 11b is massive and of oval cross-section with a broad poll, pecked and unground for a third of the distance to the blade.

A few large massive Type B celts, best exemplified by Fig. 12a, display characteristics most divergent from those of Type A and are most similar to Chorotegan celts from the Nicoya Peninsula. The celt illustrated is oval in cross-section, the maximum width being near the middle. The poll is bluntly pointed and unground for one-third its length, showing the

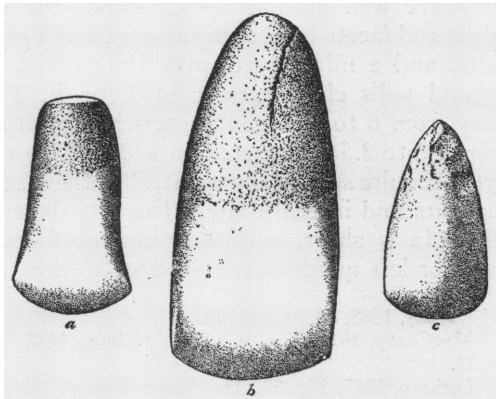


FIG. 13. Variants of Type B celts, Mercedes.

rough pecking by which means the implement was evidently blocked out and shaped. The blade is sharp, rounded, and continuous with the side. The material is a light greenish basalt. While similar in other characteristics, all the other specimens of this type are of maximum width at the blade. Of these the most variant (Fig. 12b) is more or less cylindrical and oval in cross-section with a blade slightly flaring at the point where it meets the side. A similar, but much smaller celt with pecked poll is shown in Fig. 13a. The rest of the large number of implements of this type are flatter, more triangular, and generally smaller (Fig. 13b). The materials are generally light gray or greenish basalts or porphyries, the polls are pointed, but not sharp, and normally are left unground and pecked (Fig. 12c). In technique and execution they are, on the whole, much inferior to Type A celts (Fig. 13c).

A large number of other celts occur in catalogue number groups denominated as "probably Mercedes." Because of this uncertainty of provenience they have largely been disregarded. They consist, in the main, of duplicates of, or minor deviations from, the Mercedes celts above considered, a resemblance which bears out the probability of the provenience identification. Only one is sufficiently variant to merit special notice. It is a thin celt of well-polished greenish porphyry with side edge, sharp cir-

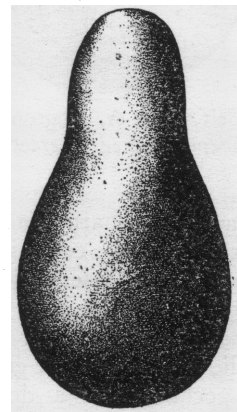


FIG. 14. Thin celt of polished porphyry, provenience doubtful.

cular blade, and a constriction near the poll, probably to facilitate hafting (Fig. 14).

The use to which celts were put is always a moot question. In the absence of metal implements, similar objects were probably employed for chopping and carving though, at best, they were fragile instruments for such utilitarian duties. Such tools, however, were doubtless less carefully finished, most often chipped, battered, and broken from use, discarded, and, consequently, seldom found in the average archaeological collection. Most of the

tina.¹ The absence of chipped implements is also, within more restricted limits, another characteristic of this region, especially of the eastern lowland and Antillean areas.

MULLERS

Mullers or *manos de metate* are stones which were and are used throughout Mexico and Central America to grind the corn, which was the staple food, on the grindstone, or metate. The shape of the mano, like that of the metate,

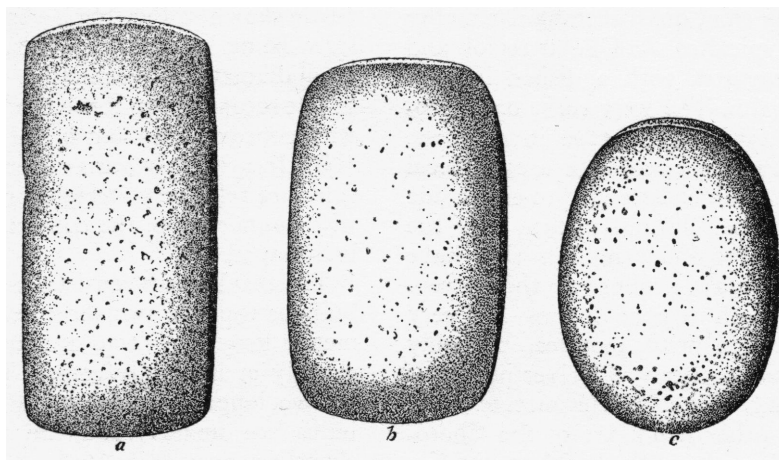


FIG. 15. Mullers or grinding stones, Mercedes.

celts under present consideration are excellently made and carefully finished, generally unchipped and apparently unused, and were probably employed or intended for warfare or for religious or ceremonial purposes, and as such were buried with their owners. A few may have been hand weapons or implements, but doubtless the great majority were hafted into handles to serve either as axes, as a kind of fasces or other ceremonial badges, or, most probably, as clubs or battle axes.

The main characteristics of Mercedes celts are the virtual absence of hafting grooves and of unsmoothed chipped and flaked forms. Apparently hafting with withes or thongs was almost unknown; all celts were hafted by inserting the poll into a depression in a wooden handle, so that every blow fixed it more firmly. In this respect, the general Isthmian practice was followed; grooved celts were very rare and uncharacteristic in the entire region between northern Mexico and Argen-

varies in different regions, and the modern forms are quite distinctive from those employed before the Conquest. It is, therefore, frequently a debatable question whether a certain archaeological implement was used as a mano or for some other grinding purpose, such as the finishing of stonework and masonry.

The Mercedes stone implement which most resembles metate manos from other regions and which appears best suited to serve such a purpose is a quasi-rectangular object with rounded corners, convex faces, and sides flat or convex in one plane. The material is normally a vesicular lava of medium to coarse grain, though in one specimen sandstone is employed. They vary from 21.5 to 16.5 centimeters in length, 7.5 to 11 centimeters in width, and 4.5

¹ Kidder, 1943, 189-193. He describes and figures six specimens of known provenience, four from Guatemala, one from Nicaragua, and one from Costa Rica; the last-mentioned is from Nicoya (Chorotegan) and is in the National Museum in San José.

to 6.5 centimeters in thickness (Fig. 15a, b). One unusually small specimen, 12.5 by 6 by 4 centimeters, may be considered a child's toy or a grindstone for another purpose. One muller (Fig. 15c) deserves special mention; it is a flat oval shape with two main convex faces, one worn smooth and one rough, and with a medial rough band, slightly but not sufficiently concave to permit the attachment of an encircling withe or thong. This implement may have served another purpose; it is apparently of reddish sandstone.

The relatively thin, quasi-rectangular muller is apparently typical of the Güetar region and employed on metates with a dished interior and peripheral rim. The west coast or Chorotegan metate, typically concave in only the longitudinal axis, was used with a cylindrical mano, the ends of which extended to either side of the metate. The Chiriquí metate is of the Güetar type, and the few mullers that have been found are also similar to those from Mercedes.¹ In both regions manos are very rare in comparison with metates, probably because the usual muller was a river pebble of proper size and shape. Coclé metates and manos, on the other hand, are of the Chorotegan type.² Those from Santa Marta in Colombia, however, work on the Güetar-Chiriquí principle, but are quite different in shape, the manos being thick and oval.³

PESTLES

Pestles, like metate manos, are implements used for the grinding or pulverizing of materials in mortars. In Mexico and Central America they were most frequently utilized for the maceration of chili-peppers, cacao, and achiote, though pigment ores and other minerals were also pulverized by such means. The Mercedes pestles may have been used for either of these purposes or for other similar processes. They may be characterized as relatively short and conical with circular cross-sections and convex bases. All are made of gray vesicular lava, the coarseness of this material rendering it especially suitable for abrasive purposes. The pestles may be grouped into several different types, ranging from plain to ornate. It may be

assumed that the plain pounders were entirely utilitarian and employed in the preparation of food, while the ornate pestles were most probably used in connection with religious observances.

The simplest and plainest pestles are quite homogeneous in type, of conical shape, and range from 9 to 14 centimeters in length and from 5 to 7 centimeters in width. The sides are straight or slightly convex, the points blunt or rounded. The smallest example possesses a slight incised groove around the point. The pestle shown in Fig. 16a is slightly variant, the sides being markedly convex, with the maximum diameter in the middle.

The second group consists of two plain pestles with concave sides and broad blunt tops (Fig. 16b). In a slightly variant form (Fig. 16c) the sides are relatively straight or slightly convex, with rounded top, the convex base flaring and bell-shaped.

The third group consists of four pestles with bulbous tops. In two short examples, 12 centimeters long, these tops are large, and the sides slightly or markedly convex (Fig. 16d), while in two longer specimens, 18 centimeters, the bulbs are smaller, and the sides straight or slightly convex (Fig. 16e).

The ornate types of Mercedes pestles are excellent examples of aboriginal stonework (Figs. 16f-h, 17a, b). The bases are large and mushroomed, 7 to 9 centimeters in diameter; the shafts are elongated cones, and the tops surmounted by conventionalized figures of birds and other animals, the entire height ranging from 14 to 17 centimeters. These objects probably had a ceremonial-religious purpose.

One specimen probably should be classed as a pestle, though its function is obscure. It is a smooth elongated conical piece of gray basaltic stone, not exactly symmetrical, with both ends rounded, and showing evidence of use. It is not impossible that it is a natural form, but the ends were obviously used for abrasive purposes.

The conical pestle is a type apparently restricted to Mercedes, or at any rate to the Güetar region. Nicoya pestles are radically different, a stirrup shape. Pestles of stirrup shape also occur in the north coast highland region, as at Cartago and Juan Viñas.⁴ Pestles

¹ MacCurdy, 1911, 33-34, Fig. 31.

² Lothrop, 1937, 95-97, Fig. 62.

³ Mason, 1936, 146-148, Pl. 67.

⁴ Personal correspondence from Dr. Doris Stone.

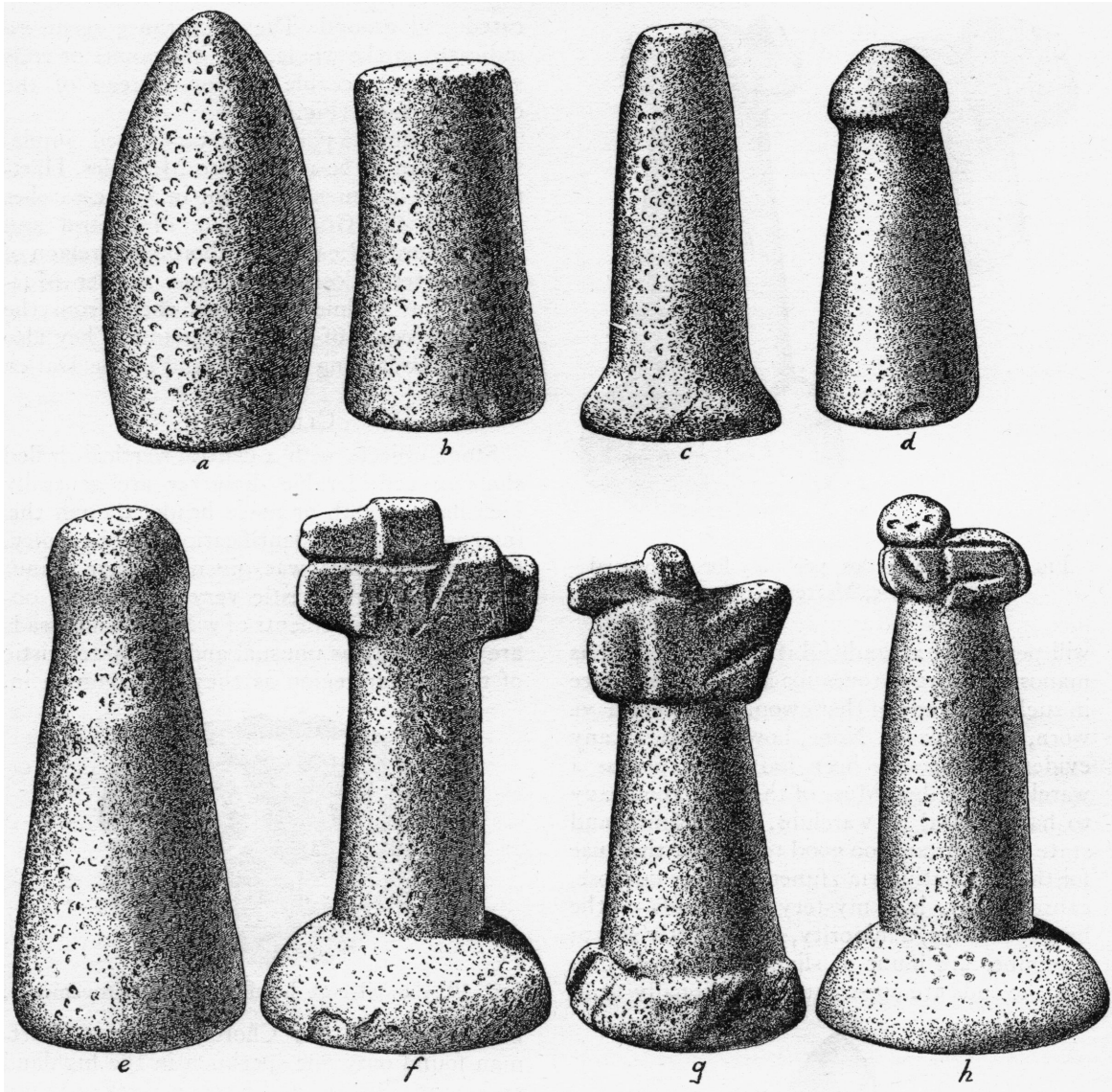


FIG. 16. Simple and ornate pestles, Mercedes.

of any kind are apparently rare in Panama; none is mentioned by Holmes¹ and only one by MacCurdy.² The latter, however, bears a resemblance to Mercedes pestles, being of a mushroom shape. In this, as in most other respects, a clear connection is observed between Güetar and Chiriquí, little between Güetar and Chorotegan. Lothrop does not mention pestles at Coclé, nor does Linné in the Darien area.

¹ Holmes, 1888, 27.

² MacCurdy, 1911, 34, Fig. 32.

CIGAR-SHAPED STONES

A more numerous and more homogeneous group of stone objects consists of 22 specimens of an exaggerated cigar shape. The length varies from 15 to 23.5 centimeters and the width from 5.2 to 9.1 centimeters. The length of the thinnest specimen is four times its width, that of the thickest, two and a half times. All are made of a grayish vesicular lava, ranging from coarse to fine grain. They are regular and perfectly symmetrical and as well finished as the material

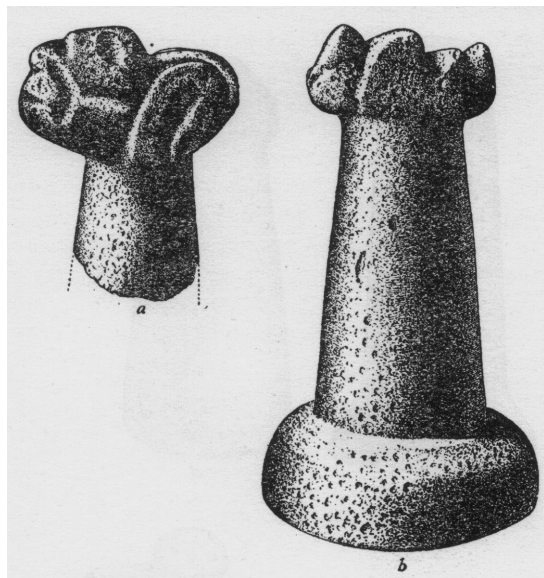


FIG. 17. Ornate pestles, probably for ceremonial use, Mercedes.

will permit. It is doubtful if they were used as manos or as grindstones for any purpose, since in such case some of them would certainly have worn, flat surfaces. None, however, shows any evidence of having been hafted for use as a warclub or sledge. Most of them are too heavy to have served as warclubs. Their finish and state of repair are too good to suggest their use for the latter utilitarian function; their purpose, consequently, is a mystery. The ends of the best specimens, a minority, are perfectly sharp; a number are blunt or slightly battered; in a few the ends are apparently intentionally trun-

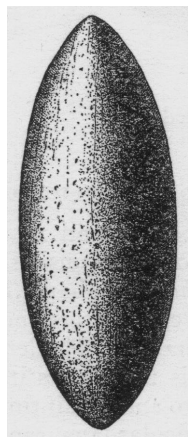


FIG. 18. Cigar-shaped artifact, with ends showing evidence of use, Mercedes.

cated and ground. The appearance seems to indicate, on the whole, that the points or ends were the serviceable portion instead of the convex surfaces (Fig. 18).

These double-pointed cigar-shaped implements seem to be peculiar to Mercedes. Hartman does not mention them in his researches in either the Güetar region of central and eastern Costa Rica or the Chorotegan region of northwestern Costa Rica, and neither MacCurdy nor Holmes refers to them from the Chiriquí region of western Panama. They also seem to be lacking at Coclé and in the Darien region.

CLUB HEADS

Stone objects with a central vertical drilled shaft of considerable diameter are generally identified as club or mace heads, though this interpretation and identification may be faulty. Considerable care was given to their manufacture, a characteristic very common to objects used as implements of warfare. Club heads are apparently as unusual and uncharacteristic of the Güetar region as they are common in,



FIG. 19. Carved club head, uncertain provenience.

and typical of, the Chorotegan area. Hartman found only one specimen in the highland region, at Chircot,¹ and neither MacCurdy nor Holmes mentions them as found in the Chiriquí region. They are also missing at Coclé. According to Doris Stone,² both miniature and large club heads are found in quantity at Guapiles on the Old Line in northwestern Costa Rica; the miniature heads are of green talc or jadeite. Guapiles is especially important for jadeite artifacts such as ax-gods, beads, and tools.

A small number of club heads in the Keith Collection are noted as from Cartago, a Güetar site in central Costa Rica west of Mercedes, but most of these are of the Chorotegan type and

¹ Hartman, 1901, Pl. 34, Fig. 5.

² Personal correspondence.

may well be importations. Similarly, a few others of Nicoyan type, the exact proveniences of which are unknown, have been ascribed to the Chorotegan region. One (Fig. 19), however, although the provenience is uncertain, is so different from the Chorotegan specimens and of an art so similar to that of Mercedes that it has been placed with the Mercedes group. The central orifice is roughly bi-conical, with a ridge in the center. The material is a vesicular lava. The surface is embellished by symmetrical carvings in relatively high relief. A medial groove around the waist divides the club head into two symmetrical halves, upper and lower. Around the ridged edge of the central shaft on each half is a ring of eight small raised knobs. Below these, and in the eight spaces between them, are carved alternately four rude human faces and four rosettes, each with a central knob. The faces on the lower half are in natural position, those on the upper half inverted.

METATES

The Mexican term *metate* is applied to a flat or concave stone on which corn is ground by hand with a stone muller or *mano*. Three main types are found: legless, three-legged, and four-legged. These might be considered as Types A, B, and C, respectively. It is a temptation to hypothesize that the earliest metates were, as seems actually to have been the case, suitable large flat stones, that they were rested on three small stones, that later the three supports were carved as integral legs of the mill, and that finally, because of the vague zoomorphic resemblance, the metates were made with four legs in the form of an animal. Unfortunately, the temporal data are lacking in many regions, not all those available support the theory, and the definitive study of the development and distribution of metate types is yet to be made.¹ Cutting across this classification is another triple one: 1, metates with the concavity mainly in the longitudinal axis; 2, those concave principally in the transverse axis; 3, those concave in both axes. Metates concave in only the longitudinal axis are employed characteristically with cylindrical manos, the ends of which project beyond the sides of the metate. Three-legged metates of this Type B1 are characteristic of ancient and modern Mexico, and of the

Chorotegan area, including the Costa Rican Nicoya region. Metates with transverse concavity require shorter, often oval or rectangular hand stones, generally flattish. The typical metate of the Güetar-Chiriquí region is Type C3, four-legged with a surface somewhat concave in both planes. The finest examples are in the form of animals, as are also the tripod metates of the Chorotegan area.²

TRIPOD METATES

Though numerically far fewer than the tetrapod types, tripod metates occur in the central Costa Rican Güetar region. They may possibly be due to Chorotegan influence. Some may belong to an earlier horizon, but the character, art motives, and technical excellence of others suggest that they belong to the same culture and period as the best tetrapod forms. Tripod metates, virtually identical with some from Mercedes, are also found in the Chiriquí region,³ but here also they are rare and untypical. On the other hand, at Coclé⁴ the tripod metate seems to be more characteristic than the tetrapod. Those of the Santa Marta region of Colombia are all of Type A, legless, and generally Type A2, with deep trough and one open end.⁵ The metates of Manabí, Ecuador, are also of Type A, legless, but characteristically of Type A1, used with long cylindrical manos.⁶

Thirteen tripod metates from Mercedes may be grouped into a series according to degree of technical excellence and artistic quality, but there is no corroboratory evidence that this arrangement represents an actual temporal developmental sequence. All are relatively low, with short legs, low marginal rims, the grinding surfaces grading from oval through a rectangular form with rounded corners to sub-rectangular. Lava of various degrees of coarseness was used for these tripod metates.

The rudest and most massive and presumably the most archaic of the tripod metates is illustrated in Pl. 13a.⁷ This is of approximately

² Lothrop, 1926, vol. 2, 289.

³ MacCurdy, 1911, 27, Figs. 17, 18.

⁴ Lothrop, 1937, 95, 96, Fig. 62a, b.

⁵ Mason, 1936, 143-148, Pl. 66.

⁶ Saville, 1907, 68, Pl. 40.

⁷ Numbers 11389 to 11407 form a sequence which in the original catalogue is given the provenience of San Antonio de Nicoya. Since, however, virtually all these specimens

¹ As a beginning, see Stromsvik, 1931.

oval shape, of vesicular lava, the upper surface very rough and slightly concave, without lip, the edge thick. Neither interior nor exterior is smoothed. The short end above the single leg is quasi-rectangular, the opposite end round. The tripod supports are conical nodes rather than legs, short, massive, and mammiform, without definite division from the body. The metate shown in Pl. 13b is but slightly more developed, being of massive, slightly rounded rectangular shape. In one respect it is most unusual; the interior surface is actually convex in the longitudinal plane, slightly concave in the transverse plane. The declivity from the rim is gentle and slight, but the rims on all four sides are slightly convex, with consequent depressions at the corners. The legs are short and mammiform, but much more developed than in the metate previously described (Pl. 13a). Just below the rim, at the point of maximum width, the metate is encircled by a ring of slight knobs, 16 on the long sides, 10 on the short ends. Another massive, rude, and presumably archaic metate (Pl. 13c) is of a coarse reddish lava; the grinding surface is roughly oval. The interior is roughly flat, but the rim is gently rolled to form a low uneven lip of 1 centimeter in average height. This lip is missing at one end, but whether it was originally absent, or was worn down, is not indicated. Like the interior, this part is worn smooth by use. The plate is relatively thick; the legs are thick, cylindrical, and short, averaging 2.5 centimeters.

The remaining 10 specimens are more homogeneous in execution; the technique and finish vary slightly, probably indicating an identity and contemporaneity of origin. One of these metates is rather large in size. Since the legs are broken off, its original height is unknown, but the rounded-corner, rectangular-shaped plate measures 59 by 36 centimeters. The form is somewhat irregular, the interior relatively flat. The rim lip is low, wide, and gently rolled.

The most unusual of the metates is illustrated in Pl. 13d. It is a perfect oval, without corners, and unusually small. The plate is relatively flat, but slightly concave transversely, with the rim somewhat convex on the sides and concave on the ends. The rim lip is low and

are definitely of Gütetar type, this provenience is assumed to be erroneous, though it does not necessarily follow that these metates are from Mercedes.

gently rolled, and the lower edge of the upper plate is decorated with large rude scallops. The slightly divergent legs are cylindrical with broad bases. The finish is fair, but the shape slightly irregular.

Another somewhat unusual metate (12471 BM) is small and made of reddish vesicular lava, all the others being gray. It measures 28 by 17 by 11 centimeters high. The shape is virtually rectangular with the sides very slightly, and the ends moderately, convex horizontally. The marginal lip is even, broad, and flat, but not high, and the shape and finish are relatively good. The vertical cylindrical legs are rather thick.

A metate (7017BM) slightly inferior to the best in concept and execution is of general good shape but of inferior finish. The upper surface is sub-rectangular, 47 by 34 centimeters and 17 centimeters high; the interior is virtually flat and smooth from use. The rim lip is gently rolling, but low, slightly convex to all sides in the perpendicular plane; the long sides are nearly straight horizontally, the ends slightly convex, and all sides plain. The three legs are short, thick, and conico-cylindrical.

Three specimens form a relatively homogeneous subgroup of almost uniform shape, size, and excellence of execution (see Pl. 13e). The upper surfaces are quasi-rectangular, smooth, and relatively flat or slightly concave, ranging from 35 to 48 centimeters in length, 22 to 30 centimeters in width, and 11 to 13 centimeters in height. The rims are slightly convex vertically on the four sides, with resulting depressions at the four corners, and also slightly convex horizontally, the corners being rounded. The rim lips are gently but evenly rolled and are not high, and the lower edges of the sides and ends are carved with broad deep grooves into scallops, ranging from 14 to 16 on the long sides. The legs are short, massive, and cylindrical, generally vertical, though in the metate illustrated in Pl. 13e they are slightly conical and divergent.

Metate 7012 is of slightly superior size and technique, very well shaped and executed, 57 centimeters long by 48 wide by 20 centimeters high. The shape is quasi-rectangular, the long sides are virtually straight, and the ends are convex horizontally. The surface and the surrounding rim are virtually horizontal, and the rim lip is even, horizontal, and carefully made,

though low. The plate is relatively thin and not scalloped; the tripod legs are cylindrical, thick, and vertical.

The two metates of finest technical excellence are also the largest and are virtually identical. The larger one measures 77 by 48 centimeters and 30 centimeters high, the smaller one (Pl. 13f) 75 by 46 centimeters and 27 centimeters high. The former is broken. The finish and execution of both are excellent. The surfaces are virtually horizontal transversely, but very concave longitudinally. The long sides, as in No. 7012, are straight, while the short ends are convex horizontally. The marginal rim is carefully executed, of an even width of 1.5 centimeters, but of slight height; the sides of the plate are 3 centimeters thick. The lower edge of the plate is carefully carved in a scalloped pattern, the larger specimen bearing 26 scallops on each long side, the smaller, 21. The tripod legs are long, thick, and evenly cylindrical, with flat feet. In each case, two great holes have been broken in the medial axis of the plate. These were evidently made purposely, and probably as a ceremonial "killing" of the object. This practice is one frequently employed by aboriginal groups, the guiding motive being the belief that the spirit of a purposely broken or "killed" possession would accompany the spirit of the deceased owner, to be of service to him in the future world. A similar ceremonial destruction will be noted on several of the oval seats and other objects.

It should be noted that all the Mercedes tripod metates have rims, and few are flat or relatively so in the transverse axis. They were therefore used, as were the tetrapod metates, with a short mano, not with a long cylindrical one like those of Chorotegan tripod metates. The latter is the characteristic type of the Nicoya region where it reaches an exuberant stage of artistic development; Hartman¹ figures 32 such metates. Almost all are of a highly characteristic form and quite different from those of Mercedes, but a few of the simpler shapes bear some resemblance to certain Güetar specimens. Nicoya metates are generally very concave in the longitudinal axis, resembling in this respect the finest of the Güetar metates (Pl. 13f), but with the distinction that one end is generally much higher

than the other. The legs, moreover, tend to be more conical, slender, and diverging. Hartman seems to have found no tripod metates in other Güetar sites.

TETRAPOD OR QUADRUPED METATES

Nearly all the Güetar tetrapod metates are zoomorphic, the legs altered into animal form, and almost invariably with a jaguar head and tail. The few tetrapod metates lacking a head and tail are either large, technically excellent specimens with zoomorphic legs, or small, rude, and plain objects that may have been either mortars for the grinding of chili, paint, or other such materials, or miniature mortars for mortuary purposes. Some of the former may have been reshaped after the accidental destruction of the head and tail. In either case these were probably contemporaneous with the finer jaguar metates. No tetrapod metates of definitely archaic type are represented in the Keith Collection, and none is mentioned or figured by Hartman from other Güetar sites. The same condition seems to obtain in the Chiriquí region; in the Nicoya area tetrapod metates or stools seem to be quite unknown.

According to Doris Stone,² the quadruped metate, although extending throughout the Costa Rican mainland, is more characteristic of the Boruca, General Valley, and southeastern area than of any other region. Here the most common form is the jaguar with bent tail, but plain four-legged metates also occur. From the north coast area, in the region of La Francia and Louisiana Farms on the Old Line to Guapiles, there are also many plain tetrapod metates.

Four of the four-legged specimens belong to the small, plain, rude type, but are slightly different in all details. One (14480BM), of gray vesicular lava, is a tiny rude replica of the larger oval metates, 8 by 5.5 by 3 centimeters high. The upper surface is concave, and one end is markedly higher than the other, as are the Nicoya metates, but this feature may be purely fortuitous. The four legs are hardly more than slight protuberances, and the ensemble is very rude. Another (1760BM) is slightly superior in all respects, the oval concave upper surface measuring 9 by 7 centimeters; its height is 4.5 centimeters. The bowl is smooth, as if

¹ Hartman, 1907, 38-47, Pls. 3-20.

² Personal correspondence.

from use, but the balance of the surface, though well shaped, is very rough. The four legs are short and conical, but asymmetrical. The material is gray felsite. The metate shown in Pl. 14a is of gray vesicular lava and slightly larger. The bowl is slightly concave, showing no evidence of use; the legs are longer and quasi-conical. In another metate bearing actual marks from use (Pl. 14b), the smooth concave bowl is virtually circular; the legs are short and conical. The thickness is considerable and the general effect massive. The shape is good, but the finish rough.

Three other quadruped objects may be considered either in this or in the following jaguar group, since they all contain some zoomorphic elements, but are nevertheless quite different from the typical jaguar figures. Of very unique type is the large quadruped bowl, seat, or metate (Pl. 14c). Its unusual feature is its slight height, 8.5 centimeters; it is supported on four very short, thick, cylindrical legs. The bowl is oval and quite concave. In the center a small circular hole has been pecked, doubtless to "kill" the metate ceremonially, a practice which has already been noted on metates in other groups. While the finish is good and the center of the bowl smoothed, as if by use, the form is somewhat irregular, the rim being wavy and neither horizontal nor even. An irregular encircling horizontal line is incised on the side of the bowl a little below the rim; beneath this, the lower border is carved by notches into 17 scallops in five groups of three and one of two, broken at the two ends and opposite the four legs. These scallops are rudely carved into unidentifiable faces. Projecting at one end is a low-relief, neckless animal head and at the opposite end is a knob probably representing a tail. The smoothness of the center of the concave top evidently indicates that it was employed as a metate or mortar, not as a bowl, though utilization as a seat is not precluded.

The metate in Pl. 14d and another similar specimen (6879BM) partake even more of the nature of jaguar metates, since their four legs are definitely of this type. The absence of head and tail may merely indicate that these were accidentally broken off in manufacture and the points of fracture worn down. Both, however, lack the geometric low-relief incised decoration so typical of true jaguar metates, and they may never have been intended as such. One

(6879BM) stands 12.5 centimeters high, and the rounded-corner rectangular, concave bowl measures 25 by 23.5 centimeters. The four legs, identical with those on jaguar metates, are severely plain. On one side of the bowl a simple decoration of scallops and incised squares had been commenced, but left unfinished.

In Pl. 14d is an excellent and unusual example of aboriginal stone carving. Its striking characteristics are its angularity, size, excellence of finish, and the sharpness of its edges. The upper surface is almost perfectly rectangular, with straight edges and sharp corners and edges, and is very slightly concave. At either end, this upper surface is decorated with transverse bands of incised lines, with slight raised ridges between two groups of three narrow, low, parallel, equidistant ridges separated by a wider band of the same level as the balance of the plate. The latter is of a uniform thinness of 2.5 centimeters, only slightly increased at the center, the sides virtually vertical and the edges sharp. The four relatively angular jaguar legs support the plate at a height of 21 centimeters. The finish is even; its symmetry, airiness, and flawless execution are admirable. The face of the upper plate is smoother than the rest of the surface, but whether from use or manufacture is uncertain. It was doubtless destined for use either as a seat or a metate, and probability would seem to favor the former.

Though the term metate is standardized by accepted usage for the three- and four-legged stone objects with broad upper surfaces, and is here employed in that sense, there is no certainty that these were all used to grind corn. Notwithstanding the general homogeneity of form, the variations in the shape of the upper plate, the principal feature, indicate that these metates could hardly have had a uniform purpose. Thus the plate may be either perfectly flat or concave in one or both planes, slightly dished or deeply excavated, rimless or rimmed, coarse and rough, or smoothed. On these forms rests the decision as to whether they were used as metates, mortars, bowls, seats, or had some other function; in no case can such a determination be more than probable.

JAGUAR METATES

Of the three most characteristic types of Mercedes stonework—the slab altars, jaguar metates, and the standing human figures—the

second, the jaguar-shaped metates, are the most numerous, best known, and apparently the most widely distributed. The human figures from Mercedes are not only stylistically different from those from other Güetar localities but also quite distinct from those from southern Costa Rica and the Chiriquí region. The great altars are apparently restricted to the region of Mercedes, but the jaguar metates are virtually identical with those found at Cartago and other Güetar localities, at Buenos Aires in southern Costa Rica, and at Chiriquí localities in western Panama. The type is, therefore, one that is characteristic of this entire region.

From the viewpoint of technical sculptural excellence the jaguar metates take a foremost position, not only in Costa Rican stonework, but in all the sculpture of aboriginal America. Indeed their manufacture, requiring the utmost delicacy and care in execution, constitutes a feat which any modern sculptor might hesitate to undertake. The labor required to fashion such fragile objects from masses of rock, without metal tools, and the degree of technical skill required to avoid breaking the long thin legs and slender looped tail in the course of construction are well-nigh incredible. It is probable that breakage was avoided only by such careful laborious processes as those presumably employed by the artisans, a slow gradual attrition of the surface by patient pecking with stone implements, by abrasion with sand, and striation with flinty rocks.

As indicated by the excellent technique and the stylized character of the art, the jaguar metates are apparently products of the last period in the development of Güetar stonework. The degree of variation in size, proportion, and technical and artistic quality is within a range explicable on grounds of individual ability and idiosyncrasy and apparently is not to be ascribed to temporal differences. There seem to be no criteria by which the metates may be arranged in any valid system of artistic or technical sequential development. No specimen of a definitely archaic type is found. The history of the development of this type is, therefore, difficult to reconstruct. As before noted, except for small examples, probably intended as mortars, no rude, plain, quadruped metates have been found. All the rude, massive, undecorated metates are of the tripod type. A development, therefore, of the jaguar type

from the plain, undecorated, quadruped metate is hardly probable. It is possible that, though the type reached its culmination of development in this region, the suggestion in a relatively advanced form came from outside the area, where its early stages of development should be sought.

In general concept, the jaguar forms compose a very homogeneous group. Each comprises a zoomorphic unit, almost always a jaguar, except for a few in which the figure is symmetrically double-headed, each end being provided with forelegs and head. All rest upon four more or less naturalistic though somewhat stylized legs. In the majority the legs are symmetrical and slightly bent or flexed, distinguishing the upper and lower leg. The paws, facing anteriorly, generally differentiate forelegs from hind legs. In most specimens the claws are shown by striations. The animal's back is modified into a broad oval, round, or, less frequently, rectangular, more or less concave bowl or plate which forms the utilitarian element of the metate. The jaguar heads project, with or without short necks, from the anterior side or rim of the bowl, and vary considerably in type. Although somewhat stylized and conventionalized, they are predominantly naturalistic, with the partly open mouth displaying large teeth, particularly the canines, large round or oval eyes, and short upright ears. The tail is generally long, slender, tapering, and looped, the base at the back of the bowl opposite the head; the tip touches the hind leg, the left leg in about two-thirds of the metates. Specimens without any decoration are extremely rare; the majority are profusely embellished, with incised or low-relief motives on the side of the bowl, tail, legs, crown of the head, and neck.

Some 50 jaguar metates of the usual type and five of very large size and unusual form are in the Keith Collection. A further subdivision of these is a difficult task, inasmuch as little correlation can be found between form, apparent usage, technique, and art. Attempts at classification into groups with rectangular or with curvilinear plates, with virtually flat or with deeply concave plates, and with single or double heads, were found to cut across other possible categories based on art motives which, all things considered, would seem to be the more important factor. Differences in form are

dictated primarily by utilitarian factors, and various shapes may be of homogeneous origin, similar forms of heterogeneous origin. But artistic features are normally independent of utilitarian function, and objects bearing similar artistic motives may, with relative confidence, be credited to a common source. As far as possible, therefore, the jaguar metates have been classified on the basis of art, technique, and material.

Though these objects are traditionally termed metates, their exact use has always been a matter of speculation or, more frequently, a topic to avoid. Some, especially those with surfaces flat in one plane, were probably actually employed as metates, that is, as mills for grinding corn or other materials; others, especially those with deep interiors and high rims, were probably used as mortars or bowls; and still others, of saddle shape and resembling the oval seats in several respects, may have been utilized as stools or seats. The line of demarcation between metates and mortars or bowls is vague and more or less subjective, since there is a gradual gradation between specimens with upper surfaces perfectly flat—at least in one axis—and without rims, those with concave surfaces, more or less deep, those with slightly raised rims and flat or concave interiors, and those with high sides and deep interiors. The latter type is presumably entitled to classification as bowls or mortars. They may have been used to grind cacao, achiote, chili, or even ocher.

The jaguar metates have been tentatively classified into seven groups, according to more or less common features. Not one of these, however, is clear cut in possessing features common to, and distinctive of, all members, and missing in other groups. In many instances specimens are of mixed or border-line character and, therefore, are intermediate between several groups. No deductions are drawn, therefore, as to relative age or place in a scheme of artistic development.

The groupings thus determined are:

1. Light gray felsite
2. Reddish vesicular lava
3. Gray lava with typical incised rectilinear ornamentation
4. Gray lava with atypical ornamentation
5. Fine-grained dark lava

6. Oval concave type with serrated sides

7. Unusual stylized type

Group 1: The metates illustrated in Pl. 15a-f, as well as two not reproduced, are all composed of light gray felsite, relatively fine-grained but occasionally vesicular, and weathering easily; their decoration, therefore, is considerably eroded. These metates, it should be noted, are in a catalogue sequence to which the provenience San Antonio de Nicoya is given. However, not one of the metates in this series is characteristically Chorotegan; most of them are typically Güetar or Chiriquí. Since their exact provenience is uncertain, they have been considered with those certainly known to be from Mercedes. The difference in material, however, indicates that they belong to another locality, and conversely a resemblance of material suggests that the true provenience of this group is farther to the south, possibly Paso Real or Buenos Aires.

These eight specimens, with the exception of the metates in Pl. 15b and c, are typical jaguar figures with naturalistic head, legs, and looped tail of circular cross-section meeting the hind leg, in five metates the right and in one the left leg. The metate in Pl. 15b appears to have been altered after fracture. The legs are short stumps; one of them, a trifle shorter than the others, has a fractured end. At one end is a good head, at the opposite end a smaller more grotesque head appears to have been modified from the broken stump of a tail. The tail of the third specimen in this series (Pl. 15c), which is otherwise of the usual type, is short and extends straight behind, convex vertically. It may also be a stump reworked after the breakage of an intended looped tail.

Six of the specimens have oval plates. The largest of these (Pl. 15f) has a maximum length of 67 centimeters, a width of 31, and a height of 19 to 21 centimeters. No other approaches this size, the four average specimens ranging from 41 to 48 centimeters in length, 22 to 26 centimeters in width, and 11.5 to 14.5 centimeters in height, not including the broken specimen (Pl. 15b). One metate (11391) is unusually small, 26 by 14 by 9.5 centimeters. The five large examples probably require classification as metates since the concavity of the bowls is relatively slight, the depression of the center beneath the level of the rim ranging from

0.4 centimeter in the low specimen (Pl. 15b) to 2.5 centimeters in the largest (Pl. 15f). The three larger metates have gently concave interiors which slope gradually away from the rim, but one (Pl. 15a) has an almost flat interior with slightly raised borders of even width. The centers of three are quite smooth from use. In the small unillustrated specimen (11391), however, the bowl is much deeper, 2.5 centimeters, and relatively flat in the center with steep sides; consequently it deserves classification as a bowl.

The degree of decorative ornament is by no means uniform, the metates illustrated in Pl. 15d and f possessing plain legs, that in Pl. 15e and one other (11391) having the side of the bowl plate undecorated. The heads and tails of all are ornamented, and in the specimens in Pl. 15a and b all four elements are decorated. The prevailing decorative motive consists of parallel straight lines intersecting in angles and forming rectangles or diamonds, a feature which connects this group with Groups 2 and 3 in which this type of ornament is characteristic. In most typical form this motive is found on the legs where, however, it is not roughly incised, as in many examples of other groups, but carefully carved. In the low metate (Pl. 15b) this motive is modified into a curvilinear pattern; in another (Pl. 15e) each leg has a different pattern, two rectilinear and two curvilinear. In four instances the tail decorations are rectilinear motives similar to those on the legs, but the tail of a small specimen (11391) terminates at the base and tip with a sigmoid motive. The large metate (Pl. 15f) has a tail decorated with eight groups of concentric circles in a line, and in the low-legged one (Pl. 15b) the tail has been modified into a head. Rectilinear designs of square or diamond pattern are most typical of the decorations on head and neck, ranging from a simple incised chevron motive in the small specimen (11391) and a vague design in the one illustrated in Pl. 15b, to ornate designs as exemplified in Pl. 15a and e. On the metate shown in Pl. 15d several parallel longitudinal rows of small round dots are separated by parallel ridges; another (Pl. 15f) has a row of three groups of concentric circles. The decorations on the external sides of the bowls are more diverse. The rectangular zigzag pattern in Pl. 15d is a frequent motive in this position; in

Pl. 15a a panel of guilloche pattern, quasi-recticurvilinear, in the center of each side, is flanked by panels of horizontal chevron designs. The motives in Pl. 15b are two intertwined looped lines, and those of Pl. 15f a pattern of horizontal sigmoid figures and circles.

The two remaining specimens (Pl. 15c and one not illustrated) vary from the preceding in being rectangular instead of oval. Both, moreover, differ from quadrangular metates of other groups in that the corners of the otherwise rectangular bowls are slightly more acute than perfect right angles, caused mainly by the horizontal concavity of the end sides. The interiors of the bowls are almost perfectly flat and at a depth of 2.5 and 3.5 centimeters below the level of the rim. The thin, slightly slanting sides of the bowls form an abrupt angle with the flat base. The interiors are smooth, as if from continued use. The two metates are of relatively similar medium size. In both, the head and feet are well executed and quasi-naturalistic. The crown of the head and the neck, the feet, tail, and sides of the bowl are decorated with low-relief, carved, and incised designs of diamonds, squares, crossing lines, and rectangular guilloche motives, the patterns most frequently found. The two specimens differ principally in the shape of the tail, that of No. 11398 being of the typical looped form with the tip touching the right foot, while that shown in Pl. 15c extends straight behind, stumpy and convex vertically. The latter may well be a stump reworked after the breakage of an intended looped tail.

Group 2: The second group is also classified by material, a reddish vesicular lava. However, other correlations of size, form, and art motives indicate that the group is homogeneous and probably of similar origin as regards place and time. The sequences of catalogue numbers are likewise related. Five specimens (Pl. 16a-e) represent the most typical members of this group. All are relatively small bowls or mortars, rather than metates, decorated with geometric, rectilinear, incised designs. They are differentiated by shape; two (Pl. 16b, c) are double-headed; each of the other three (Pl. 16a, d, e) has a single head and tail. The differentiation in size is slight, ranging from 32 centimeters in length, 17 centimeters in width, and 10 centimeters in height in the bowl in Pl. 16d, to 22

centimeters long, 11 centimeters wide, and 8 centimeters high in the two-headed bowl (Pl. 16b). The bowl is circular or oval-rectangular in shape; the depression below the level of the rim varies between 1.5 and 2.5 centimeters, the double-headed specimens supplying both extremes. The center of the interior of the bowl is relatively flat, with the maximum grade at the rim, but in none is there a definite angle between the base and the side wall or border rim. The heads and tails are naturalistic; the eyes are generally oval and frequently have an encircling ring; the ears are erect; the nostrils large and well shaped; and the open mouth displays the prominent canine teeth. In the majority of the bowls in this group the carving is sharp, and the lines are uneroded. The looped tails in two of the three specimens are joined at their tips to the right hind leg, in the third, to the left leg. The legs are naturalistic, but stylized.

The decoration is unusually complete; all five pieces have decorated bowl sides, and all three tails are ornamented. Three of the five possess decorated heads and legs, but the head of the specimen shown in Pl. 16e and the legs of that in Pl. 16b are plain. The embellishment is prevaillingly that most common on jaguar metates, especially those of Groups 1 and 3, and is composed of rectilinear incised lines in geometric patterns. The decoration of the band on the side of the bowl is uniformly a zigzag triangular chevron pattern with various modifications, that on the legs a rectangular herringbone design. The designs on the tails resemble somewhat those on the legs, but are more developed and ornate, with a tendency toward square and diamond motives. The top of the neck bears a similar concentric square or diamond pattern, but in several instances this becomes a concentric circle. In two specimens, the cheek also is ornamented. The decoration, on the whole, conveys the impression of a developed type of art, striated rather than carved. The interior surfaces of all are smooth, as if from use.

Two other bowls of gray, rather than red, vesicular lava resemble the foregoing so closely in size, shape, and decorative design as to indicate a close connection with them. They may be considered as intermediate between Groups 2 and 3. Apart from the material, the principal difference is in the shape of the head which is

more perpendicular and has a longer neck. The bowl in Pl. 16a falls within the maximum and minimum size, as given above; in all other respects it conforms to the foregoing type, except that the decorative band on its side consists of a triangular pattern on the right side, and a diamond motive on the left. The other specimen (1754BM) is of slightly greater width, 18.5 centimeters, and may have originally been of greater length and height than any of the bowls described above, the legs and tail being broken off. The circular bowl is massive and unusually deep; a large hole has been intentionally pecked in the center, doubtless for its ceremonial "killing." The stumps of the legs bear the typical rectilinear herringbone pattern, and the bowl band has the usual zigzag triangular motive, but both designs are ruder and shallower than in the other specimens.

Group 3: Groups 3 and 4 comprise the metates unclassifiable in the other more or less uniform groups. Those displaying the most frequently observed ornamentation have been placed in Group 3; the remainder, the more variant specimens, have been relegated to Group 4. This decorative ornament is rectilinear and consists mainly of groups of short parallel lines meeting at more or less right angles. In the typical pieces the same or similar decoration is found on the upper leg, tail, and neck, the border of the bowl being prevaillingly a zigzag chevron pattern. Variations from this norm occur in greatest frequency on the neck, less often on the tail, the design being most constant on the thigh; presumably it represents jaguar spots. This motive occurs in the majority of the groups, but its most typical form may be observed in Group 2, the red lava specimens.

Three specimens have been placed in Group 3, though they are by no means of uniform type. Two are rectangular, a form in the decided minority, and the third is an intermediate type of uncertain classification.

The metate which conforms most closely to the norm, of gray vesicular lava, is reproduced in Pl. 17a. The rectangular plate is slightly concave in both axes, but the interior is virtually flat and moderately smooth, most of the declivity being close to the rim, though without definite side walls. The long tail, looped to the right leg, and the head with a long neck are naturalistic and unusually well executed. The tail and the quasi-naturalistic legs are incised

with the typical rectilinear design; the bowl border has the usual chevron patterns. The head is extraordinarily well carved, with rectilinear motives on the cheeks and above the eyes, and concentric circles on the crown of the head and neck.

A metate (Pl. 17b) closely resembling the preceding in all respects, except that it is double-headed, has a rectangular plate. The heads are almost identical, large and well made, and similar to that of the metate previously described (Pl. 17a), but less clean-cut, the bases of the necks projecting in semicircles over the edge of the plate. As may be observed on the metate in Pl. 17a, there are ornamental rectangles behind the eyes and two groups of concentric circles on each neck. The plain legs are typical, conventionalized, naturalistic, and symmetrical, but face in opposite directions. The side border of the plate is decorated with a more ornate incised chevron design. The rectangular general effect is excellent.

A metate (6858BM) of slightly more variant form displays some of the tendencies of Group 7, especially in the unusual shape of the head. It is of medium size, the plate being nearly flat, rimless, and circular, 26 centimeters in diameter. Virtually flat in the transverse axis, it is slightly concave in the longitudinal axis, and smooth throughout from use. The jaguarean head and tail give it a maximum length of 42 centimeters, the height being 18 centimeters. The head is stylized, ornate, and unusual; the back of the head and the neck are carved with rows of small rings. The base extends over the edge onto the plate, and the head is above the level of the rim. The long tail of circular section, looped to touch the foot of the left leg, is also ornate, with carved rectangular squares. The legs are naturalistic, but stylized, the exteriors decorated with the typical geometric rectilinear designs. The ornamental band on the exterior side of the plate is composed of the zigzag lines typical of this group, unbroken at the legs and scalloped at the base.

Group 4: The metates placed in Group 4 can hardly be considered a type, inasmuch as they possess little in common as regards details of art, and also differ considerably in size and form. All are of gray vesicular lava; though varying extensively in detail, they enjoy a fundamental similarity which does not preclude a relative homogeneity of origin. Of 11 metates

in this group, nine are oval and two rectangular. They vary from flat specimens which are almost certainly metates to relatively deep ones which may be bowls.

Conforming most closely to the general types is a large oval jaguar metate (Pl. 17c) with the broad flat plate and thin legs which seem to be characteristics of the Chiriquí type. The plate is large, oval, and concave, without a raised rim, and with the center worn smooth by use. The tail, the tip of which touched the right hind foot, is missing. The head, of normal comparative size, is very well executed, with large circular eyes, open mouth displaying large canines and other teeth, snarling lip, and upright ears. A broken band of wavy-line decoration extends across the cheeks and between the eyes, and an ornamental band consisting of four circles in line runs up the head and down the neck. The legs are the usual shape, short and undecorated. The thin side of the plate has a continuous border band of guilloche design composed of intertwined festoons. The total effect is that of an expression of highly developed technique and excellent artistic feeling.

Two rather typical oval jaguar metates of rough finish and scant decoration, though of excellent proportions and conception, give an impression of mature simplicity rather than undeveloped archaism of art (6859BM and 7029). The bowls are concave, with flat centers, the maximum declivity being near the rim, which forms a side wall, though without definite angle with the base. No. 6859BM measures 47 centimeters in maximum length, 22 centimeters in width, and 14 centimeters in height; No. 7029 is 39 by 19 by 11 centimeters. The latter small specimen is a little more concave, with a depression of 2 centimeters. The centers of the bowls are only slightly smoother than the outer surfaces, indicating that they were not used as metates. The heads are naturalistic and typical; that of No. 7029 is plain; the neck of 6859BM is decorated with a pair of concentric circles. The tails of both are circular in section, looped to meet the right hind foot, and that of 7029 is undecorated, while that of 6859BM has a row of faint circles like those on the neck. The legs are short, naturalistic, and undecorated, but in 6859BM a septum connects the legs in pairs, forelegs and hind legs. Judging from its rough appearance and the surrounding portions of the figure, this thin septum was left

during the manufacture of these objects in order to strengthen the legs, and the metate being apparently unfinished, this septum was never removed. It may have been intended, however, to retain connecting horizontal bars, possibly with small heads at their center (Pl. 17d) such as have been observed on a number of specimens. The sides of both bowls are ornamented with bands of shallow, carved, geometric motives; that of 7029 is a horizontal zigzag separating triangles, that of 6859BM, a vague design of parallel slanting lines.

Conforming more or less to the usual type, except that it is rectangular, is a rather small, comparatively plain metate with a deep plate (11390). This has a typical jaguar head, legs, and tail, the latter touching the right hind paw, and a square deep bowl. The material is a gray vesicular lava and the finish rather rude. The square bowl measures 15 centimeters in diameter, the interior is very slightly concave, at a depth of 2.5 centimeters below the level of the rim, but the sides are steep and abrupt. Its maximum length is 26 centimeters, the height 10 centimeters. The legs and the side of the plate are undecorated, but the tail and the crown of the head are carved with simple diamond motives.

Quite a unique type is reproduced in Pl. 17e. The bowl is perfectly oval, without a trace of the commoner round-cornered rectangular shape, and is exceptionally concave. The maximum depth is in the center where a small hole has been pecked, doubtless to "kill" the object ceremonially for burial with the deceased owner. The concavity slopes gently away from the rim, and no trace of an upright rim is observed. The bowl has the saddle shape most typical of the oval seats, the rim being far from horizontal, but concave vertically at the sides and convex at the ends, with the apices at head and tail. The maximum convexity is, therefore, in the longitudinal axis. The specimen might be interpreted as a seat, like the more typical oval seats, but its greater narrowness, concavity, and lowness suggest that it may rather have been used as a metate. The interior of the bowl is unusually smooth. The head is naturalistic, but small, with eyes made with a horizontal groove; the teeth are exceptionally well done. The legs are short, flexed nearly double and unusually naturalistic, bearing shallow and nearly eroded triangle and chevron designs.

The short tapering tail, touching the right hind leg, is ornamented with similar motives. The bowl is of virtually uniform thickness, the under side being regularly convex and without definite sides. A band of decorative design, slightly raised, indicating the usual side of the bowl, is likewise composed of shallow and nearly eroded horizontal zigzag and triangular motives.

A small specimen of unusually good finish and execution is shown in Pl. 17f. The bowl is virtually circular and concave, with a nearly flat center and steep declivity near the horizontal rim. Its external sides are almost vertical and decorated with a pair of horizontal incised grooves dividing the side into three ridges of equal width. The head and legs are small, naturalistic, and undecorated. The tail is long and tapering, of circular section, and looped to meet the right hind foot.

In this general style of art there remain two specimens deserving special notice. In one, a small double-headed figure (Pl. 18a), the heads are apparently those of tapirs or some similar animal, relatively small, without necks or teeth, but with long prominent ridged noses. The undecorated legs resemble those of jaguars. The bowl is quasi-oval, concave to a slight depth, with flat interior and low, gently sloping sides and thick horizontal lip. The exterior of the bowl is nearly vertical, decorated with an ornamental band composed of a horizontal, zigzag, thick ridge enclosing small triangles, with the corners so rounded as to produce a wavy festoon and semicircular effect.

Even more unusual is the oval metate illustrated in Pl. 18b. There can be little doubt that this represents a crocodile or an alligator, rather than a jaguar. Except that they are unusually long, angular, converging and plain, the legs differ little from those of jaguar figures. The head and tail are different. Though joined to the right hind foot after the fashion of jaguar metates, the tail is massive and of quasi-triangular shape, the broad flat side outermost. Its edges are divided by deep incisions into scallops doubtless representing reptilian scales, and the outer side is divided into five segments, in each of which is incised a diamond with central dot. The neckless head is rather flatter and more angular than the jaguar heads. The eyes are large, oval, and with supraorbital protuberances at the sides of the head. The teeth,

especially the large canines, are well displayed. The oval plate, which possibly served as a metate, is absolutely flat, but surrounded by a low marginal rim some 4 millimeters high. The thick, almost vertical, side wall is decorated with an ornamental band apparently consisting of angular fret motives, though so eroded as to be of uncertain nature.

The metate in Pl. 18c gives the impression of an artistic style slightly different from any other yet described. The material is an unusually vesicular dark gray lava to which it is impossible to give a smooth surface. The animal figure may be a jaguar, but the facial details are rather diverse from the ordinary. The metate is relatively small. The legs are of the usual jaguar type, but rather long; the tail is of quasi-triangular section and is joined to the right hind leg in the usual manner. The outer surface of the tail is decorated with low-relief designs consisting of a reversed S and a circle. The head is mainly of jaguar nature, but in higher relief than usual; the nose and eyebrows are high, the eyes round, the ears at the sides and parallel to the nose. The mouth is large and of carnivorous nature. The crown of the head and the neck are decorated with two circles in relief, and the side of the bowl is likewise ornamented with a band of large circles, six on each side. The plate is a bowl rather than a metate, oval and deep, the rim concave vertically on the sides and convex on the ends, and with relatively flat bottom, steep side walls with an average height of 1 centimeter, and an equal width at the rim.

Two somewhat similar specimens (Pl. 18d; 6860, not illustrated) are difficult to classify and may be considered as composing a subtype. In material they belong with Group 2, being carved of reddish lava, but in size, form, and art they pertain more closely to the group under discussion.

The most striking characteristic of both metates is that the heads are raised considerably above the level of the plates and turned to the right. The bowl of the metate illustrated (Pl. 18d) stands at a height of only 9 centimeters, while the head rises above it to a height of 14 centimeters. This feature, and the short, massive, tapering tail, form the distinctive peculiarities. The oval bowl is large and excavated to a depth of 2.5 centimeters; the interior is approximately flat, and the sides are

almost vertical, with a thin flat horizontal rim, 1 centimeter wide. The legs are short, unflexed, undecorated, and have large paws. The head and tail are also unusual, and the ensemble may have been intended to represent an animal other than a jaguar. The long, thick, curving neck breaks the rim at the anterior part; the throat extends to the base of the bowl between the forelegs; the back of the neck rises from the interior of the bowl in the arc of a circle. The neck extends upward and to the left, and at its end, at a height considerably above the rim of the bowl, the life-like head is turned to the right in a natural snarling attitude. The upright ears are drawn back, the large eyes are round and open, and the half-open mouth displays the large canines and the smaller teeth. Altogether, the head is remarkably naturalistic and well executed. The back of the neck is covered with a geometric design composed of rectilinear lines carved in a pattern of intersecting frets. Like the head, the tail springs from a base which includes the entire rim and side of the bowl and extends to its interior and, beneath, to the base between the hind legs. It is short, and, unlike that of a jaguar, is horizontal and turned to the left, tapering rapidly from a massive base to a blunt tip. The upper portion is decorated with a rectilinear design of a twill motive, the right and most visible side with three large circles carved in low relief. The side wall is ornamentally incised, four horizontal rectangular figures, eight motives on each side, making up the design. The center of the bowl is smoothed from use.

Specimen 6860 (not illustrated) varies from the above mainly in possessing a rectangular and virtually flat plate measuring 21 by 26 centimeters; the maximum length, including the head and tail, is 40 centimeters, and the height, 16 centimeters. The material is very coarse brownish vesicular lava, the finish very rough, and the ornamentation crude. The plate is slightly concave in the longitudinal axis and virtually flat in the transverse axis, but it is surrounded by a slightly raised flat border margin 1.5 centimeters wide. On the side of the plate are unusual curvilinear, circular, and sigmoid motives. The head and tail are exceptionally naturalistic, the former considerably higher than the plate and turned to the right in a very natural attitude, the latter connected with the left hind paw. The tail and neck are

ornamented with a few large diamond motives, and the crown of the head bears a reversed sigmoid symbol. The legs are straight, plain, and undecorated. The unique feature of this metate may be observed in the feet which are connected in pairs, right with right and left with left, by means of horizontal bars. These bars are slender, rectangular, and of a finish equal to that of the rest of the specimen, being, apparently, an intentional feature of the completed metate, not, as in many cases, unfinished.

Group 5: The fifth group of jaguar metates comprises those of the finest technique and maximum artistic development. There is apparently a correlation between this excellence of technique and the artistic details and motives, the material employed, and the general shape, indicating that these metates form a definite subgroup and presumably have a common origin in point of place and time. With one exception, all in this group are made of a fine-grained dark gray lava, which permits the careful carving of details and ornaments. The bowls are normally round and deep, the eyes are generally circular, and the design motives more frequently curvilinear than in other groups. These superior specimens are doubtless products of the same local and temporal culture as the finest of the small human heads which are also made of a very dark lava of unusually fine grain. Nine jaguar metates have been classed in this group.

Two consummately refined examples of the ordinary jaguar metate bowl, of dark gray lava of a medium fine grain, may be seen in Pl. 18e, f. Of medium size, the bowl is almost circular and deeply excavated with a gradual concavity, most pronounced at the rim, but without definite sides. The center of the bowl is no smoother than the exterior surface, indicating that it was not used as a grinding surface. The edge of the bowl is perfectly horizontal and of an even width of about 6 millimeters. The exterior of the bowl is relatively narrow and decorated with a band of carefully carved intertwined angular bands. The corners are not sharp, and the effect is quasi-curvilinear. The legs are tall, slender, slightly conventionalized naturalistic, and carefully made and finished, with the claws well portrayed. The legs of the smaller figure (Pl. 18f) are plain, but each leg of the larger (Pl. 18e) is decorated with two groups of small concentric circles. The tail is long, thin, of

circular section, and connected with the foot of the right hind leg. In both metates it is profusely ornamented with intertwined diamonds and other angular motives. The head is naturalistic and very well executed, the neck rather long. Eyes, nose, teeth, and whiskers are carefully delineated, and the ears are upright. The head of the larger piece (Pl. 18e) is ornamented with diamonds on the neck, but the smaller specimen (Pl. 18f) is profusely decorated on forehead, crown, cheeks, and back and sides of the neck with angular zigzag lines and scallops, and a large pointed figure-eight design composed of parallel lines.

A very small example of this general type is illustrated in Pl. 19a. This belongs to a catalogue sequence, the provenience of which is "probably Mercedes." Its slight peculiarities suggest that the locality may be incorrect, but the close analogy to Mercedes specimens is indubitable. The bowl is oval and very deep, 2.5 centimeters, although the width is only 9.5 centimeters. The center of the base is smooth, indicating that it was probably used as a mortar. The maximum grade of concavity is close to the rim, but no definite side walls are made either internally or externally, and the thickness of the bowl is virtually uniform throughout. Its exterior, near the rim, is decorated with a band of concentric diamonds; a similar design covers the stumps of the naturalistic legs. The slender tail, of circular section, apparently touched the foot of the left hind leg, but is now broken off. This also is decorated with designs similar to those on the legs and bowl border. The head is small and without a neck on the outside, but the neck, like the base of the tail, is visible on the inner edge of the bowl. Due to the small size of the head, it bears rather less detail than usual, and no ornament. However, the main features are well carved, the eyes being large round cavities, as in the small rectangular specimen (Pl. 19b).

Quite the finest of all the general jaguar metate shapes may be seen in Pl. 19c. The material is a very fine-grained dark gray vesicular lava, and the surface is carefully and perfectly smoothed throughout. The bowl is evenly concave to a depth of 3 to 4 centimeters and differs from all others in being slightly oval, with the maximum diameter in the transverse axis. The rim is slightly saddle-shaped, convex vertically in the transverse, and concave in the

longitudinal, axis, with the highest points at the base of the neck and tail. The head is apparently of a jaguar—at least of a carnivore—form, and is remarkably well conceived and executed, with upright ears, oval eyes, nostrils, whiskers, and canine and other teeth. The legs are short, flexed, and conventionalized, the claws and pads being naturalistically displayed. The tail is short, massive, and tapering, horizontal, but with the tip turned to the left. Except for the head, the general effect is reptilian rather than jaguarean.

While not profuse, the ornamentation is excellently executed and preserved. The external side of the bowl is decorated with a chain of angular, linked, elongated hexagons. The outer sides of the legs are incised with three parallel, deep, curvilinear, and straight lines. An ornamental band between the corners of the mouth and over the crown of the head consists of intertwined zigzags in relief. At right angles to this, on the top of the neck, is a paneled decorative element in a modified figure-eight design. The tail is well decorated and divided medially by an encircling band. The half near the base is ornamented with panels of concentric and single circles, while the portion near the tip contains panels of thick zigzag and wavy lines. The decoration is carefully carved rather than incised, resulting in a degree of perfection of finish equaled by no other piece.

From an artistic point of view, the most variant of the jaguar metates are the two similar specimens shown in Pl. 19e, f. These are relatively low, the legs being extended far forward and backward, as if in position for running. The tail is flat and bifurcated, one section being joined with each hind leg. To balance this, curving “ropes” of circular section extend from the claws of the forelegs to the mouth, the rope-like appearance being further accentuated by the twisting represented by incised spiral encircling lines. A specimen of very similar artistic concept, but of somewhat different form and medium, illustrated in Pl. 19d, will be considered later.

The larger of the two metates (Pl. 19f) is the more naturalistic and less ornate. The bowl is virtually circular. The base is quite flat; the sides rise abruptly to a rim which is 2 centimeters above the maximum concavity of the bowl and is very slightly saddle-shaped, slightly convex vertically in the transverse axis, and

concave in the longitudinal axis. The narrow external side of the bowl is ornamented with a thin decorative band carved in low relief, the motives being mainly curvilinear and consisting principally of figures of horizontal S shape and circles separated by other elements. Head and tail both spring from bases which include the rim and a segment of the interior of the bowl, and rise to a height greater than that of the bowl. The large head is moderately jaguarean, well made, with prominent upright ears, large circular eyes, and a large mouth which holds the ends of the “rope,” only the rear teeth being shown. On the crown and the back of the neck is a decorative panel in which a circle and a hexagon with central incised cross play the major role. The tail is broad, flat above, and semicircular beneath, and gradually widens until it forks, the two ends meeting the feet of the hind legs. The lower part is plain; the upper is ornamented with an angular geometric decoration of intertwined twill design. The legs are more naturalistic than usual, flexed, and undecorated, but the feet are symmetrical, the hind feet being duplicates of the forefeet, the claws pointing backward in a biologically impossible attitude. The specimen rests on the heels.

The smaller metate (Pl. 19e) is more ornate, grotesque, and presumably typifies the most developed and latest art style of the area. The bowl is very low and oval; the interior is smooth and virtually flat in the transverse axis and slightly concave in the longitudinal axis. The sides rise at an abrupt slant to a height of 1.5 centimeters, the rim being convex vertically in the transverse axis, concave in the longitudinal axis. The narrow external side of the bowl is decorated with a horizontal carved and incised band composed mainly of horizontal sigmoid symbols on one side and intertwined angular loops or zigzags on the other.

Head and tail, as in the preceding specimen, spring from the rim, and project over to the interior of the bowl. The head is grotesque and stylized, but probably jaguarean, with large upright ears, round eyes with encircling ring, a long nose which extends below the level of the upper teeth like that of a tapir, and a large mouth opened wide to reveal the four great canines. A feature which is presumably a late artistic and technical development is here seen for the first time. The interior of the head is

excavated from below so that the teeth are shown in high full relief, orifices being made in the open mouth between the canine teeth in front, thus producing the effect of a wide-open mouth. The rope-like feature runs to the angle of the jaw and does not enter the mouth. This is circular in cross-section and tapers from the lower end, which is seized in the claws, to the upper end against the jaw. It is carved in encircling spiral bands, the alternate bands being cut by transverse lines into small squares in low relief. The crown and back of the neck are ornamented with a decorative panel consisting of a design of cryptic nature in low relief. The broad tail, flat on the upper and outer side, hemispherical on the lower and inner side, bifurcates at a short distance from the base where the sections curve sharply under the bowl and are held by the claws of the hind legs. These sections are roughly quadrilateral in cross-section. The undivided part of the tail is decorated on the outer side with an intertwined curvilinear design in low relief, the other sections on the external side with a band of hexagonal elements. The legs are short and conventionalized, of quasi-rectangular cross-section. The upper legs are widely diverging, especially the forelegs from the hind legs, but the lower legs are flexed inward. Forelegs are not differentiated from hind legs. The claws are carefully shown grasping the "ropes" from the mouth, and the tips of the bifurcated tail. The outer surfaces of the legs are decorated with panels in which asymmetrical curvilinear design motives prevail. The finish is good, but the dark gray lava is more vesicular than in the preceding specimen, preventing an equal smoothness of finish.

The final three specimens in Group 5 are included therein solely on the ground of material, since they are of typical fine-grained, very dark lava with a regular smooth finish. They are, however, all small and virtually without decoration, and their community of origin with the larger finer specimens of this group is, therefore, questionable.

Illustrated in Pl. 20a is a small metate of fine-grained, vesicular gray lava, rectangular, low and narrow in proportion to its length. The depth of the bowl is 2 centimeters below the level of the rim, the interior is relatively flat, the sides are steep. The legs are angular and of an inverted truncated pyramid shape; the head

is small and naturalistic; the legs, head, and side of the bowl are plain, though carefully finished. The tail, looped to meet the left hind foot, is of a modified triangular section, and is decorated on the outer side with shallow incised designs of concentric diamonds.

Smaller and more naturalistic, but otherwise similar is the metate in Pl. 19b. Of a fine-grained lava, the finish is very good and the shape unusually naturalistic. The tail is looped to touch the right hind foot, and the legs are more naturalistic and flexed than customary. One of its most unusual features is the complete absence of any attempt at decoration. The interior of the rectangular bowl is unusually deep as compared with the size, 2 centimeters; the base is virtually horizontal, the sides are nearly vertical. The head is small, with the facial features of rather unusual type, somewhat resembling those of the specimen in Pl. 19a. The eyes are depressed; the mouth is wide open, showing only the prominent canine teeth.

A small, low, zoomorphic bowl of dark gray lava of fine grain but of unusual shape is shown in Pl. 20b. The circular, deep, concave bowl, 15 centimeters in diameter and 2.5 centimeters in average depth, is the major feature, though the head and tail give it a maximum length of 25 centimeters. The height is only 6 centimeters. Decoration is entirely lacking. The small head, apparently that of a jaguar, is unusual; the neck is short and massive. The large round eyes and the big wide-open mouth, displaying the canine teeth, are typical, but the carving of the naturalistic nostrils and the treatment of the ears are peculiar. The latter are twin, horizontal, quasi-cylindrical protuberances, the inner half divided by transverse grooves into three parallel ridges which are probably of decorative intent. The tail is short, tapering, plain, of circular section and virtually horizontal, extending backward, the tip turned upward as in the following metate (Pl. 20c). The legs, two of which are broken, are short, slender, undecorated, and quasi-naturalistic, without modification for feet or claws.

Group 6: Four jaguar metates are dissociated from the others and classed together in Group 6 on grounds of resemblance in form and decoration. Except for the zoomorphic characteristics of the head and tail and the naturalistic legs, these belong to an art style observable in its most typical form in the oval seats to be

considered below. Doubtless the two forms are closely related artistically and are the products of a common culture. This resemblance is especially noticeable in the plates which, in this group of metates, are always oval, concave without definite side walls, generally saddle-shaped with the ends higher than the sides, and with unsmoothed or rough interiors. The outer sides of the bowl are decorated with small rectangles and scallops made by deeply graved and slightly separated short vertical lines intersecting one or two similar horizontal lines.

In the least typical member of this group (Pl. 20d) the legs are decorated with incised rectilinear designs somewhat similar to those characteristic of the first several groups described. The metate bowl is rather large. The bowl is slightly concave to a depth of 2.5 centimeters, the concavity being, as usual, greater in the longitudinal than in the transverse axis. The maximum declivity is close to the rim, though the sides are not differentiated from the bottom, and the latter is not smoothed from use. The jaguar head is small, undecorated, and unusually naturalistic; the tail is long, circular in section, the tip joined to the left hind foot, and decorated in a design composed of diamond motives. The tall naturalistic legs are ornamented with similar diamond, triangular, and square motives of carved rectilinear lines. The thin side of the bowl bears a decoration of small oblong figures composed of two horizontal incised lines intersected by numerous vertical ones, a motive found more commonly on the oval seats—to which a further resemblance is found in the bowl itself—than on the jaguar metates.

Of more variant form, but apparently of similar type, is a large double-headed specimen (7027). The large oval plate measures 50 by 40 centimeters; the interior is concave to a depth of 2.5 centimeters, but the center is virtually flat, though the rim is not noticeably high and is without definite sides. As in the remainder of this group, the interior surface is not smooth, and this specimen apparently was not used as a metate or mortar. In the center of the bowl a large rectangular hole has been intentionally chipped, doubtless another example of "killing" in preparation for burial with the deceased owner. The side of the bowl is thin and decorated with the incised rectangular elements typical of the preceding and of the

large group of oval seats. The twin heads are large and naturalistic, but without any decoration, making the total length of the object 71 centimeters. The legs are short, undecorated, and somewhat more cylindrical than usual, and the figure is comparatively low with a height of only 18 centimeters.

The final two specimens in this group are more typical and in many respects closely resemble the oval seats. Not only are the plates or bowls more similar in shape and decoration of the sides, but the heads are quite different from those of the other groups, being cruder and less naturalistic.

Specimen 14604, the provenience of which is given as "probably Mercedes," most closely resembles the oval seats. Its dimensions are 41 by 26 centimeters; the height is 17 centimeters. The bowl is perfectly oval and quite concave, equally so in both axes. The head is small and crude, the legs are straighter and more cylindrical than in the oval seats, the tail is shorter and straighter than usual and connected with the left hind foot. Legs and tail are undecorated. The thin side of the bowl is ornamented with a band of rectangular elements with scallops beneath, virtually identical with those of the borders of the oval seats.

Of an art type similar to the preceding but of somewhat variant form is a metate illustrated in Pl. 17d. The bowl is large and oval, 46 by 39.5 centimeters, concave to a maximum depth of 4.5 centimeters, with the sharpest declivity at the rim, but without definite sides. The plane of the rim is slightly concave on the long sides and convex at the ends, and the thin exterior sides of the bowl are decorated with a band of squares and scallops, broken by head, tail, and legs. Both these features are typical of the oval seats. This specimen may well have served as a seat rather than as a metate or mortar. The head is that of a jaguar, but plain and rude, with rectangular features, and the tail is plain, of oval section and connected with the left hind leg. These features produce a maximum length of 64 centimeters. The legs are naturalistic, flexed, and connected into two pairs, forelegs and hind legs, by horizontal bars at the base; in the center of each is carved a small human or monkey head, each facing outward.

The scalloped and notched decoration of the side of the bowl, so typical of this group and

of the oval seats, also occurs on some specimens of the following groups, indicating a genetic relationship between the two forms. The type in which the scallops are enlarged and converted into a line of heads is especially likely to have been developed from the present group. Jaguar heads of unusual type are also characteristic of both groups.

Group 7: Two small related groups of jaguar metates present the maximum variation from the norm, though a determination of their temporal and developmental relations to the bulk of the figures must await further data and analysis. Six specimens, four in one subgroup and two in another, compose this lot. The characteristics are: the peculiar stylized treatment of the head and legs with unusual carved ornamentation, comparative flatness of the plate, which is invariably rimless, and the large proportion of rectangular shapes. Flat, rimless, rectangular metates are rare in the other groups, and the present group contains virtually all of them. Probably all these specimens were actually employed as metates. The main characteristics of the first subgroup are the raised oval eyes and generally serrated or small scalloped plate sides somewhat resembling the oval seats. In the second, more variant subgroup, the eyes are depressed, and the bowl sides consist of large scallops modified into anthropomorphic faces, similar to those on some of the great stone altars and the circular pedestals, and probably of a kindred origin with the latter.

Two specimens in this group (Pl. 20c and 7034) are similar in most respects, except size, and doubtless had a common origin. The rectangular plate is quite concave in the longitudinal axis, but only slightly so in the transverse axis. The surface is smooth, as if from use. The plate of No. 7034 measures only 19 by 13 centimeters. The thin sides of the plates are decorated with an incised geometric design consisting of zigzag lines and scallops. The jaguar heads are naturalistic, plain and undecorated, with raised oval eyes, prominent teeth, and ears in the longitudinal axis. The tails of both are most unusual, extending outward in a posterior direction, instead of being looped, as is most typical. That of No. 7034 is stubbed. The undecorated legs of the latter are of the usual quasi-naturalistic type, but those of the large figure (Pl. 20c) are wider, more

conventionalized, and decorated with a star-shaped design in champlévé technique. The height of No. 7034 is 8.5 centimeters; the maximum length, 26 centimeters.

A very similar piece and one probably having a kindred origin is shown in Pl. 21a. It differs principally in possessing a head on either end in place of a head and tail. The rectangular plate is virtually the same size as that of Pl. 20c, but the height is only 15 centimeters. The rimless plate is perfectly flat in the transverse axis, slightly concave in the longitudinal. The side of the plate and the legs are decorated with incised designs similar to Pl. 20c, but the legs face symmetrically in opposite directions. The jaguar heads are nearly identical, but decorated with different geometric relief designs on the crown, and make a maximum length of 51 centimeters. The specimen gives the effect of excellent and highly developed art and technique.

Another very similar rectangular metate is No. 7011BM, the plate measuring 28 by 39 centimeters and 16 centimeters high. Like the others, it is rimless, quite concave in the longitudinal axis but virtually flat in the transverse, and it is relatively smooth. The tail is missing, but was looped and attached to the left leg; the head is neckless, with raised oval eyes and is unusually thick vertically. The figure is devoid of either relief or incised ornament.

Of the two specimens of the second subgroup one is rectangular and one round. The plate of the rectangular metate (Pl. 21b), like the preceding, is without a rim, slightly concave in the transverse axis and quite concave in the longitudinal axis, smooth, but apparently not polished by use. The looped tail is connected with the right hind foot and is absolutely plain, as are the legs and head. The latter has depressed eyes. The total length, including head and tail, is 64 centimeters. On the side of the plate is a unique decorative feature composed of 26 large scallops, each modified into an anthropomorphic face. This band is interrupted by the head and tail, and also by small rectangular oblong figures above the four legs. The anterior groups consist of three each, the posterior groups of four; the lateral groups are five on one side and seven on the other. The execution is good and the general effect that of angular and developed art.

A more ornate specimen, but one of very

similar artistic concept to that illustrated in Pl. 21b, may be observed in Pl. 21e. This has a large, perfectly round plate, 39 centimeters in diameter, very slightly concave in the transverse axis, but much more so in the longitudinal axis, without a definite rim, and very smooth in the interior. It was doubtless employed as a metate or grindstone. The sides of the plate, which attain a height of 16 to 18 centimeters, are entirely composed of large scallops, 12 on each side, the sequence being broken only by the head and tail. Each of these scallops is modified by carving to form a rude face, doubtfully human, monkey, or jaguar. The head is large, broad, stylized, and not markedly naturalistic, with depressed eyes, many wrinkles, and straight and zigzag grooves and ridges on the neck. The tail is large, circular in section and looped to the left leg, decorated with parallel straight, wavy, and zigzag ridges, the head and tail making a maximum length of 60 centimeters. The legs are naturalistic, flexed, and decorated with similar wavy, zigzag, and straight ridges and grooves.

The metate shown in Pl. 23d is definitely of this type but, because its legs are connected, is considered in a separate category.

Large Jaguar Metates: Five especially large and fine metates of zoomorphic form, two of them fragmentary, are in the Keith Collection. Their great size, the beauty and the developed character of the art, and the excellence of the technique suggest that these were products of the highest developmental period of Güetar art. This was presumably the most recent period, probably slightly antedating the Spanish Conquest, as there is no evidence of a period of decay subsequent to that of maximum development. Such magnificent specimens could have been intended only for religious ceremonial use. Though their employment as seats and possibly even as bowls or mortars is not precluded, their shape and general appearance seem to indicate that they were actually used as metates, that is, stones on which corn and other materials were ground, probably as part of religious ceremonies.

The specimen in Pl. 21d differs least from the many smaller specimens except in point of size; it has a great, almost flat oval plate. This is entirely flat in the transverse axis, but slightly concave in the longitudinal axis, with a slight raised border rim 1 centimeter wide. The

stylized jaguar head is rather broad and flat and ornamented with a row of three groups of concentric circles on crown and neck. The tail is flat on the upper side, hemispherical on the inner side, and the legs are tall, relatively thin, and naturalistic, the specimen resembling the Chiriquí type. The side of the oval plate, the outer side of the tail and of the legs are all ornamented with designs consisting mainly of S motives, quasi-recticurvilinear.

Two fragmentary metates (7052 and another one of unrecorded catalogue number) are approximately similar in size and ornateness. In both, the legs and posterior portion with the tail are missing, so length and height cannot be measured, but the width of No. 7052 is 55 centimeters, that of the other 65 centimeters. In both, the plate is oval and thin, with a slightly raised marginal rim, 1 centimeter wide, but that of No. 7052 is very slightly concave and of even thickness, while that of the second is markedly concave, thin at the rim, and thicker in the center. The side of the plate of the latter is ornamented with a ring of small pendent jaguar heads in high relief, while the former contains the more usual band of geometric design in low relief, consisting mainly of circles and horizontal chevrons. In both, the legs are plain and broken; those of one are massive, those of No. 7052 roughly triangular and curved. The heads are especially large, massive, and ornate. Both resemble crocodile or alligator heads as much as those of a jaguar, being relatively flat and broad, considerably conventionalized. The great triangular canine teeth are well displayed; above them is a spiral which might represent either the elevation of the upper lip or nostrils. In No. 7052 a scroll extends from the ears to the corner of the mouth. In both, the top of the head and neck are ornamented with designs in low relief, that of No. 7052 consisting of three circles, that of the other being most ornate and profuse.

Number 7053BM is a more complete specimen of approximately the same type as the above fragmentary examples, only the tail being missing and the legs fragmentary. The length, without the tail, is 102 centimeters, the width, 54 centimeters. The large, thin, oval plate is slightly concave and surrounded by a narrow, flat, slightly raised, marginal rim, 1.5 centimeters wide. The side of the plate is decorated with a guilloche pattern in low relief.

The flat edges of the broken legs are flush with the rim and ornamented with carved curvilinear and rectilinear designs. The head is jaguarean and rather plain, but is decorated on the crown with a panel composed of curvilinear geometric motives. It possesses, however, the rare and probably later-developed feature in which the portion under the chin and mouth are excavated and the interstices between the teeth perforated, so that they appear in high relief in lattice technique, as if the mouth were actually half open.

The last, largest, and finest of the great zoomorphic metates (Pl. 21c) may be considered as a connecting link between that group and the great ornate altars. Unfortunately, it is fragmentary, tail and legs being missing. But even without the tail it measures 187 centimeters long and 65 centimeters wide. The oval plate is thin and virtually flat, very slightly concave longitudinally, and has a slight raised marginal rim 1 centimeter wide. The side of the plate is ornamented with horizontal sigmoid motives in low relief. The legs were also decorated with a relief ornament which, being fragmentary, is of uncertain nature. The head is broad, flat, and crocodilian, with nostrils on the upper surface and spirals above the canine teeth. The ears are flat. On the crown of the head an equilateral rectangular decorative ornament is carved in low relief. As in the preceding specimen, the under part of the chin is excavated and the mouth opening perforated, leaving four pairs of sharp teeth in full relief between the interstices. The smaller teeth are also shown. The most distinctive feature, however, and one that connects it directly with that of the great stone altars, is found in the small animal figures carved in high relief on the under side of the plate, close to the edge. There are eight of these, two between the legs on each side, and one between the foreleg and head and hind leg and tail on each side. Seen from beneath, the figure is that of a quadruped animal, the back united with the base of the plate. The head is bent downward, showing a face with rather sharp nose, the animal being unidentified. The position of the limbs varies on several of the figures, but they are all bent under in reclining position, and one or more of them is flexed upward as if in the Atlantean attitude of upholding the metate.

MINIATURE ZOOMORPHIC METATES

A few small and very rude figures of zoomorphic form complete the list of zoomorphic metates. Despite their rudeness, their small size and the absence of any stylistic peculiarities indicate that they are not to be considered as archaic specimens, older in point of time and genetically antecedent to the larger and more elaborate metates of this type; they are probably contemporaneous specimens of careless workmanship, possibly toys, the craftsmanship of boys, or miniature replicas for mortuary purposes.

In Pl. 22a is a tiny elongated oval metate of light gray felsite. The plate is perfectly flat and thin, the legs cylindrical and well shaped. The head is rude, but with grooves for eyes and mouth. A tail may have looped to the left hind leg.

Number 14481, of reddish vesicular lava, resembles a scalloped hexagon with central depression from above. Four of the points, however, are knobs which serve as legs. A fifth shows below a ridge, doubtless representing a tail, extending toward the right hind leg, and the sixth protuberance, without any details, apparently represents the head.

Number 14452BM is a rude, oval, small, deep bowl of rough, reddish, vesicular lava. Four diverging projections represent the legs, and a fifth horizontal knob serves as a head; a rude groove represents the mouth, and two large pecked depressions indicate the eyes. A slightly larger metate (6878) of light grayish felsite is unfinished, soft, rude, and broken. The bowl is rectangular with rounded corners, and excavated to a moderate depth. Large knobs project at either end; one has been modified into a rude animal head, while the other is large, rough, and apparently unfinished. It is uncertain whether the intention was to form a head or a tail. The base is likewise uncompleted, the legs being hardly more than suggested, and connected, forelegs and hind legs, by thick walls of stone which have not yet been removed or reduced. The final specimen in this group is of reddish lava and relatively well made, though apparently unfinished. The bowl is circular and deeply excavated, the legs short, quasi-naturalistic, and symmetrical. At opposite ends are two well-shaped animal heads, but with no details. Four of these five

specimens belong in catalogue sequences, the exact proveniences of which are uncertain.

The importance of the jaguar in Middle American religion, symbolism, and art can hardly be over-stressed, and is too comprehensive and detailed a topic for discussion here. There was probably not a single highland culture from Peru to central Mexico in which the jaguar did not play a major role¹ in these aspects of culture. Throughout this region jaguar figures, in places replaced by, or possibly confused with, the puma, served as supports of some types: as metates, as in the present area; as bowls, here, in Peru,² and in Mexico³; as thrones or seats, here, in coastal Ecuador,⁴ and at Chichen Itza, Yucatan,⁵ to mention only a few of the best-known examples.

UNUSUAL ZOOMORPHIC SPECIMENS

Two zoomorphic stone bowls of unusual and unique type may well be considered at this point. Both are very low and flat and rest on supports which, while not exactly of quadrupedal nature, are part of the zoomorphic unit and thus related in concept to the quadruped forms.

One bowl (Pl. 19d), of a light gray vesicular lava, is obviously closely related in concept to the larger, higher, and finer specimens, shown in Pl. 19e and f, of Group 5 of the quadruped metates. It consists of a low oval bowl with a horizontal rim. The center is slightly concave, and the edges are abruptly so, suggesting that the object was used or intended as a bowl. An animal head, apparently jaguarean, with chevron designs in low relief on the top, projects from either end of the oval, giving the bowl a maximum length of 25 centimeters. Approximately equidistant from these heads, four knob-like paws project from the side of the bowl, each grasping a curving cylindrical bar which follows the curve of the edge of the bowl, but separated from it by a slot, to the mouths of the heads. It is, in effect, a double-headed bowl consisting of twin heads and forelegs, each foreleg grasping a bar which leads to its mouth. The bowl rests on the paws, the maximum height being only 5 centimeters.

¹ Coclé is a great exception.

² Kelemen, 1943, vol. 2, Pl. 100a.

³ Joyce, 1914, 7, Fig. 2.

⁴ Saville, 1907, vol. 1, 17-25.

⁵ Kelemen, 1943, vol. 2, Pl. 92d.

The second zoomorphic metate (Pl. 22d) is smaller and even more unusual. It is apparently ornithomorphic. It is rather rude in execution, of light gray lava. The back is modified into a broad and nearly circular slightly concave saucer. Like the larger seats, it is somewhat saddle-shaped, the rim being concave vertically at the sides and convex at the front and back. This feature argues against its use as a bowl and in favor of its purpose as a miniature seat or stool. On the exterior, around the rim and just below it, is a band of incised zigzag decoration, broken at the front and back where protrude the short bird or reptile head and the broad, short, thin, bird-like tail, incised with parallel horizontal striations. At each side is a similar, though shorter, projection, probably representing wings, incised with parallel diagonal striations. Beneath this and closer to the medial axis, the specimen rests upon two long, parallel, ridge supports, somewhat resembling the twin supports of the rectangular bowls. These are not of uniform thickness, however, but deeply incised in the central portion as if preparatory to being perforated, in which case the supports would have become four legs connected by a horizontal bar, like the majority of specimens of this type.

ZOOMORPHIC METATES WITH CONNECTED LEGS

One of the most characteristic features of Costa Rican art is the decoration of stone objects with figures in fret or latticed technique, the interstices between the figures and between their bodily features being cut away to leave them in full round. This technique may be observed on the great slab altars, the pot-rest rings, the Atlantean stands, and the oval seats. Probably the objects so characterized are all products of a common culture and, were it possible at this time to reconstruct the developmental sequence of Costa Rican stonework, would be classed together. Instead, they have here been treated as variants of the norms of their respective forms.

Stone objects with long supports or legs, such as zoomorphic metates and quadruped seats, were apparently made with septa connecting the legs, a process which lent strength to these frail supports until the object was almost completed. Then, normally, as the final stage in manufacture, these septa were probably worn

away and the legs given their finished form. Thus unfinished metates have already been described which still retain these septa. Such a septum naturally suggested a further development: to carve it in perforated or latticed technique, thus achieving not only more artistic effect, but giving increased strength to the supports. One metate (Pl. 17d) in which the legs are connected in pairs, forelegs and hind legs, by horizontal bars, has already been considered. In the more usual type, however, the legs are connected in pairs, right and left. This artistic feature produces a result virtually identical with a group of rectangular bowls which are apparently not genetically quadrupedal, with which group there are obviously close interrelations. Both groups are again closely related to the rectangular seats with long side supports, and these may have been the artistic prototype for all quadrupedal forms. This special group of jaguar metates may, therefore, be considered as intermediate or transitional between the simpler forms and the true jaguar metates, although apparently all are from a similar cultural period.

Though a few examples are aberrant, this junction of the pairs of legs is typically accomplished by connecting the bases of the legs with a horizontal bar on which a monkey figure, carved in the round with lattice interstices, disports itself. Generally, the monkey figure is united by arms, tail, and head to the upper part of the leg supports and the base of the upper bowl or plate. Though the majority of the specimens of this type displaying this art motive have a characteristic form, a few others show close analogies, grading either into the rectangular stone bowls and seats, or into the metates, seats, and bowls of the jaguar type.

Six specimens in the Keith Collection belong to this group, four of them conforming closely to type and two being aberrant. These four consist of very conventionalized jaguar figures with the back modified into a broad plate or bowl from which the carved neck and head of a jaguar extend at one end, and the long thin curved tail is at the opposite end. The latter loops until the tip unites with the right hind leg near the base. Like the other features, the legs are conventionalized naturalistic and connected in pairs, left legs and right legs, by a horizontal bar near the base on which are carved figures of monkeys in natural and active

attitudes. Apparently, however, these specimens are not homogeneous in purpose. In the metates shown in Pl. 22b and e, the back consists of an oval bowl with unbroken concave base extending to the rim, in Pl. 22c of a rectangular bowl with relatively flat base and inclined sides, and in Pl. 23a of a relatively flat rectangular plate, very slightly concave. In all but the last metate, the vertical external sides of the bowls are decorated with a band of incised geometric designs; that shown in Pl. 22b is plain and rectilinear, that of the other two (Pl. 22c and e) wavy and zigzag. The tails of two are similarly ornamented with incised square or diamond elements, possibly representing jaguar spots, while that of Pl. 22c is plain, and that of Pl. 23a missing. The legs of the metates in Pls. 22e and 23a are, furthermore, profusely decorated with rectangular geometric designs, while those of the other two are plain. The neck and head of the one in Pl. 22c are plain, while those of the others are profusely decorated with incised designs consisting of rectangular lines and squares, and in the metate in Pl. 23a, of circles, probably representing jaguar markings. Thus there is no uniformity on this point, one specimen possessing all four elements, and one only a single element, ornamented. The heads are all excellently portrayed and executed and, in spite of their extraneous incised ornamentation, are very naturalistic, depicting nose, nostrils, mouth, teeth, ears, and eyes. The monkey figures are all variable, naturalistic, and free. In the first three specimens, they are exactly duplicated on either side and, as in the majority of the other groups of this type, they face in opposite directions, so that whichever side of the metate is observed, the monkey faces to either the right or left. In the specimen illustrated in Pl. 23a, however, the two sides are quite variant, that to the right consisting of a monkey figure, that to the left of a double-headed, round-eyed animal of uncertain identity. Both figures are decorated with geometric designs of incised rectangular pattern. In size, these metates vary from 28 to 40 centimeters in maximum length, and 9 to 12 centimeters in height, the width being uniformly 17 centimeters.

Three of these four specimens are of reddish vesicular lava; the other (Pl. 22e) is of dark lava, offering additional evidence of the homogeneity of this type, since metates made of red

lava are in the great minority. Two of these are, in all respects, like the plain jaguar metates of Group 2; though of dark lava, the metate shown in Pl. 22e is obviously of the same type. That in Pl. 22c, on the other hand, while of reddish lava, is larger and of a different art style and would probably fall in Group 4 of the plain jaguar metates. The close relationship between this special type and the more usual one is, therefore, evident.

The variant specimen of this type (Pl. 23d), which, apart from the special feature that determines its classification here, belongs definitely in the second subgroup of Group 7 of the normal type of jaguar metate, is of dark, very vesicular lava. The back of the jaguar is modified to a rectangular, slightly concave plate, without a lip, and its vertical external sides are decorated with a band of incised rectangular design elements. The neckless head is unusually massive, less naturalistic; the eyes are depressed and without extraneous ornamentation. The curving tail, which is looped with the tip meeting the base of the left hind foot, is uncommonly massive and decorated with unusually elaborate rectilinear and curvilinear geometric design elements. The most divergent feature, however, may be observed in the legs and connecting elements. The legs are massive and very conventionalized, consisting of an upper oval and a lower quasi-rectangular section, each profusely decorated with low relief ornamentation, the latter geometric, the former apparently naturalistic and zoomorphic. The pairs of legs are connected by a broad concave band at the base and at the top, both decorated with curving bands of small triangles in relief. In the medial portion these two bands are joined by two large triangles decorated with incised human faces, the intervening interstices being perforated in three orifices.

A solitary specimen (Pl. 23b) may be considered to constitute a subgroup intermediate in type between the jaguar metates, the oval seats, and the oval bowls with lattice-work supports. In all respects it resembles a jaguar bowl with connected legs, except that it lacks the fundamental elements of head and tail. The four legs, however, are of the typical stylized jaguar form. It is possible that, during manufacture, the head and tail were broken off and that the line of fracture was entirely

worn down and worked over; however, its general appearance does not bear out this supposition. The monkey figure connecting the pairs of legs also is virtually identical in concept and art style with those of the preceding specimens. It should be compared with the plain quadruped metate (6879BM) described on p. 220.

The material is a light gray lava. The oval bowl forming the upper part measures 20 by 25 centimeters and has a relatively flat rim and a deep concave interior 3.5 centimeters deep. The vertical exterior side of this bowl is decorated with a continuous incised band of running intersecting fret design. The four corner legs are identical with those of jaguar metates, the height of the specimen being 15 centimeters. A horizontal bar connects the feet of these legs on the longer side; on the center of each bar is carved an animal figure, its legs grasping the bar, its arms holding the right supporting leg, and its tail touching the left leg. Though the bodies of the two figures are identical, one face is apparently that of a monkey, the other that of a jaguar. The execution of the hands, feet, and facial features is excellent. The art style would justify its classification in Group 4.

The nature and purpose of these six specimens are problematical and probably not uniform. The four with bowl tops appear most suitable as containers for liquids or similar materials, while the other two, with relatively flat tops, may have been intended either for seats or for grinding mills (metates). At any rate, their purpose was undoubtedly religious or ceremonial and not purely utilitarian.

As is true of all specimens with monkey supports of this type, this group seems to be limited to the Güetar region, and possibly to the district of Mercedes. No objects of this nature are mentioned by Hartman from the other Güetar sites and none by MacCurdy or Holmes from the Chiriquí region. Nevertheless, the general style of art conforms to that characteristic of the Güetar region and is very similar to that of the Chiriquí area, in both of which districts metates of jaguar shape are the most typical stone product. No connection whatever can be observed with the Chorotegan region of the Nicoya Peninsula in northwestern Costa Rica.

Two unfinished but apparently unique speci-

mens display their closest affiliations with this general group, though one is of somewhat unclassifiable and unique type. Number 7036BM is a definite jaguar metate; its legs were apparently intended to be connected in pairs, though their separation into independent legs may have been the ultimate intention. The bowl is circular, with a diameter of 21 centimeters, deeply excavated with an almost flat interior of 2.5 centimeters depth and a thick wall with a width of 3 centimeters at the rim. At opposite points project a massive head and a curving tail, the latter looped to the left in the fashion typical of jaguar metates, the maximum length being increased to 35 centimeters. The head is roughly blocked out; the tail, while finished to a suitable tapering thinness, has not been separated from the body by the usual perforation. The interior has been excavated with a longitudinal trough, leaving the specimen supported on two thick curved walls to the sides. These extend beyond the rim of the bowl, giving the metate a maximum width of 23 centimeters and a height of 14 centimeters. Like the rest of the specimen, these supports are unfinished, and their intended ultimate form is problematical. It is possible that the greater part was to have been removed, leaving only the four independent legs, in which case it would have been a typical jaguar metate. However, its appearance seems to indicate that the long support was to be retained, either solid or further modified by carving into lattice-work or into the typical horizontal connecting bar with animal figures.

A more unique piece difficult to classify is illustrated in Pl. 23c. The circular bowl is similar to 7036BM; the interior is excavated to a depth of 1.5 centimeters with an approximately flat base, and a horizontal rim 2 centimeters wide. Projecting at opposite ends are two similar large, massive knobs without details, but in the general shape of jaguar heads. As in the preceding, the interior is excavated with a longitudinal trough, leaving two long, slightly curved ridge supports to the sides on which the specimen rests. The carving of these supports had been begun, since each one contains three deeply pecked depressions on the exterior and shallower hollows on the interior, evidently the beginning of perforations. These depressions are so spaced as to permit the carving of a monkey figure, as in the jaguar

metates of this type; on the other hand, it may have been intended to produce a lattice-work like that found on the pot-rest rings and vase stands. Again, the bases of the ridge supports have been modified to resemble the paws and abdomens of the recumbent jaguar figures of another group, though the position of the depressions does not indicate that this was the form intended by the maker.

It should not be amiss here to mention two metates of a remarkable type not represented in the Keith Collection; they must be unique. Both are in the National Museum in San José, Costa Rica. They belong with the type of metate with connected legs, but in concept are very different from others of this type. The plate is rectangular and scalloped on the edge; the three legs are tall, thin, and cylindrical. The legs are decorated, and some of them connected, by animal and anthropomorphic figures in full round. Both are of large size. The largest and most ornate, 86 centimeters long,¹ is decorated with monkey figures with immense tails, jaguars, human heads, and demoniacal standing figure of crocodiles. Lines identifies the figure as the Rain God. It was found at San Rafael de Coronado. The second metate, from San Isidro de Heredia, 73.5 centimeters long, displays three pelicans and an owl. The latter, according to Lines,² is bringing the first man to earth.

OVAL SEATS

One of the most definite types of Mercedes stonework consists of a shallow, thin, oval, concave plate, with a raised knob at each end of the oval from which depends an ornamental decorative element. The plate, supported at a relatively great height by four legs, is slightly saddle-shaped, the plane of the rim being somewhat concave vertically at the sides and convex at the ends, with the ornamental knob at the apex. The concavity is very shallow, at least transversely, and slopes gently away from the rim, features which indicate that the object was not used as a bowl. On the other hand, all these details suggest that the objects were employed as seats or stools, the occupant sitting transversely, with the apex of the rim with its ornamental knob to front and back. In the most

¹ Lines, 1938a, Fig. 6; 1934, 35. According to Lothrop, 1926, vol. 2, Pl. 140, it was found at San Isidro de Guadalupe [Guadalupe].

² Lines, 1934, 33, 39.

highly ornamented type the decorative supports with their carved animal features are at the two ends of the oval and beneath the ornamental knobs. Such stools were probably, as Joyce suggests, part of the insignia of chiefs.

Of 24 stools of this very definite type in the Keith Collection, two-thirds are relatively plain and homogeneous, the main difference being in size. All conform to the description above given, the upper surfaces ranging from nearly circular to quite oval. Except in two apparently unfinished stools, each of the two opposite apices of the oval is decorated with a raised triangular knob with its shortest edge on the rim of the bowl, the point projecting towards its center. In many seats this knob resembles an animal head, a similarity further accentuated in some instances by small knobs at the sides which give the impression of rodent's ears. In one example, moreover, this element is decorated with incised designs, but, being broken, it is difficult to determine their exact nature. Below the triangular knobs, at either end of the oval, a decorative pendent element hangs vertically over the side of the plate, generally projecting below the level of its base. This consists of an upper and a lower part. The latter is invariably decorated with incised vertical lines, the upper part generally with a design of chevrons, one below another, but in two cases this is replaced by a St. Andrew's cross. Except in the unfinished specimens, the thin vertical side of the oval plate is always covered with a decorative band of simple, rectangular, geometric patterns of incised parallel horizontal and vertical lines, the lower tier of squares being frequently altered into scallops. The band is generally broken at the bases of the legs and at the apical decorative elements. This small, rectangular, scalloped and notched band decoration is one of the characteristic design elements of Mercedes stonework, and has, as we have seen, been taken as distinctive of one of the types of jaguar metates, Group 6. This community of artistic ornament doubtless indicates a common genetic heritage, similar relations being traced to other types, such as Group 7, and possibly even further to the lines and rings of heads found on the great slab altars and other forms.

The longest and tallest specimen (Pl. 24e) measures 39 centimeters in length, 37 centimeters in breadth, and 24 centimeters in height; the shortest, narrowest, and lowest one (7048)

similarly measures 22 centimeters, 18.5 centimeters, and 11.5 centimeters; the widest (Pl. 24f) measures 38, 36, and 21 centimeters. The roundest (7047) measures 29.5 centimeters by 27 centimeters, and the most oval (1746BM), 33 centimeters by 25 centimeters.

Seventeen of these specimens are each supported on four independent legs; in all but two, the legs are plain and generally cylindrical, occasionally enlarged at the feet, and frequently slightly convergent. Of these 15, two are illustrated in Pl. 24a and d. One of these is ascribed to San Vicente. Several places of this name are known in Costa Rica, but as this number group is preceded and followed by other Chorotegan localities on the Nicoya Peninsula, it is probable that the town referred to is one in the same region, close to the city of Nicoya. This stool, however, is undoubtedly Güetar, and, if not of incorrect provenience, indicates aboriginal trade. One specimen (13186) bears a hole purposely made in the center of the plate, and another (13188BM) has an incipient hole. Like similar holes found on specimens of other types, this probably represents a ceremonial "killing" of the objects.

In the two other seats with independent legs the latter are modified in an Atlantean manner, the upper plates being otherwise identical. In the stool illustrated in Pl. 24b each leg is carved in low relief in human shape, facing outward, tall, upright, stolid, the arms bent, and the hands holding the breasts in the position found on many of the large independent female figures. A vertical groove divides the legs, and the toes are indicated. The full face with the features rudely carved extends over the border to the upper edge of the plate, breaking the ornamental band. The second specimen (Pl. 24c) is the largest. The plate or bowl varies only in that the terminal pendent ornament does not extend below its base. As in the preceding specimen, the ornamental band around the side of the bowl is broken by the heads, hands, and tails of the Atlantean figures, which extend to the upper edge. The four legs are modified into four independent Atlantean monkey figures, carved naturalistically in the round and standing on their small feet, both legs and both arms being distinguished, although the figures are seen in profile. Approximately equidistant, they face each other in pairs on the long side, though the faces are turned to the side and seen full face.

The bowl is supported by hands, head, and tail, the faces extending across the side border of the bowl to the rim, and the tails converging at the termini near the apical decorative ornament. The long sides, rather than the shorter ends, therefore appear to be the principal faces of this seat. The simian character of the figures is unusually well portrayed, the anal bulge being especially prominent.

The other seven specimens of the oval seat type compose a subgroup. The upper bowls or plates are identical with those of the general type, the base supports or legs being modified like those of the last group considered, the zoomorphic metates with connected legs, since the legs are joined at the base into front and rear pairs by horizontal bars on which is carved a monkey in various attitudes. In every specimen, however, the opposite figures are exactly alike and, the bodies being always shown in profile, they face opposite points, so that, whichever end of the specimen is viewed, the figure faces either right or left.

The smallest seat (1748BM), 22 centimeters long by 19 centimeters wide and 12 centimeters high, is also the plainest and the most aberrant, possibly being incomplete. Conforming to the general type in all other respects, the four plain, straight, columnar, converging legs are connected in two pairs by a thin septum, which may be unfinished, and in the medial line of which is a rude bulging and apparently unfinished portion like a third pair of legs. Except for the apical knobs the specimen is innocent of all incised or carved decoration.

The majority of the specimens differ only in the details of the monkey figure (Pl. 24e, f; Pl. 25a, d). In each the animal stands on the horizontal base bar; in three instances, the hands clutch one supporting leg and the tail rests on the other; in one, the tail points upward to meet the base of the bowl; in another, hands and feet grasp the base bar, the tail touching the base of the bowl; and in the last instance, the position of the limbs is the same as in the preceding, but the tail rests against one of the supporting legs. In four of the six seats the head rests against the base of the bowl, and in the other two it is free. In four cases the figure faces to the right, in two to the left. The freedom of treatment is thus considerable. One specimen is rude, broken, and apparently unfinished, with no details, but the other

five are almost identical, except with regard to size and treatment of the monkey figures.

One miniature seat of the oval type (7041) is found in the Keith Collection. Though small and rude, 13 by 11 centimeters, the bowl has the concave shape typical of this group. The rim is slightly concave on the long sides and convex on the ends, and at the apex is carved a rude ornamental element forming a crude knob on the upper rim surface of the bowl and extending below the lower edge, as in the larger specimens. The four legs, however, are mere knobs and hardly extend below the base of the plate; the height of the seat is 4.5 centimeters.

The oval seat type appears to be one restricted to the Güetar region and possibly even to the locality of Mercedes. In spite of the large number of these objects from this locality in the Keith Collection, none of this type is found from other localities, except the typical piece ascribed, probably incorrectly, to the Chorotegan site of San Vicente. None is mentioned from other Güetar sites by Hartman, and none from the Chiriquí region by MacCurdy or Holmes. This, together with the uniformity of the style, the developed character of the art, and the excellence of the technique, suggests that the type was a late and recent development at Mercedes.

RECTANGULAR SEATS

Six stone objects in the Keith Collection form a very characteristic homogeneous group, though of uncertain purpose. Though it is quite possible that they were employed as metates for grinding corn—and indeed almost identical objects from the Chiriquí region of Panama are classified as metates by MacCurdy—it is more likely that they were used as seats or stools. The rectangular, slightly concave plates are well suited to this purpose; though the majority are too small to permit of much motion, even the smallest, which may have been intended for a woman or child, is large enough to fit an adult American. The sizes of the six specimens vary from 17.5 to 32 centimeters in length, 14.5 to 25 centimeters in width, and 9 to 12.5 centimeters in height.

Five of the specimens are very homogeneous in all respects except size (Pl. 25b, c). All are of a fine-grained, dark, vesicular lava, well shaped and finished. The upper surfaces are sub-rectangular and slightly concave or dished. The

under surfaces are markedly convex in the long axis, the point of maximum thickness being along the short axis; the terminal margins are narrow. The seats rest on the side supports which extend for their entire length, the center being excavated so that the general form is that of an inverted trough, open at both ends. In each, the lateral margins, and in all instances but one, the terminal margins, are slightly convex horizontally, but in only one example does the upper surface at all approach a rectangle with rounded corners. The largest seat has a thin band of incised geometric ornament at each short margin. The side supports are more or less slanting and converging, and generally convex horizontally as well as vertically; in one specimen (Pl. 25b) they meet the upper surface in a projecting horizontal lip. The terminal margins of the side supports vary from vertical to markedly slanting and converging.

One seat (6863) varies in several particulars and may be unfinished. Of a lighter-colored and more compact stone, it is much less carefully finished than the others. The upper surface is irregularly concave, the lateral margins are convex, but the terminal margins are concave. Instead of being on the long faces, the side supports are on the short ones, but these are quite irregular and rough, as if it were intended to excavate them, leaving only four corner legs.

These inverted trough-like stone seats, though of excellent technique and finish and presumably contemporaneous with more highly developed types, may possibly represent the prototype of several other forms. Leaving the long sides as twin supports is, as MacCurdy has pointed out,¹ the first step in the production of quadruped objects from solid stone blocks; the second step is the removal of all but one supporting element at each corner. As has been seen, this process resulted in the production of jaguar metates with separate legs or with the septa between them modified into animal forms, generally the monkey. Apparently the modification of the twin long thin side supports also proceeded in another direction, that of being carved into twin zoomorphic forms without supporting legs, the plate also lacking the zoomorphic elements of head and tail. Specimens of this type remain to be considered.

Rectangular seats of this type apparently

have their closest affinities to the south. None was found by Hartman either in the Nicoya region or in the Güetar area. The small number in the Keith Collection indicates that they were not common objects even at Mercedes. Though Holmes does not mention them from the Chiriquí region, MacCurdy² describes and figures a very similar seat, differing only in the ornamentation of the side supports. The type does not seem to occur at Coclé.

RECTANGULAR STONE BOWLS WITH JAGUAR SUPPORTS

Distantly related to, and possibly developed from, the rectangular stone seats with unornamented flat tops and plain vertical sides, but for a different purpose and of much higher artistic development, are three stone rectangular bowls with jaguar supports. These are all beautiful examples of primitive American art, the conventionalization of the animal figure and its adaptation as a support being especially admirable. Each consists of a rectangular bowl with a thin lip and rather narrow sides supported by two jaguar figures in high or round relief; one is on either of the long sides, extending the full length of the bowl, the short sides being open and the interior like an inverted trough. The jaguar figures thus replace the long plain sides of the rectangular seats. Their treatment is rather free, though stylized; each animal is shown in profile, with the face turned outward as seen from the front. The orientation of the figures on either side is asymmetrical, the heads of the twin figures facing in opposite directions. Thus, no matter which side of the bowl is observed, the head of the figure always faces either to right or to left. In two of the three bowls the orientation is toward the right.

We may now consider these three bowls in detail. The first (Pl. 26a) has a rectangular bowl excavated to a depth of 2.5 centimeters. The jaguar figure faces left, resting on the elbows, knees, and paws, the latter being unnaturally large and clenched. Only one of the hind legs is shown. The massive tail curves upward in a semicircle which, together with the leg, forms a loop with a circular central perforation. The right foreleg is extended, forming one of the supports, while the left foreleg is bent

¹ MacCurdy, 1911, 27-28.

² MacCurdy, 1911, 28, 29, Fig. 21.

backward. This detail varies on the two figures, one being close to the body and following the line of the back, while the other is bent with the elbow uppermost, the paw resting on the hip. The material is a grayish felsite.

The bowl shown in Pl. 26b is a smaller specimen of dark vesicular lava, obviously of a type identical with jaguar metates of Group 5. The jaguar figures face right and are particularly well executed. As in the preceding bowl, the fore and hind legs are extended, and the object rests on the lower legs and paws. In this specimen, however, only one of each pair is shown. The thick tail is curved, the tip meeting the paw of the hind leg to form a perfect loop with a perforated center. A similar ring with a central orifice is formed at the front by means of an object, probably representing a bone or piece of meat, which is held by the fore paw and the teeth. A third central orifice is made above the curve of the back. All such details as claws, teeth, eyes, and ears are carefully executed in a stylized art. The outer vertical sides of the rectangular bowl, averaging 2 centimeters wide, are also decorated with a band of incised geometric design. At the front and back, on the short sides, it is a continuous band of intersecting fret pattern, while on the long sides three elements are separated by vertical lines; a central fret pattern like a horizontal rectangular figure-eight is flanked by two similar figures of curvilinear guilloche nature.

The third rectangular bowl (Pl. 26c) is somewhat more variant and inferior in execution. Its general form differs from the others, the interior being continuously concave from the edge of the rim, unlike other bowls with definite base and sides. Nor are the four sides of the rim horizontal, the shorter ends being markedly convex, the longer sides slightly concave. The supporting jaguar figures, facing the right, are not so carefully executed as in the other bowls. They are in natural position, standing on the paws, instead of extended and semi-recumbent as in the other bowls illustrated. The short massive tail is up-curved, the tip aiding the top of the head in supporting the bowl. The body of each jaguar is decorated with design elements which apparently bear no relation to the figure and are quite different from each other. On one figure a diagonal band of uncertain nature of geometric design curves from neck to abdomen; on the other figure, a horizontal recti-

linear element of figure-eight pattern is engraved on the side, together with three circles with interior dots, one each on rump, shoulder, and abdomen.

Rectangular bowls of this type are obviously rare, even in the Mercedes region where the art style and shape have close analogies in objects of other, though kindred, types. No bowl of this type is figured in the other well-known Costa Rican collections, nor is anything similar mentioned from the Chiriquí region either by MacCurdy or by Holmes, although the art is definitely related. There is little doubt that they were containers for liquids or other material, though probably their purpose was not utilitarian but related to religious ceremony and sacrifice.

CYLINDRICAL TYPES

The second great group of Güetar stone vessels consists of those with circular bases and tops; these may be considered as cylindrical types. Although there is great variation within this group, virtually all except those of the first type are highly developed technically and esthetically, and none is archaic.

The simplest of these types consists of solid masses of cylindrical form. They have much in common with the more highly developed vase, bowl, and ring forms, but were probably contemporary objects serving a different purpose. Most of them are massive. They differ from all the other objects in the collection, except the large stone figures, in having been found on the surface in original position, where they were presumably used as altars, or possibly as seats in an enclosure for religious ceremonies. Thus Hartman¹ found two massive objects of this type at Mercedes, one resembling that in Pl. 27a.

In another part of the forest, in the neighborhood of the graves, I found standing quite alone and two-thirds sunk in the black humus, the splendid large cylindrical "seat." . . . It shows no wear, or signs of grinding on the upper surface.

Close to the house at Mercedes another similar but smaller "seat" . . . which had been found near the large mound, was standing.

He mentions a third specimen of this type in the United States National Museum, a piece presented by Mr. Keith as a part of his first collection from Mercedes.

¹ Hartman, 1901, 37, 38, Pl. 14, Figs. 1 and 2.

Three examples of this solid cylindrical type are found in the present collection; two are large and closely resemble those figured by Hartman, the third is small and possibly intended for a different use. This small and perfectly plain specimen (1751BM) is 14 centimeters high and tapers slightly from top to base, the upper diameter being 18 centimeters, that of the base 16 centimeters. The upper surface is slightly concave, while the base is more deeply excavated to a depth of 1 centimeter, with a flat center 10 centimeters wide and a peripheral basal ring.

The other two specimens are massive objects, slightly decorated. The larger and ruder one stands 40 centimeters high, is 54 centimeters in diameter at the top, and tapers to 46 centimeters in diameter at the base. The upper surface is slightly concave. Around the circumference, just below the top, is a ring of 20 jaguar heads in high relief, considerably battered and many broken off, but fairly well made. The second, smaller and better specimen measures 38 centimeters in height, 49 centimeters in upper diameter, and 35 centimeters in basal diameter. The top is slightly depressed, with a marginal ring and a flat interior. The side is virtually vertical until near the rim, where it flares abruptly outward; on this ridge are carved 18 large jaguar heads in high relief and natural position with the mouths downward.

Although the general style of art is very similar to that of Chiriquí, no specimens of this type are mentioned either by MacCurdy or Holmes, though the latter figures an object which might be classed as intermediate between this and the following type. Nothing in any way approaching it is found in the Chorotegan-Nicoya region.

Two specimens of unique type merit classification here. One (Pl. 27d) resembles an immense labret of solid gray vesicular lava. Of modified mushroom shape and approximately circular horizontal cross-section, the principal round surface is flat and smooth. Constricting suddenly beyond this, the shaft again bells gradually outward to a diameter of 18 centimeters, the opposite circular surface being convex for a peripheral ring of 4 centimeters, with a central concave depression 10 centimeters wide and 2.5 centimeters deep. Though the broad flat surface may be the base, and the

smaller convex surface with central depression the upper surface, yet it is more probable that the opposite position was the intended one, the specimen having probably been employed as an altar or seat. It may be an unfinished specimen of the base type to be later considered. Number 1761 is a small, rude, plain, mushroom-shaped object of gray lava with a concave depression in the upper surface.

The more developed stone objects of genetically cylindrical nature, with circular tops and bases, fall into two main classes, those in which the upper part forms a more or less flat plate or concave bowl, and those in which the central axis or core is removed, and a broad thin ring, like an old-fashioned napkin-ring, is left. The latter are supposed to have been used as rests for round-bottomed pottery vessels; the usage of the former is uncertain. Those with deep concave tops were presumably employed as bowls, while those with relatively flat tops were more probably altars, stands, or pedestals, or even seats. Two main types are also found in each of these classes of pot-rest rings and pedestals, one artistic and vase-like, and one in which the upper bowl or ring is supported by a circle of Atlantean figures. The art of both classes is thus closely related, suggesting that they are products of the same period and culture.

VASE STANDS

Among the most beautiful, artistic, impressive, and altogether admirable objects of Costa Rican, and indeed of American aboriginal, stonework, the vase-like stands occupy first rank. Their analogy and close resemblance to one type of pot-rest ring have already been noted. The material is always a gray vesicular fine-grained lava, carefully carved and finished. The lower part is a truncated cone, more or less bell-shaped, with circular flat, or ring base. The upper surface is broad, circular, and slightly concave; the lower margin is decorated with a ring of small, uniformly sized heads in high relief. Locally, they are known as *salvillas* "little salvers." Their purpose was doubtless ceremonial-religious, since the labor expended, the perfection of the art, and the massiveness of many of them would seem to preclude a purely utilitarian function.

Three of these objects are in the Keith Collection; two of them are among the finest speci-

mens there. These are very large and excellent. The largest and finest (Pl. 27c) measures 29 centimeters in height, the diameter of the bowl is 57 centimeters and that of the base 55 centimeters. The upper surface is thin and slightly concave, with a peripheral marginal border 2 centimeters wide. Around the periphery are 28 small jaguar heads, regular, symmetrical, and excellently executed, in natural position with the muzzles downward. The conical basal support is hollowed in the interior, and the shell perforated with seven large vertical slots so that it seems to consist of seven curving legs joined to a basal ring. The second specimen (Pl. 27b) is similar, but slightly smaller and less developed. The bowl top is slightly concave and of uniform thickness, the periphery being surrounded by 15 heads of the same size and excellent execution. The hollow base is similar to that of the preceding specimen, but only four slots separate four legs joined at the base.

The third specimen (Pl. 27a) is much smaller and possibly not entirely finished. The upper bowl is excavated to a depth of 2.5 centimeters with a peripheral rim 2 centimeters wide, beneath which are carved 26 heads of uniform size. These are not so naturalistic as on the preceding specimens, but are slightly ruder and more conventionalized, duplicating those on one type of pot-rest ring. They might be interpreted as either human or jaguar heads, but in comparison with the more naturalistic jaguar heads on the larger specimens, these presumably represent the same animal. The base is a truncated cone, but it is not hollow, as in the preceding two stands, though slightly concave as if excavation were intended. The outer surface of the base displays no trace of the flutings for slots like those in the large examples, but instead has small pecked depressions arranged in triangular position resembling the lattice-work on some of the pot-rest rings. (Among the specimens from this region belonging in the Museum collection is a slightly smaller stone stand of similar type with hollow lattice base.) All three are admirably graceful and artistic.

Stone stands of this base type are typical of central and southern Costa Rica and western Panama. Nothing of the kind is found in the Chorotegan region of northwestern Costa Rica, but similar specimens are known from other Güetar sites than Mercedes. In the Museo Nacional of Costa Rica, together with other

smaller specimens, is an especially large and fine example from El Guayabo, Turrialba, 76 centimeters in diameter.¹ Hartman² figures two ruder similar objects from Orosi. Very similar, but smaller and artistically less developed specimens are found in the Chiriquí region of western Panama. Two of these are figured by MacCurdy³ and one is illustrated by Holmes.⁴ Nothing of the kind has been found at Coclé.

ATLANTEAN STANDS

The stone stands of Atlantean type differ from the similar stone pot-rest rings only in the upper surface which is a bowl instead of an open ring. The entire interior of the stand is hollowed out, and the remaining shell is carved into figures in the round with interstices separating their bodily features. These figures generally stand on a complete basal ring and uphold the upper bowl with arms or forepaws and head. They are generally interpreted as monkey figures, the monkey being considered as characteristic of the Atlantean stands, stools, and bowls as the jaguar is of the metates. Many of them, however, resemble jaguars more than monkeys. Five specimens of this type are in the Keith Collection. The stand illustrated in Pl. 28a is unusually large. The five Atlantean figures are apparently anthropomorphic jaguars, though the faces are relatively human. The upper bowl is held up by the head and both hands, the tail touching the elbow of the figure next to the right. The bowl top is concave, the vertical margin being decorated with intertwined curvilinear designs in low relief. The concept and execution are artistic and admirable.

Specimen 7062 resembles this very closely but is considerably smaller, 13 centimeters in height, 18 centimeters in superior diameter, and 15 centimeters in basal diameter. The tails of the four figures rest on the elbows of those next to the left. In all other respects the stand resembles Pl. 28a.

Plate 28c illustrates a stand which differs in having no decorated vertical rim, but a narrow plain horizontal margin. The tails of the four figures curve downward to the left and rest on the basal ring. The animals are somewhat

¹ Lines, 1938a, Fig. 7.

² Hartman, 1901, 157, Pl. 50, Fig. 2; Pl. 69, Fig. 9.

³ MacCurdy, 1911, 35, Pl. 4, Figs. a and b.

⁴ Holmes, 1888, 29, Fig. 13.

hermaphroditic, having what are apparently female breasts and male sex organs. Though the figures are alike in all respects, the faces alternate in two types: one is a naturalistic jaguar, and the other is anthropomorphic or possibly human. Of slightly smaller size is No. 6849BM, very similar to the preceding, but apparently unfinished and considerably ruder. The four figures are obviously female, with prominent breasts and abdomen, the tail resting against the elbow of the figure next to the left.

The last specimen (Pl. 28b), of uncertain provenience, is very large, solid, and unfinished. The figures are rudely indicated in high relief, without details or facial features. The six figures uphold the bowl with head and left hand, the right hand resting on the thigh of the figure next to the right. No tails are apparent. The upper surface is concave with a narrow horizontal marginal rim.

The Atlantean bowls or pedestals typify an art and technique characteristic of several different classes of Güetar stonework, which might well be a diagnostic feature of one period of development. This is demonstrated in the sculpturing of figures or groups of figures in the round with free treatment of the bodily features, and in the interstices between them which are perforated and removed in a fret or lattice-work technique. This style of treatment is found on the jaguar metates and oval seats with connected legs, and will be seen again on the pot-rest rings and the great altars, suggesting a community of origin.

The Atlantean artistic motive, like the other pot-rest rings and pedestals, is found only in southern Costa Rica and western Panama, being absent in the Chorotegan region of northwestern Costa Rica. Hartman¹ obtained only one, by purchase, in Costa Rica, the provenience not being stated. From the Chiriquí region MacCurdy² figures and describes two very similar pieces, but apparently smaller and artistically inferior, while Holmes³ illustrates another about the size of that in Pl. 28c. There is little question that this type of art in stone sculpture reached its culmination in the Güetar region, especially in the vicinity of Mercedes,

while the same artistic tendencies were reflected and developed to a lesser degree in the peripheral region of western Panama.

ATLANTEAN BOWLS

Two small stone bowls of an Atlantean type of art differ from any other objects in the Keith Collection, but may probably best be classified after the Atlantean pedestals. These (Pl. 29a, b) are very similar in shape, size, and details. Of a reddish vesicular lava, each consists of a bowl resting on the necks and upraised arms of three human figures which are free, and do not rest on a basal ring, as do the Atlantean pedestals. The legs are short, the arms exaggerated. The fingers in both examples, and in one the toes and hair, are also shown by parallel incised lines. A projection which may represent the male sex organ is seen in all the figures, and on one apparently female figure breasts are prominent. Bands cross the abdomen in bandoleer fashion, obviously representing the carrying strap by which the bowl was supported on the back; in one case they consist of incised lines and in the other of relief. The faces of the figures of the bowl in Pl. 29a are apparently human, while those in Pl. 29b are more jaguarean in aspect, the ears being on top of the head. On the outer surface, just below the rim of each bowl, is a band of decorative design consisting of zigzag lines. In the first illustrated (Pl. 29a), this is a single horizontal line, while in the second (Pl. 29b), the lines are triple and form a running design of triangular nature.

One stone pedestal, of a different though related type of art, merits attention here. It is catalogued in a group of unknown provenience. Most of the other specimens in this number sequence are apparently of Güetar culture, if not from Mercedes; however, this pedestal (Pl. 29f) has no artistic congeners and is difficult to classify, though the art style is, in some respects, akin to that of Mercedes. It vaguely resembles a stand of Atlantean type, the material being a grayish stone. The slightly concave upper surface has a small, deeper depression in the center, 4 centimeters in diameter. The interior of the base is hollowed out so that a shell wall of 2 centimeters average thickness remains. This is not carved into figures in the full round as in the Atlantean type, but is solid for the greater part. At two opposite points, however, the shell is cut through to form a

¹ Hartman, 1901, Pl. 86, Fig. 6.

² MacCurdy, 1911, 35, Pl. 4d, e. He identifies the figures as monkeys.

³ Holmes, 1888, 28, Fig. 11.

more or less rectangular opening in which a quasi-triangular head hangs from the top. The features, rudely carved in low relief, are apparently human, though a jaguar interpretation is not precluded. At opposite quarters in the solid shell circumference two Atlantean figures are carved in low relief. They are anthropomorphic, if not human, and the upper plate rests on the upraised arms, and on the flat top of the triangular head. The flat plate extends beyond the line of the base for a distance of 1 centimeter, and its outer rim is decorated with many short, parallel, vertical, incised lines forming scallops, and with several horizontal lines. On the convex circumference of the supporting base, the four spaces between the relief Atlantean figures and the pendent heads are occupied by panels decorated with rectilinear geometric designs executed in shallow incised lines.

The Atlantean motive is said to be very common around Guapiles and in the general north coast area.¹

POT-REST RINGS

Nineteen stone objects shaped like a large old-fashioned napkin-ring are characteristic of Mercedes. Though their use is problematical, they are generally interpreted as supports for round-bottom pottery vessels, a type relatively common in the Güetar region.

The Mercedes collection contains both pottery and stone rings of relatively similar size and general appearance. Probably both kinds were used contemporaneously, but one may have been a prototype of the other.

The stone rings range from plain to highly ornate. All but one are of gray vesicular lava of various degrees of coarseness, the solitary exception being of reddish lava. The heights vary from 6 to 12 centimeters, the widths or diameters from 10 to 17 centimeters. The proportions are more variable, the height ranging from one-half to three-quarters of the diameter. In the great majority of rings the center is circular, with a diameter considerably less than the outer periphery, the waists being constricted and concave vertically. Four types of rings may be distinguished: plain, lattice-work, circle-of-heads, and Atlantean.

Only one of the rings (10099BM) is perfectly plain, small, and rude, though three others, two of them in other groups, are not perforated for decoration. Another (7066BM), though unperforated, is unusual in that its concave outer surface is decorated with rectilinear geometric designs in shallow, thin, incised lines, together with four symmetrical, deep, broad, vertical, incised grooves.

Four rings (Pl. 29c, d) comprise the lattice-work group in which the concave-convex circumference is perforated by a few triangular or diagonal orifices in symmetrical position. One specimen (7067) contains only one group of orifices and may be unfinished.

A bare majority of the rings (Pl. 29e, g), 10 in all, belong to the circle of heads type. All but one of these, which is imperforate, may be considered as merely a further development of the lattice-work type, the body being treated in similar fashion. One is unfinished. The smallest of the group is perforated merely by five vertical slots, and the interstices are bulging and convex internally, so that the central shaft, instead of being round, is cinquefoil. This group of rings closely resembles the "vase stands" already considered, the sole difference being that the latter have flat tops. Like the stands, the rings have an upper marginal diameter greater than that of the base, and the upper circular margin is surrounded by a ring of from five to 23 small heads. In the majority these are symmetrical as regards the decorative lattice-work elements, but in a few instances are out of all relation to them. In the two examples where these heads are mere knobs, the specimens are probably unfinished. In several others, the facial features are conventionalized and are indicated merely by two horizontal incised lines for eyes and mouth. The heads in five of the rings are carved more or less naturalistically. In some of these, particularly in the ring shown in Pl. 29g, the heads presumably represent jaguars, while in others, such as 7065 (unillustrated), the aspect is pre-vaillingly human.²

The three Atlantean specimens³ are the most variable but closely resemble "stands" of similar type, the latter differing solely in having flat tops. In effect, they consist of a basal and a superior ring, the latter supported by high-

² See Lothrop, 1926, vol. 2, 367, Fig. 259.

³ See Lothrop, 1926, vol. 2, 361, Fig. 250b.

¹ Personal correspondence from Doris Stone.

relief figures which stand on the basal ring. In all except the unfinished specimen (7068BM), the interstices between the figures and between their component physical features are perforated. Four Atlantean figures of jaguars are carved in every object, but the artistic treatment is varied and more or less free. The more usual form is that found in the unfinished specimen (7068BM) in which the four figures stand face-forward on the basal ring, the superior ring upheld by the left arm and the tail curving upward to the left, while the right hand grasps the tail of the next figure to the right. In the Atlantean ring illustrated in Pl. 29h the four figures also face outward, with their feet resting on the basal ring, but the other details vary slightly. Two alternate figures uphold the superior ring with the right arm and tail curved to the right; the left hand grasps the right arm of the figure next to the left. The other alternate figures hold only the right arm aloft, the left hand grasps the tail of the figure next to the left and their own tails resting on the basal ring. The claws and facial features are well carved.

Specimen 6842BM presents even greater asymmetry. Two standing jaguar figures face outward, their feet on the basal ring, their arms upholding the superior ring. In one, however, the tail is curved upward to the right, the tip being grasped by the right hand, while in the other it curves downward to the right and rests against the basal ring. The alternate figures appear somewhat reptilian, but are probably also jaguars. In this case the left legs, both fore and hind, rest on the basal ring while the right foreleg and the upward curving tail, together with the head seen from above, support the superior ring. The right hind leg is missing. As in the former case, the high relief carving is excellent, with claws and facial features well shown.

Stone pot-rest rings appear to be a type characteristic of Mercedes. While the art is very similar to that of Chiriquí, no object of this type is mentioned by Holmes or MacCurdy. Hartman¹ found only one specimen in his excavations in the highlands of Costa Rica, at Chircot, and nothing of the kind during his researches on the Nicoya Peninsula, the type apparently having no congener in Chorotegan industry or art. It is wanting also at Coclé.

¹ Hartman, 1901, 126, Fig. 280.

GREAT STONE ALTARS

The most striking and impressive objects of Costa Rican, indeed of Isthmian, stonework are the great, flat, carved stones known generally as mesas or tables, sacrificial stones, or altars. While sculptures of larger size and smaller carvings of greater beauty and technical quality are found in the New World, the combination of great size, excellent craftsmanship, and pure beauty of concept and execution is almost unequaled in American, and seldom surpassed in the primitive art of the world. Though apparently not requiring as great skill to avoid breaking the projecting elements as in carving the jaguar metates, even greater labor was necessary to reduce a boulder or ledge of rock to the required thinness, and better artistic conception to produce the beautiful and graceful figures that adorn them.

Their purpose and use are largely conjectural. They have been characterized as tables (mesas), metates, or sacrificial stones, the latter being the locally accepted term. Mr. Keith writes:

The ornamental tables referred to by you, I have always considered as sacrificial stones. . . . These were also found in the graves.

The usual opinion that they were utilized in horizontal position, presumably resting upon supports, is, however, not upheld either by the original historical sources or by the conditions under which they were discovered, and the designations given immediately above, implying a definite usage and position, are, therefore, unsatisfactory. The term altar, on the other hand, which implies only a ceremonial-religious function, an interpretation which is inevitably suggested by their size, beauty, and technical and artistic excellence, has, therefore, been here adopted.

Although no detailed description of the finding of one of these altars is available, there is no doubt that they were part of the burial accompaniments. Mr. Keith makes the statement directly, and Skinner² in his notes reports that

Alpizar declares that the sacrificial slabs found by him were laid flat in the southwest or northwest ends of the deep graves, and were accompanied by an idol placed erect near them, pottery of the finest class, and frequently gold objects. These graves were in-

² Skinner *in* Lothrop, 1926, vol. 2, 457; see also Lothrop, 1926, vol. 2, 286, 287, and Fig. 179.

variably covered with *lajas* [stone slabs] of the largest size. The peones, Juan and José Mora, who obtained a good sacrificial slab for Mr. Wilson, corroborate Alpizar's statement, although they say that it was in a grave not more than six feet deep. The large "Piedra de Sacrificio" generously presented to the Museum [of the American Indian] by Señor Don Jacinto Xirinach, however was found by him at Anita Grande, standing upright above the surface. The lower part was firm in the earth, but the upper half was broken off and was recovered by digging at the base of the standing portion.

The discovery of this last-mentioned slab in upright position in the cemetery is one of maximum importance. Although usually found in the graves, this does not imply that these altars were part of sepulchral furniture; more likely they were, like other objects found in the graves, part of the ceremonial possessions of the deceased which were buried with him. The slab discovered upright at Anita Grande very probably gives a clue to the use of these slabs before the death of the owner. Another clue is afforded by the burial customs of the present or recent tribes of Costa Rica. Among these, the practice of secondary burial, as among many Indian groups in Central America and northern South America, is observed. The corpse is deposited above ground in the forest for a year until the parts have become dissociated, when they are collected and buried with great ceremony in a deep stone-lined grave.¹ Hartman and others have observed that the Güetar stone-lined graves are frequently too small to accommodate a complete skeleton and suggest that they represent a secondary burial of disarticulated bones.² Here may be found the true explanation of the graves observed by Columbus and described by Las Casas:

They saw that within the houses . . . were graves in which were dried, embalmed (myrrhed) dead bodies, without odor, wrapped in cotton cloaks or sheets, and above the grave were *tablas* on which were carved figures of animals, and on some the figure of the buried man.³

The Spanish word *tabla* ordinarily means "board" or "plank," and this passage is generally interpreted as implying that those objects were made of wood. However, a secondary

meaning of *tabla* is a similar thin broad slab of stone or metal. Even without this definition of *tabla*, however, the close resemblance to the Mercedes slabs would still be evident, inasmuch as the villagers observed by Columbus lived on the seacoast, far removed from a suitable supply of stone, and naturally would have employed wood for this purpose.

Synthesizing the above data, the conclusion is well-nigh unavoidable that the great stone slabs or altars were erected above the remains at the place of primary disposal, and later interred with the disarticulated bones at secondary burial in the stone-lined graves, together with the remainder of the personal effects of the deceased. This interpretation of the original upright position of these altars was forced upon the writer from an empirical study of the specimens themselves, before learning of the discovery of the base of the Anita Grande slab in original upright position.

Seventeen of these large altars are in the Keith Collection; two more are known to the author, one from Anita Grande in the Museum of the American Indian, Heye Foundation, New York, and an especially fine example 1.89 meters long in the National Museum of Costa Rica in San José.⁴ All of these are large, broad and thin, and either rectangular, rounded-corner rectangular, or oval slabs of stone. They generally have an obvious front and back, or upper and lower faces. Strange to state, the altar from Anita Grande, the base of which was found in upright position, is the only one of the 19 in which the two ends are not differentiated into an unmistakable top and bottom, the ornamentation in this exceptional case making a complete circle of the periphery. In all but one of the remaining 18, the lower end is severely plain for a distance of possibly 30 centimeters, and the lower edge is generally ruder and less finished than the rest of the slab, suggesting that it was interred to this depth. It must be admitted that this depth of interment is insufficient to afford a strong and permanently stable upright position, but in this connection the researches of Hartman again supply interesting data. He found the upper fragments of large figures at the base of a mound and the lower section in original position at the summit,

¹ Cf. Gabb, 1875, 497-503.

² Hartman, 1901, 192, 193.

³ Las Casas, 1875-1876, vol. 3 [Book 2], 116.

⁴ Lines, 1938a, Fig. 9.

set in sockets. He writes¹:

they proved to be a number of oblong stones, each about 1 m. long, set in a narrow square and very firmly fixed.

Skinner does not mention this socketing for the altar from Anita Grande, but in view of the otherwise close analogies, the broken upper portion found on the surface, the base upright in the ground, it may be presumed that a similar method of bracing was utilized in this case as well as in that of all the slab altars.

Again, in all but three of the 19 examples, the upper end of the specimen is ornamented with large figures in high relief. Were these plates used in horizontal position, it would be expected that these figures would be carved at right angles to the plane of the plate, so as to appear in natural upright position. Actually, they all lie in the same plane as the plate itself, and thus appear in natural upright position only when the plate is placed on end, with the figures at the top. In one altar, the main surface is completely covered, and in another partially covered, with ornate decoration in low relief, thus preventing their utilitarian employment. On the other hand, were the intent entirely ornamental, many or most of the objects would probably be similarly decorated on their main faces. The upper or anterior faces of the majority of the altars are as rough as the back or bottom faces, indicating a lack of utilitarian function, but a minority are sufficiently smooth to suggest actual use as a grinding surface. Two of the Keith altars, as well as the one in Costa Rica, have small figures in relief on the apparent obverse, and two others have similar figures on the apparent reverse surface. All of these would be considered properly placed on an upright stela, except that in one the animal figures would be seen from beneath, but, on another, if placed in horizontal position, the figures on the reverse side would be upside down. On the other hand, four of the plates are decorated on the side edges with a band of anthropomorphic heads similar to those found on certain stands, pot-rests, and other objects. In only one of these are the heads superimposed in natural position for a vertical plate; in the other three, they are arranged in a horizontal line. A few details, therefore, militate against

an assumption of a vertical position for these plates, but on the whole the preponderance of the data points to this conclusion.

The great altars are solely a product of Güetar art and technique, and apparently are restricted to the region of Mercedes. MacCurdy and Holmes do not mention or figure anything of the kind from the Chiriquí region of Panama, nor does Hartman from the Chorotegan region of northwestern Costa Rica. Indeed they have nothing in common with Chorotegan art. More strangely yet, Hartman found no objects of this type from other Güetar sites, and no specimen in the Keith Collection comes from any locality other than Mercedes. The altar in the National Museum of Costa Rica in San José is recorded as coming from El Guayabo, a site under the jurisdiction of Turrialba, 9 leagues from Cartago. This is approximately the same distance as Mercedes, and El Guayabo, which I am unable to find on maps, is probably a small site in the region of Mercedes. Anita Grande is also in the Mercedes district. It would appear, therefore, that the manufacture of these beautiful objects was an art limited to a restricted district, possibly the most important ceremonial site in the Güetar region.

The circumscribed area of distribution of these altars suggests the corollary that their origin was similarly restricted in time and culture. Probably all were made by one tribe or tribal division within a relatively short span of time. It would be idle, therefore, to seek any archaic forms or prototypes; doubtless the art of working stone had almost reached its climax before the manufacture of these extraordinary objects began. If there were any prototypes, these were probably of wood. This homogeneity of origin would naturally produce a unity of type and art. Within reasonable bounds, such a unity does obtain among all the altars. Except for one, the exact provenience of which is unknown, all belong to one definite and unmistakable type. Nevertheless, certain minor variations permit them to be more or less definitely divided into groups between which, however, there are gradations and border-line examples. Whether these types are actually sequential and represent a developmental series, or whether they result from the labors of several contemporaneous schools of art is uncertain. A correlation of artistic details may be ob-

¹ Hartman, 1901, 9.

served on certain specimens which may help to fix the relative temporal status of objects in other groups with similar artistic motives.

Four altars (Pl. 30) compose the most easily grouped type, in which the thin long side faces of the plate are decorated with a band of human or anthropomorphic heads in low relief, similar to those on the peripheries of certain stands, metates, and pot-rest rings. In the altar shown in Pl. 30d, these heads are arranged one above another and can be seen in natural effect when the plate is in vertical position; in the other three specimens the heads lie in horizontal plane. The altar illustrated in Pl. 30a is of finer workmanship than the other three which may be considered typical of this group. The plates are comparatively small. The material is a gray vesicular lava; the main faces are moderately to very smooth, perfectly flat in the first two altars, slightly convex in the transverse axis in the last. The shape of the plate is virtually rectangular, but the lower end of the altar in Pl. 30e is slightly convex, and the long sides of that in Pl. 30c curve slightly inward near the lower edge, and the upper end is slightly concave. The sides of the altars to be seen in Pl. 30c and e are beveled, with a narrow plain vertical border next to the main surface; beneath this, standing out vertically against the beveled side edge, is the band of heads. These are roughly semicircular and rather rudely made, though perfectly uniform and symmetrical, the eyes being quasi-rectangular with a horizontal groove as in Pl. 30b. The altar in Pl. 30e possesses 11 heads on each long side and two on the upper end, while the heads of the slab in Pl. 30c are smaller, a little ruder and closer together, there being 21 on each long side. The heads of the altar shown in Pl. 30d, as already remarked, are placed in vertical position on the thin side face and are slightly better executed than those of the other specimens. There were at least 13 heads on each side; the lower end of the altar is missing, and a complete count is impossible.

The large figures carved at the upper ends of the specimens in Pl. 30c and e are rather similar and of the same style of art, both being composed of twin small jaguar figures, rather plain and rude, crouching with the front paws at the edge of the main surface of the plate. In one (Pl. 30e) the jaguar figures are symmetrical and face forward, but in Pl. 30c they are slightly

asymmetrical, heads and faces turned to the sides. The hind legs and short tails are carved in relief on the reverse side of the plate. The heads are large and the faces rude, with crescentic mouths showing the large canine teeth; the ears are also crescentic and upright. The eyes, however, are made differently; those in Pl. 30e are indented and quasi-rectangular; those in Pl. 30c are raised ovals with medial horizontal groove.

The twin figures at the top of the altar in Pl. 30d differ in being human, symmetrical, but rather rude. The style of art is identical with that of the majority of the independent human figures from Mercedes. In the outer hand and held against the chest is a severed human head with the facial features rudely indicated. These figures have male sex organs, also prominent breasts; the heads and torsos are large, the legs short. The inner arms form a connecting band at the neck, this being the only instance in the three altars in which an actual interstice is made in the stone. The fingers and toes are barely indicated by striated grooves. A decorative band, apparently with a pendent fringe, is engraved around the waist, above the sex organs. The noses are large; the eyes are depressed; the mouth is a raised oval with a medial horizontal groove. The crowns of the heads are ornamented with large rectangular cross-hatching.

Another altar (Pl. 30a, b), while bearing the same band of human heads on the thin side face as the three preceding, differs in many other respects and is much superior in size and quality of art. The plate is very large, 42 by 136 centimeters, the ornamental figures at the end increasing the length by 20 centimeters. Virtually rectangular, the lower end is slightly curved. The thin side faces are decorated with a band of large, comparatively well-made human heads (Pl. 30b), 12 on each side. The main upper surface is virtually flat, without a border or rim, and the lower surface is slightly convex. Three independent unconnected figures are carved on the upper end, parallel with the plane of the plate (Pl. 30a). Their technical execution is considerably superior to those of the three altars previously described. The central figure shows a naturalistic seated jaguar, the forelegs on the upper edge of the plate, the hind legs on the under edge, the tail curving to the left and extending down the back of the

plate. Flanking this central figure on either side, an anthropomorphic jaguar faces outward. These are males, with thick torsos and short legs with claws. The arms are clasped asymmetrically behind the back, the arm toward the front of the plate resting behind the ear and that to the back behind the neck. The great projecting angular mouth displays canines and other teeth; the eyes are raised circles, and a mane of striated hair hangs down the back.

A second more or less definite group consists of four specimens (Pl. 31a-f). This group is characterized by excellence of technique and of art, the large twin independent figures at the upper end of the altars being admirable examples of sculpture, freely treated. Of these the two shown in Pl. 31d are most typical. The plate is excellently made, with sharp edges, quasi-rectangular, with convex lower side and slightly beveled long sides. The surface is medium smooth. The twin human figures are symmetrical, independent, and treated freely; the feet are carved to show soles and toes in a somewhat stylized art. The long sides are slightly convex; the main surface is flat, plain, and medium smooth. The figures at the top are carved in the round, the feet extending over the rim of the plate. The large faces, fat torsos, short legs, and immature male sex organs produce a generally infantile effect. The bodies are half turned outward toward the sides, but the heads face front; the noses are broad, the eyes oval, and the ears large and projecting. The hands and toes are exaggerated and grotesque, some of the details being simian, but the absence of a tail determines the human character. The figures closely resemble the independent human figures from Las Pacayas.

Technically and artistically the altar illustrated in Pl. 31e, f is quite the finest in the collection. The plate is fragmentary. All the edges are sharp, and the finish is perfect. The plate is slightly convex in the transverse axis, but the main surface is not smooth, the material being a fine-grained vesicular lava. The long sides are slightly beveled and run straight up to the upper end of the altar, the figures being carved in high relief, not in the full round beyond it as in all other specimens. These figures stand on a raised band, 5 centimeters wide and 5 millimeters high, extending transversely across the plate near the upper end. They appear as if about to climb over the upper edge of the

plate, the shoulders facing the back and the hands reaching up and grasping the edge. The torsos, however, face the sides of the plate, and the vertebral column is shown as a twisted line from buttocks to neck, the shoulder blades also being depicted. The inner foot of each figure rests on the raised band, the outer foot is elevated, as if for the climb, showing the sole and five well-carved toes. The feet are large, the legs and arms short; the torso is fat, and the head large. The latter is excellently carved with high aquiline nose, depressed oval eyes, large naturalistic ears with earrings, and a groove for the mouth. The crown of the head is ornamentally finished (Pl. 31e).

Somewhat variant from the norm of this type are the altars illustrated in Pl. 31a-c. These are of approximately equal size. The second is made of a gray vesicular lava with the main surface flat, but not smooth and possibly unfinished; the lower, short side is very slightly convex; the other sides are straight with sharp edges. The under surface is carefully and evenly excavated to a depth of 1 centimeter. The material of the altar in Pl. 31a is a finer grained lava, with all the surfaces smooth and the edges sharp. The lower side is quite convex; the other sides are straight; the general effect is rectangular and even. The upper main surface is slightly convex in the transverse plane, the lower surface slightly convex in both axes.

The twin figures on the top of the following specimen (Pl. 31b, c) are unfinished and illustrate well the process of stone carving; the left figure lacks only the finishing details, while that to the right is merely blocked out in angular fashion. Though evidently incomplete, the figure is comparatively smooth and regular, giving the impression of cubist art. The left-hand figure is doubtless that of a jaguar; the head is large, the torso fat; the legs are short, the raised ears crescentic. The left hand rests on the abdomen; the right hand is raised to the right ear. The feet project over the main face of the plate, and the tail extends in relief to the rear of its under side.

The twin figures of the altar shown in Pl. 31a are very naturalistic and of infantile proportions, probably human, though possibly anthropomorphic jaguars, lacking tails. They are seated on the upper edge of the plate, with legs and feet in high relief extending downward over the surface of the plate. The toes are well de-

lineated, but large, regular, and stylized. As usual, the heads are large, the torsos fat, the legs stunted, and the male sex organs immature. The inner arm of each is raised and the hand extended, with the palm foremost in a prohibitory gesture. The outer arm is folded transversely across the chest, but the details of the hand are not shown. The heads are human, the ears being especially naturalistic and well executed; the eyes are oval, and the nose is flat, but the mouth is very large and menacing, with prominent jaguar-like canine teeth.

The series next to be described (Pl. 32) can hardly be considered as forming a group, since certain ones may be selected which have no details in common with others; nevertheless, each possesses some features in common with some other which will not permit its separation from the group. Thus, two of the altars (Pl. 32b, d) are small, concave, shovel-shaped, and two (Pl. 32a, c) are surmounted by single bird figures. The altars shown in Pl. 32b and c have geometric ornamental designs in relief.

The plate of the altar illustrated in Pl. 32a is medium large, of very coarse vesicular lava, but with a relatively smooth principal face. The long sides are slightly convex, the lower end nearly semicircular, meeting the sides without angle. The main face is virtually flat, the rear or under side convex, and the side edges slightly beveled. The surmounting ornament consists of a single bird figure, considerably conventionalized and apparently representing a rapacious bird, possibly an eagle or hawk. This stands in the center of the upper end, the four-toed feet extending over the rim and on to the main surface of the plate. The massive legs are short and partly flexed; the torso is also massive; the head is large and triangular, with big round eyes and hooked beak. The wings are long, narrow, and conventionalized, sloping down from the body to meet the edge of the plate, the interstice being perforated. They are plain on the lower edge, but have five large scallops to represent feathers on the upper edge of each wing, the terminal scallop being modified by carving into a jaguar head.

The altars illustrated in Pl. 32b, d are small and shovel-shaped, with concave main surfaces and semicircular lower edges. In most other respects they differ; that in Pl. 32d resembles the altar in Pl. 32a in ornamentation, while the figures to be seen in Pl. 32b and c are similar.

The plate of the altar shown in Pl. 32c measures 29 by 59 centimeters to which the terminal figure adds 15 centimeters. The material is a gray lava of relatively fine grain; the main surface and sides are quite smooth. The front is quite concave transversely to a depth of 2 centimeters and slightly concave in the longitudinal axis; the rear side is convex, making a relatively uniform thickness of 4 centimeters. The long sides are beveled and slightly convex horizontally and meet the lower semicircular edge without any angle. The terminal figure is a hawk or an eagle, resembling the first altar in the series. Standing on the upper end, the widespread legs, with interstice between, are short and partly flexed. The feet do not project over the plate, but are in higher relief; the toes are indicated. Beneath the orifice between the legs, a fan tail is incised on the plate. The body and head are quasi-anthropo-ornithomorphic; the body is thick, the head large and high with deep-set round eyes connected with the long beak; the ears are low. The long thin wings, resembling those of a penguin, sweep down and touch the upper edge of the plate, enclosing a large interstice. No detail of ornamentation is shown at the front, but at the back the feathers are indicated by parallel, slanting, curving, incised lines.

Slightly larger, though of similar shape, is the altar to be seen in Pl. 32b. The lava of which it is made is very vesicular, but the main surface is relatively smooth, the back or bottom rougher. The principal surface is noticeably concave in both axes, the opposite convex surface thus making a relatively even thickness of 4 centimeters. The long edges are slightly convex horizontally, and the lower end is semicircular, without a separating angle. The former are beveled and form an obtuse angle with the back or bottom face, but the latter is a continuous curve. The thin long sides are ornamented with reversed sigmoid motives separated by circles in low relief. The ornamental figures at the upper end are somewhat unusual. A figure stands in the center of the edge, its four toes or long claws extending onto the surface of the plate. The flexed legs are short, separated by a small orifice; the torso and head are of relatively natural size. The head, of unusual type, may represent either a death's-head or monkey, probably not a jaguar. The large mouth has pointed teeth; the high nose is

triangular; the eyes are deep-set with a raised circle around them; the ears are high and crescentic. A long spiral queue, the single asymmetrical feature of the group, apparently extends from the back of the head to the elevated hind feet of the animal to the left, leaving a space between this and the nearly parallel arm. The thick arms extend horizontally to the sides, seizing the massive short tails of animals held with their hind legs high in the air, their heads and forelegs resting on the edge of the plate. The large triangular spaces between the upper edge of the plate, the central figure, and the flanking slanting animal figures are perforated. The flanking slanting figures probably represent dead animals, slain by the central figure, and are shown in an unusually naturalistic manner. They rest on the side of the neck, with head turned upward, and the forefeet on the ground, projecting above the plane of the plate, and the muzzle beyond the edge of the plate to the sides. The long body, extending diagonally into the air, is twisted until perfectly upside-down, with the tail beneath the flexed legs uppermost. The head, executed more naturalistically than usual, is apparently that of a carnivore, possibly a jaguar.

One of the finest and most artistic altars in the collection (Pl. 32c) resembles the preceding only in the relief ornamentation of its plate. This is large, fine, and ornate, quite rectangular and rectilinear in all respects; all the sides and edges are straight, and the surfaces flat. The material is a gray vesicular lava, with the main face unsmoothed. The lower 25 centimeters of the plate is plain and undecorated, the remainder unusually ornate. An undecorated marginal border, 3 to 4 centimeters wide on the other three sides, enclosed a decorative rectangular border 8 to 9 centimeters wide. The undecorated central panel measures 27 by 81 centimeters. The low-relief designs on this ornamental border consist of rosettes with curving radii in quasi-swastika pattern, alternating with modified rectilinear figure-eight motives. The long, thin, side edges of the plate are also decorated with eight groups of concentric circles with no central dot.

The three figures at the top of the altar are well arranged to fit into the rectangular scheme. Above the heads a terminal bar extends the full width of the plate. The outer sides of the two flanking figures are straight and at right angles

to this bar. The notch between the leg and arm is the only break in the perfectly rectilinear nature of the altar. Furthermore, the three figures are absolutely symmetrical, except for the position of the feet of the central figure. The figures represent either monkeys or jaguars. All three kneel on one knee on the rim of the plate, the feet extending over its edge. The central figure holds up its hands, grasping the thick tails of the flanking figures. The bodies of the latter are turned outward, but the heads are turned to face front. The outer arms are raised to uphold the terminal bar, but the inner arms are held across the breast; always four in number, the fingers and toes are well delineated. The thick tails also curve upward to the terminal bar. The facial features are good but grotesque: oval eyes surrounded by raised eyebrows, high cheek bones, large crescentic ears at the sides, and mouths with large canine teeth. Altogether, there are nine perforations between the three figures and their component parts. The technique is virtually identical with that of the Atlantean monkey stools, bowls, and pot-rests, and may, with confidence, be ascribed to the same period.

A small and homogeneous group is composed of the two altars (Pl. 33a, b-c). These are very large and excellently made, of quasi-rectangular shape, with three anthropomorphic figures joined by the arms of the central figure and freely treated, at the top. The sides are beveled, the edges sharp. The first (Pl. 33a) is very large. The material is a gray vesicular lava, quite coarse and unsmoothed. The upper short end is straight, the lower end semicircular, and the long edges are very slightly convex. However, the lower end properly forms the terminus of the inner section of the plate, the lower end of the long sides curving in more abruptly to meet the base of the plate in a notch on either side. Its longitudinal prolongation results in a groove paralleling the long sides and 7 centimeters from it. This forms a long marginal border which is convex in the transverse axis, with the maximum height near the outer edge. The main interior surface of the plate is also slightly convex in the transverse axis. Its narrow edges are beveled and slightly curved, and the back is well finished. The three massive figures at the top have few details, and may be incomplete, but apparently represent male jaguars. They stand on the upper edge with legs extending

over onto the upper face of the plate. The central figure faces front and, with outstretched arms, holds the flanking figures whose bodies are seen in profile, facing outward, with heads turned to the front. They rest on their feet and massive tails; the arms are held up to the breasts. The eyes are oval, the muzzles and noses flat, the ears short. This group of figures belongs to the lattice-work type, characterized by the interstices between the feet and tails of the flanking figures and between the three figures individually. In some respects they resemble the unfinished figures of the altar shown in Pl. 31b, c.

Equally large and superior artistically is the altar illustrated in section in Pl. 33c. The large plate is rectangular. Of gray vesicular lava, the principal face is quite smooth and virtually flat. The long sides are straight and slightly beveled, except for the lower end which is somewhat irregular. A new feature, and one that connects the art of this altar to the following one of otherwise different type, is that on the rear or under face, close to the edge of the long sides, is found a uniform series of small animal figures in high relief, nine on either side. These are represented in a recumbent posture so that if the altar were placed horizontally the figures would be upside-down. As is the universal tendency in Costa Rican art, all the figures on one side face in one direction, those on the other side in the opposite direction; if viewed in horizontal position, all face to the left. They are relatively naturalistic, but it is conjectural whether jaguars or crocodiles were intended, since they are shown with body close to the ground and legs flexed, the head and tail turned outward.

On the upper edge of the plate stand three anthropomorphic figures, carved in full round, with spaces between them and between the legs of each. The figures do not extend onto the plate or beyond the sides, but are in higher relief. Again, it is difficult to determine whether they are jaguars or crocodiles. The torsos are thick from front to back, the legs are naturalistically proportioned, and the arms thick. The long heads are probably crocodilian, though not naturalistic; the mouth is large, with two pairs of curving canine teeth extending beyond the opposite lip, and other smaller teeth. The eyes are round, the nose flat, the ears human, and the fingers, thumbs, and toes well differentiated.

The central figure kneels on the edge, with feet projecting beyond the rear or under the edge of the plate. His thick arms are extended to the sides to seize the manes or necks of the flanking figures. The central figure also has a long mane extending down the back and a series of four concentric rings on the crown. The two flanking figures are slightly smaller, with smaller heads. They kneel on the inner foot and stand on the outer. The inner arm is folded across the breast, the outer arm flexed backward and up, with the hands seizing several strands of the mane between thumb and fingers near the hand of the central figure. The manes are long, but the figures have no circles on the crown of the head.

The beautiful artistic altar from El Guayabo in the National Museum in San José, Costa Rica, resembles most closely the type last described; the principal difference is that the rows of small relief figures are found on the anterior instead of the posterior face of the plate. This is very long in proportion to the width, and quasi-spatula-shaped, the long straight sides diverging slightly; the lower end is convex and undecorated. Five figures in full round are seated on the upper end, the central and terminal figures being jaguars, the alternate two, birds with interstices under the wings. Beneath these, on the plate, is a narrow transverse band of geometric incised design. Along either side edge are 10 small animal figures in high relief, apparently all jaguars. They are alternately of two types, full-face anthropomorphic and profile naturalistic. The former, when viewed from the base of the plate, are all in upright position; the bodies of the latter also face forward, but the heads are turned to the sides, facing alternately the edge and the center of the plate. It is one of the most perfect of the altars in artistic concept, technical execution, and state of preservation.

Two altars, one having the largest dimensions in the series, are characterized by an absence of terminal figures in full round, and a profusion of small figures in high relief on the plate. One face is plain, the other ornamented with marginal lines of figures. In Pl. 34c is a large flat altar of unusual thickness. The long sides are straight, but both ends are semicircular; the material is a gray vesicular lava, equally rough on all surfaces. Unusual technical features of uncertain purpose at one end, together with extraordinary thickness, may indicate a special

use for this altar. At one end and to one side of the plain flat face is a hook-shaped depression. Beneath this, on the opposite ornamented surface, the semicircular end is thicker by 1.5 centimeters than the remainder of the plate; this additional thickness is attained in an abrupt straight transverse rise. Close to the long straight sides on this face, six on each side, is a line of animal figures in high relief, but somewhat weathered and obscure. These figures represent two types, one apparently representing a bat, less probably a monkey, with long outstretched arms and without a tail, alternating with what is probably a jaguar with a head, tail, and extended legs.

The largest and most unique of all the altars (Pl. 34a) measures 75 by 203 centimeters. Despite this considerable size, it is one of the thinnest in the collection, 4 centimeters thick at the edges, but probably increased to 6 centimeters in the center. Roughly rectangular with rounded corners, the outlines are rather irregular and unsymmetrical. The long sides are irregularly convex; the lower end is quite round, the upper end straight. The main surface is very slightly convex in the transverse axis, the convexity being at its maximum near the rim. It is slightly concave in the longitudinal axis; the rear or under side is convex. The finish is good and even, but not smooth. Lacking large terminal figures which extend beyond the limit of the plate, the figures on the plate are superior to those of the preceding specimen, rather small and in very high relief. Near the upper end, looking across the plain surface, are five bird figures. These are uniform, symmetrical, somewhat conventionalized, and resemble doves or similar birds. With wings folded and crossed, and the short tail at the level of the edge of the plate, both striated in large grooves to represent feathers, they are shown in resting position, the legs not being indicated. The heads are good, with prominent beak and round eyes. Close to the edge, on either long side, is a line of six figures in high relief, alternately three resembling a bat and three which might be identified as either a jaguar or a crocodile. The heads and necks of the six "bat" figures project perpendicularly from the plate, the face always toward its median line. The head is mammalian, with a long thick neck, crescentic ears, eyes, nose, and mouth. The torso is in low relief, in line with the head, humped, and with fore claws

or feet close to the side. Just beneath it is a single grooved object, probably representing the hind feet. A striated scroll in low relief, curving in a loop to the neck and back, probably indicates the wings. Altogether, these figures are excellent examples of conventionalized art. The alternate figures are apparently crocodilian, the reptilian appearance being suggested by the crouching or reclining posture and the thick tapering tail. As usual in Güetar art, the figures on each side face in opposite directions. The heads are all turned to the left, facing the median line of the plate. The heads are flat, the muzzles long and broad, and the feet three-toed; the general appearance is naturalistic.

The beautiful large altar from Anita Grande in the Museum of the American Indian, Heye Foundation,¹ closely approximates the one shown in Pl. 34a. It is also rectangular-shaped, with rounded corners, about 2 by 1 meter, and is very thin, some 4 centimeters thick at the edge. The shape, however, is more even and regular than the altar in Pl. 34a. It differs from all the others in being completely encircled by a border of small animal figures in high relief, not, as in every altar in the Keith Collection, undecorated at the lower end. These small figures are more weathered and eroded than any in the Keith Collection. At one end are seven jaguar figures, alternately upright and upside-down. At the other end, like the others, facing the center of the plate, is a central jaguar flanked by bat figures. Alternately along either side edge are four bat and four jaguar figures. The former are all uniform and almost identical with the bat figures of the preceding specimen; they face the center of the plate. The jaguar figures are shown from the side, and face alternately in opposite directions.

The last altar (Pl. 34b) is unique and unusual in several respects. Since it belongs in a catalogue sequence, the provenience of which is unknown, it may be ascribed to a site other than Mercedes, though it is probably Güetar. The material is a very coarse vesicular lava; the finish is rough and probably eroded and weathered. It is rather large, but the plate is relatively thin, 5 to 7 centimeters. The general shape is rectangular, with rounded angles, but the long sides are slightly convex and the lower end only little more so. The main surface is

¹ Lothrop, 1926, vol. 2, Pl. 139.

slightly concave in the transverse axis and the rear or bottom surface even more convex transversely. The upper end tapers to a longitudinal medial tongue or handle of semicircular cross-section, the upper end of which is broken away. The diameter of this tongue is greater than the thickness of the plate, and on the rear or under side this increased thickness is continued for a short distance over the edge of the plate. On the main flat surface of this tongue curving incised grooves follow the side edge to the junction with the plate.

The principal face of the plate consists of a central rectangular panel bounded by a rectangular incised line and surrounded by a rectangular thin border. The central panel is subdivided into smaller panels covered with incised and low-relief designs. These are so eroded as to be almost unidentifiable. However, they indicate that the specimen could not possibly have been used as a metate or mortar. On the upper short side or edge, on either side of the tongue handle, was a full round bird figure, one of which now is broken away. The remaining figure faces the front, standing on the edge of the plate with the three-clawed feet extending over the edge onto its face. The breast bone or abdomen projects, the large legs are flexed, and the wings are folded straight behind. The round eyes have a central dot in relief, but the beak is broken. The thin rectangular border surrounding the central panel of the plate is decorated with 14 uniform and symmetrical animal figures in half relief, seven on either side, and all somewhat eroded. Though the heads with their ears appear somewhat mammalian, the animal portrayed appears to be a lobster or crayfish, stretched out as seen from the back. As usual, those on opposite sides face in opposite directions, so that, were the plate placed in horizontal position and viewed from the side, all would face toward the right.

STONE FIGURES

Human and animal figures of stone are among the most characteristic of Güetar products and occur in large numbers in all known collections. Almost all are carved of the usual gray vesicular lava and range from tiny and miniature to heroic size. Apparently they served different purposes. The smaller figures found in graves, with other mortuary objects, either were made especially for burial, or else were part of the

prized personal possessions of the deceased.¹ The massive specimens, however, lay above ground, where they originally served as statuary, probably as religious idols, in ceremonial enclosures.

MASSIVE STATUES

The massive statuary² which Mr. Keith discovered in the forests at Las Mercedes first attracted his attention to the archaeological prospects of the site, and constituted his first collection. Mr. Skinner writes in his notes on the Costa Rica Farm site:

Sr. Phillips, who many years ago cleared the forest covering the great enclosure, assures me that he found four large (possibly life-size) statues or idols of grotesque human form stationed one on each side of each doorway. These were removed for Mr. Minor C. Keith. (These statues are doubtless among those presented by Mr. Keith to the National Museum in Washington.—S.K.L.)³

Mr. Keith himself writes:

The collection which I sent to Washington was principally of idols found on the surface.

Some years later Hartman visited Mercedes and vicinity and discovered many large statues and figures, mainly fragmentary, and the reader is referred to his account for more details concerning their discovery. In particular, he was fortunate enough to find the base of a broken statue in place in a socket made of stone slabs on the edge of a stone-faced, dirt-filled mound; the upper part of the figure was found at the foot of the mound. According to Hartman,⁴

Judging from their [the statues'] present position on the slope, and at the base of the mound, it was apparent that they had originally stood on the platform of the mound . . . but close to the top, about 60 cm. from its surface and about 1.2 m. from the edge of the platform, the iron bar struck some heavy stones. When fully exposed to view, they proved to be a number of oblong stones, each about 1 m. long, set in a narrow square and very firmly fixed. Placed in an upright position in the centre of this socket . . . we found the broken part of the left leg of the statue . . . which was lying at the base of the mound, while 3 m. to the right of this socket, the corresponding socket of the companion figure was met with. . . .

¹ See Lothrop, 1926, vol. 2, 292.

² Lothrop, 1926, vol. 2, 286.

³ Lothrop, 1926, vol. 2, 462-463.

⁴ Hartman, 1901, 9.

Probably all the large figures of this and other collections were thus braced.

Three large figures are found in the Keith Collection. One (Pl. 35a) is an unusually good example of the well-known human type with a few individual peculiarities. Another (Pl. 35b) is very large and variant, but of similar general type, while the third (Pl. 35c) is utterly unlike anything else in the collection.

The first to be described (Pl. 35a) belongs to the group of female figures with low female breasts and a rather large vaginal groove with a superior transverse groove. The arms are flexed, with the hands on the abdomen, the space between the arms and body being perforated. The legs are separated with a large interstice, but the feet are joined by a bar. The legs are long and thin, but wider towards the base; the fingers and toes are represented, but are rather rude. A part of the face, which may have borne a beak, is broken off. The head is apparently that of a bird, though the possibility of identification as a jaguar or serpent is not precluded. The large eyes are round and indented, the ears raised and anthropomorphic. The mouth is broad and toothless. The hair is represented in striations down the back of the neck, but on the crown of the head it is gathered into nine strands in groups of three, each strand bearing three raised nodules. On the body four thin bands of low-relief decoration consisting of fret scrolls extend from the breasts over the shoulders to the wrists, and from the hips to the ankles. Obviously a female anthropomorphic animal deity is here represented.

Even more massive and striking is the statue (Pl. 35b) from the Jiménez River near Mercedes. It is one of the largest and finest figures ever encountered in the Isthmian region and well worth inclusion with the triumphs of aboriginal American sculpture. The general type is that of a male figure carrying a severed human head, but the head of the figure is that of an animal. A male anthropomorphic animal deity is apparently represented. The massive legs are human in character and somewhat enlarged; the feet are joined by a short bar. The trunk and abdomen are massive, and the male sex organs large, but broken. The breasts are prominent, and the figure may, on this ground, possibly be considered hermaphroditic. The right arm is broken off, but apparently was flexed upward, the hand touching the crown of

the head. The left arm is flexed, and the hand holds a severed human head against the right side of the abdomen. This head rests on the open hand, the fingers of which are well delineated under the chin of the severed head. The head is in high relief with facial features well carved, and from it a long spirally twisted strand of hair extends across the breast of the figure to the right side of the neck. The head of the figure is distinctly animal and possibly crocodilean, with a long, broad, flat snout. The teeth are rectangular in front and pointed like canines along the sides, where they push up the border of the upper lip into hummocks which are represented by three carved scrolls on each side border. The flat nose, with broad nostrils, is decorated with a vertical band of intertwined scrolls. The eyes are oval or quasi-circular, and the massive ears apparently contain an earplug. A single band of low-relief incised decoration consisting of a meander fret design extends across the breast like a bandoleer; beginning at the left hand, it extends to the shoulder, diagonally across the trunk between the breasts, over the right groin and down the right thigh and the side of the calf to the foot. It may be a serpentine element, but no definite head and tail are distinguishable. A crown with straight vertical sides and rim and a concave interior, decorated with a similar fret design, encircles the head. The statue measures 155 centimeters in maximum height, 61 centimeters in width, and 44 centimeters in thickness.

A human head of massive size and excellent execution, 19 by 13 by 10 centimeters (14430BM), is of uncertain provenience. On the outer side the five fingers are well and naturalistically portrayed.

Of unique concept and type, majestic size, and exceptional interest is the great recumbent figure (Pl. 35c), apparently representing a supine anthropomorphic hawk-god. It is made of a dark vesicular lava. It rests on shoulders, buttocks, and feet, with the abdomen uppermost. The latter is modified to serve as a broad shallow bowl with thick rim and vertical sides. Body, arms, and legs are short and massive, but human in character. The legs are flexed symmetrically, with the knees uppermost; the feet are massive, with four well-marked rectangular toes. The male sex organs are prominent and massive, but short, and a short, broad, but converging tail extends between the legs. The

massive arms are flexed asymmetrically; the right arm is parallel to the body, with the hand resting at the side of the abdominal bowl; the left arm is flexed upward with the hand grasping an ornamental headdress or similar object on the top of the head. All four limbs are embellished with a low-relief serpentine decoration of symmetrical conventionalized design, the four heads on the upper shoulders and the thighs, the tails on the hands and feet. The bodies of these snakes are represented by diamond and triangular geometric relief designs. The head of the figure is plainly that of a raptorial bird, apparently a hawk. The bill extends over the edge of the abdominal bowl; the teeth, two on each side, are well displayed, and the nostrils are shown as humps beside the beak. The eyes are round and sunken, the ears large and anthropomorphic.

The nature of this figure suggests the unavoidable conclusion that it served as a kind of altar to receive offerings to a god, and the analogy with the Chacmool figures of *ocelli* gods from the Toltec-Mexican-Maya region is obvious. However, the differences in detail are so great that an historical connection is not necessarily implied. The Chacmool figures are invariably human in character, the head is turned to one side, and the sacrificial bowl depressed in the abdomen. Another recumbent Chacmool statue from Costa Rica in the United States National Museum (179120) is even more variant in form, consisting of two clasped human figures, the recumbent female figure bearing a bowl on the abdomen. This has been figured and described by Hough.¹ A third example is in a park at Puerto Limón.²

Though it is not a part of the Keith Collection, no report on the subject of highland Costa Rican monumental sculpture can ignore one of its most splendid examples, a large human figure that has long been one of the most prized possessions of the American Museum. Though the exact provenience is unknown, the art is certainly Güetar. It has been reproduced several times.³ Of nearly natural size, 1.25 meters high, it is a standing male figure with flexed arms, the hands on the hips. The abdomen, thorax, and arms are decorated with low-relief

lines of dots that probably represent tattooing or cicatrization. The face is unusually naturalistic with a high nose. The forehead is encircled by an ornamental headband and surmounted by the figure of a small animal, apparently a reptile, which is also covered with ornamental low-relief decoration.

SMALL STANDING HUMAN FIGURES

Among the most characteristic objects from Mercedes are the standing human figures of stone, 60 of which are in the Keith Collection. While a few of these, of very typical style, are only 7 centimeters high, and two others, but slightly variant and considered separately, are of massive or even heroic size, the great majority measure from 30 to 38 centimeters. Without exception, all are made of grayish volcanic tuff or reddish pumice. The majority of the figures conform to a pattern characterized by straight separated legs, relatively naturalistic flat feet which hold the figure upright, and flexed arms with interstices between arms and body perforated. Thus, in 46 of the 60 figures the legs are separated; in 47 cases an orifice occurs between arms and body; and in 55, the feet are flat and evidently intended to support the figure. In eight examples, while the legs are straight and separated, the feet are joined by a bar; in four specimens, either archaic or unfinished, the legs are not separated; in one instance the lower half of the figure is a cylindrical column without legs or feet; and in another the legs have apparently been broken off and the figure has been worked over. In two figures the arms are entirely free from the body, and in 11 others they are closely attached to it without perforation. In three figures of rather grotesque or archaic type, the feet are somewhat rounded, and the figure is incapable of independent upright position, and in the two specimens already mentioned the feet are missing. More than half of the figures, 31, are definitely female, while 13, or less than a quarter, are clearly male. The sex of 14 is not indicated, while two display characteristics of both sexes and might be considered hermaphroditic.

FEMALE FIGURES

The largest and most characteristic group consists of female figures which grasp their breasts with the hands of their flexed arms. Seventeen belong to this type, virtually all con-

¹ Hough, 1912, 113, Pl. 3, Fig. c.

² Lothrop, 1926, vol. 2, 286.

³ Spinden, 1943, Pl. 36b; Kelemen, 1943, vol. 2, Pl. 97c; Lothrop, 1926, vol. 2, Pl. 138.

forming to this general pattern. In two instances the space between the arms and body is not perforated; in two others, the feet are joined, though the legs are separated; and in one the feet are rather rounded. In the most carefully made figures the fingers are delineated as grasping and apparently squeezing the breasts between the thumb and forefinger. The personage represented may, therefore, be interpreted as a beneficent goddess of bounty, a maternal deity, offering sustenance to mankind. Even when the exact position of the fingers is not shown, the same concept may be assumed. The vulva is frequently indicated by a vertical incised line with a similar horizontal gash above it, and toes and knees are also generally shown. The facial features are usually rather rude, the nose and ears often in high relief, and the eyes most commonly quasi-rectangular with a medial groove. The head is occasionally bare, but more often the hair is indicated either by striations above a ring around the crown or by a cascade, depicted by parallel stripes, falling down the back to varying lengths between the neck and waist.

Virtually all are of a very homogeneous type, but a few deserve special mention. Number 7083 is very rudely executed and may possibly be from a more archaic period. Another (Pl. 36d) also displays archaic tendencies, while the figure shown in Pl. 37e is of a slightly variant

style of art. The eyes are oval, lacking the medial groove, and the crown of the head is covered with rectangular nodules made by a few deep grooves intersecting at right angles. The ears are unusually well portrayed.

Two figures (Pl. 38c, e), apparently hermaphroditic, are of a type similar to the preceding, but rude, massive, and with some archaic features. In one (Pl. 38e) the hands grasp small breasts in the typical manner, but a tiny penis is also portrayed. The legs are separated only by a depressed groove, and the workmanship in general is poor and rude. The second hermaphroditic figure (Pl. 38c) likewise displays rude archaic features, but is quite different from the foregoing, being tall and thin, instead of massive. The legs are long and completely separated, the thighs disproportionately short, and the lower leg long. The feet are relatively pointed, and the figure is incapable of standing upright without support. In general type it is similar to a figure (Pl. 39d) to be described later. Both female breasts and male sex organs are well portrayed. The arms are flexed, with the hands resting on the hips, and the facial features are rude and rather variant in type.

The second typical group of female figures, slightly different from the first, comprises eight examples. All have female breasts and, in almost all, the vulva and the upper limit of the mons

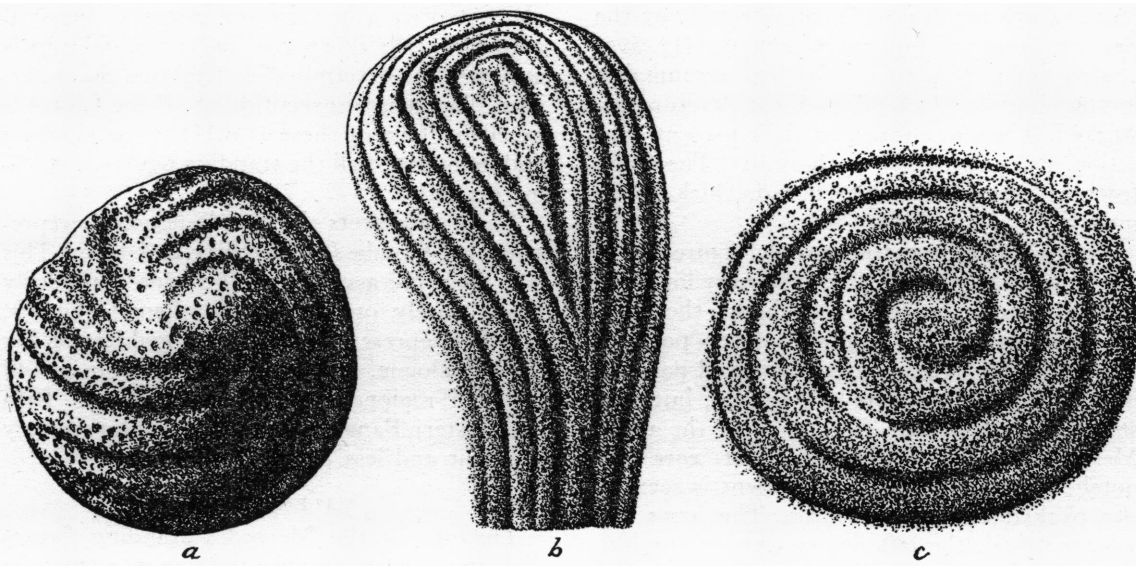


FIG. 20. Treatment of the crown of the head on female figures, Mercedes.

veneris are represented by incised lines. The arms are flexed, with the hands resting on the abdomen. Fingers and toes are shown in all the figures, and the legs are always separated, but in three instances the feet are joined by a bar, and in one of the latter the arms are not freed from the body (Pl. 38b). The facial features are always well delineated; the group, as a whole, is quite homogeneous and apparently the product of a uniform and probably later period of artistic development. In the majority of these figures the ears are large and naturalistic, the details being well depicted. In only one example is the top of the head plain; in four the hair is represented as falling in a cascade down the back, the striations being marked in three of these; in four instances the hair on the top of the head is shown as coiled or arranged in waves; and in two, apparently as a peaked cap ornamented with geometric designs (Fig. 20). All but one (Pl. 38a) are relatively large and made of grayish vesicular lava tuff; this exceptional piece is small and of a lighter-colored and finer-grained stone.

Five statues of unusual types complete the indubitably female figures. Two of these are small, grotesque, and archaic in type, and made of reddish pumice. Illustrated in Pl. 39b is one of the same general type as the group last discussed, with flexed arms, and hands at the hips. Breasts and vulva are well marked, and the striated hair falls to the neck. The facial features are regular and symmetrical, but the eyes are large and bulbous. One figure (Pl. 39c) consists of only a torso, the legs presumably having been broken off and the fracture reworked. The short arms, in their present condition, hang vertically to the waist. The facial features are rude with a broad, thick-lipped mouth.

Very similar in pattern to the figure in Pl. 38c is that shown in Pl. 39d. The very long legs have disproportionately short thighs; the knees are very high. The feet are rather pointed. Breasts and vulva are prominent and naturalistic. The facial features are regular, but of a style rather different from that of the usual Mercedes figure. The prominent ears are notched, and a geometric ornament is seen on the peaked top of the head. The arms are asymmetrical, the left one resting on the hip, the right flexed vertically upward.

Two female figures of especial merit are illus-

trated in Pl. 39a and e. The former is an unusually well-finished statue of fine-grained lava. Fingers and toes, vulva, facial features with broad nose, ears, and hair-cascade are all very typical. The arms are symmetrically flexed, with the hands at the hips, but the hands are asymmetrically placed. The second figure (Pl. 39e) is one of the best of the Mercedes statues in perfection of detail. The breasts, with the nipples marked, are especially well portrayed. Vagina, knees, fingers, and toes, the external malleolus, buttocks, and hair cascade are all shown. The facial features are inferior in execution to the rest; the head is small. Its most noteworthy feature, however, one observed on only the largest statues, consists of two curving decorative bands extending from the breasts over the shoulders and down the arms to the elbows. Each of these bands of three parallel rows of low-relief nodules probably represents bodily ornament, such as cicatrization, tattooing, or painting.

Three small broken figures from a locality probably other than Mercedes, though showing no definite female characteristics, may be considered females of the first or second group, because of their general appearance and certain specific details. Their arms are all flexed, with the hands over the breast region and with orifices between arms and body. The right leg of each is missing, but apparently all were separated, except in one where the feet were connected by a bar. In one instance, the striated hair falls down the back; this feature is apparently a determinative feminine characteristic. The general execution of all the figures is excellent. One of these (14611) is the smallest and daintiest of all the standing figures, 7 centimeters tall.

Lines¹ interprets the female figures as representing a Goddess of Fertility and Love. This is a plausible assumption, but one apparently based purely on speculation. Female figures, possibly representing the same goddess or her local analogue, are found in the Brunca and Chiriquí regions of southeastern Costa Rica and western Panama, but the art styles are very different and less naturalistic.

MALE FIGURES

Thirteen of the Mercedes standing figures display male sex organs, and one more may be

¹ Lines, 1942, 217-222; 1938a, 6, Fig. 3.

included, by inference, from accompanying characteristics. Of these, 10 carry severed human heads, two, weapons, and two others are empty-handed. All 14 figures have broad flat feet on which each can, with more or less difficulty, stand upright. In all, the legs are separated by an interstice, though in one the feet are connected by a bar, and in two others there are indications of the former existence of such a junction. Furthermore, in all but one figure, the spaces between the arms and body are perforated, and in this exception the position of the arms would not permit such an orifice.

In six of the 10 head-bearing figures, the severed head is held in both hands against the breast or abdomen. The upper arms are symmetrically flexed, but the lower arms and hands are naturalistically asymmetrical in all but one figure. Two are quite large and rude, having rather angular legs and facial features; the toes are not depicted and the hands are shown on only one, but in both, the crown of the head is decorated with an ornamental cap or coiffure, apparently one of the distinguishing characteristics of male figures (Fig. 21). In one of the most carefully finished of all the Mercedes

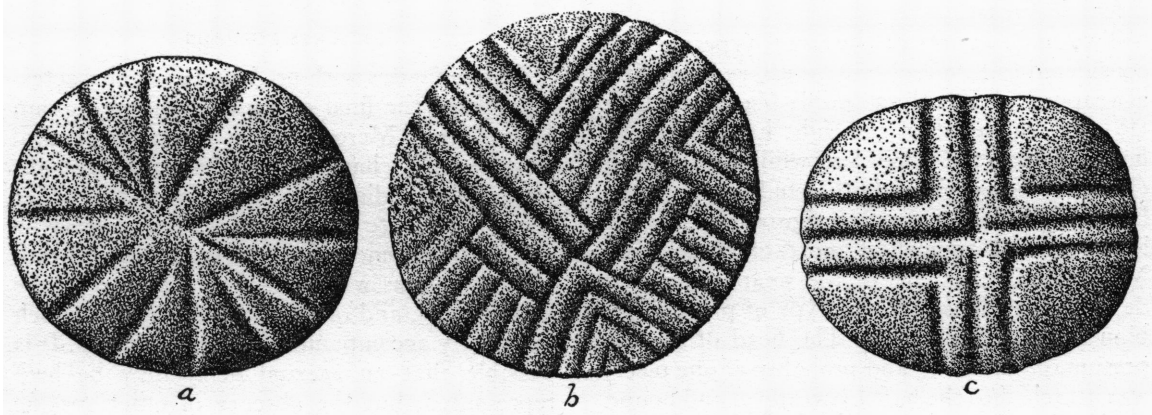


FIG. 21. Coiffure and headdress on male and asexual figures, Mercedes.

The 10 figures that bear human heads are among the most characteristic and interesting of Costa Rican statues. They, as well as the figures bearing weapons, doubtless portray either human or divine warriors. The head is almost certainly that of a slain enemy, indicating the practice of decapitation among the ancient inhabitants of Mercedes. The head carried is invariably much smaller than that of the captor, a characteristic which brings up an interesting question. This difference in size may be due to the tendency, almost universal in primitive art, to depreciate and minimize portrayals of the enemy while exaggerating those of the sculptor's people. On the other hand, it may be evidence of the aboriginal custom of shrinking human heads in a fashion practised today by the Jivaro and kindred tribes of eastern Ecuador. This is a point on which the accounts of early travelers to this region might shed some light, but apparently do not.

figures (Pl. 40a), the surface of the gray vesicular lava is evenly smoothed, and the body features are carefully finished with excellent details in low relief. A bar connects the ankles, lending strength to the legs. The crown of the head is covered with many small, low, even nodes, representing either coiffure or headdress. Number 14610 is very small and less noteworthy.

The other four figures carry human trophy heads in various positions. The figure shown in Pl. 40c holds a head in the left hand, against the left groin, the braided or coiled hair from the head extending across the breast of the figure to the right side of the neck. This position is identical with that shown on the great figure (Pl. 35b). A very small and admirable figure (Pl. 40b) carries the severed head on the back by means of a supporting cord or rope. Its two ends are apparently attached to the sides of the head, the rope then bending over the shoulders, crossing the breast diagonally like a bandoleer,

and looping around the back across the buttocks. The carving is quite superior. In two figures the head is held against the back by the coil of hair slung over the right shoulder and clutched by the right hand against the breast. The first (Pl. 41e) is rather massive and rude, with poor detail. The left arm, however, is unique; it is flexed with the hand uppermost, at the level of the shoulder, bearing in the fingers a short weapon. A more usual figure may be seen in Pl. 41a. The twist in the long strand of hair is very marked. However, the figure displays no male sex organs, and a projection near the neck may possibly represent a female breast.

Two male figures of the usual type may be considered as forming a subgroup, each holding a weapon, apparently a double-bladed ax. One (Pl. 41f) carries it in the right hand with the head against the shoulder, while the second (Pl. 41d) grasps it in both hands against the breast. Otherwise the two figures are almost identical and typical of most of those from Mercedes. The details of the weapon are well depicted and illustrate the type of pre-Columbian arms in this region. The head of the ax, presumably of stone and probably of one piece, was attached to the haft by wrapped and bound cords. The binding is portrayed in detail. Apparently the entire haft was wrapped with cord in a herring-bone technique; the same method was used to cover the middle section of the head and to hold it firmly in the haft. A similar hafting method for ax heads is practised today by many groups of natives in eastern South America.

Two variant figures complete the male group. Typical is a figure of unusually fine execution (Pl. 41c). While male sex organs are displayed, the arms are flexed with the hands on the breasts as they are portrayed in the female figures. The crown of the head rises to a peak, as if a cap were worn, though an arrangement of coiffure may be indicated. A very small and unique figure (Pl. 41b), though rather rude in detail, has the arms clasped behind the back, where the hands are bound together. Doubtless it pictures a prisoner of war. The head is surmounted by a turban-like headdress or coiffure with a depressed top and central core.

A unique and interesting variation of this type is shown by a sculpture in the National Museum in San José, Costa Rica.¹ Two male

¹ Kelemen, 1943, vol. 2, Pl. 97c, d; Lines, 1938a, Fig. 4.

figures with linked arms compose the group, 36 centimeters high. In their other arms one man holds a weapon, the other a severed human head.

Lines² believes that the standing male figures, especially those holding the severed human heads and a weapon, represent a sacrificial priest.³ It is more likely that they denote a deity, analogous to the female figures. Male figures, presumably of deities, occur in the Brunca and Chiriquí regions, but are of a different style, artistically much inferior to those of the Güetar, a type which does not transcend that limited area.

SEXLESS FIGURES

Eleven figures with no definite sex characteristics form the final group of standing human figures from Mercedes. By no means homogeneous, it is characterized mainly by the absence of the diagnostic details of the other groups. Thus, to the lack of sex organs may be added the absence of the severed human head, of the weapons which seem to characterize the male figures, and of the long falling hair which frequently accompanies the female figures. It is possible that an asexual deity may be here represented, but the absence of other specific and determinative criteria renders this assumption incapable of proof.

In seven of the figures, the legs are completely separated, and one of the remainder is apparently unfinished. In only four instances, however, are the arms separated from the body by perforations. The feet are almost always broad and flat, as if to permit the figure to stand upright; fingers and toes are normally shown. Caps or casques with decorative designs are frequently depicted on the crowns of the heads. The facial features are, on the average, better delineated than in the majority of figures of the other groups. The proportion of occurrence of oval-shaped eyes without a medial groove is higher, but a few of the specimens have eyes of the more common quasi-rectangular type. The position of the arms and hands is very variable.

Of the four rudest of these figures, only one is illustrated. The first (7097BM) is small, simple, cylindrical, the columnar torso being unmodified to represent legs and feet. The rude

² Lines, 1943b; 1938a, 7, Fig. 4.

³ See also Lothrop, 1926, vol. 2, Pl. 205.

head lacks detail; the roughly formed arms are flexed, with the hands under the chin. The figure shown in Pl. 42a, however, is well conceived, but very rude and poorly finished. No groove separates the legs, and the feet are joined into a broad base on which the figure rests. Both arms are flexed in an anatomically impossible position, with the hands behind the head, but asymmetrically, the left arm bearing an object, possibly a club, behind the head. Of two figures in this group, neither illustrated, one (14432BM) is small and has archaic tendencies. The legs are in a single block, and the low-relief arms are flexed with the hands under the chin, with no perforation between the arms and body. A larger specimen (13190BM) is similar to the most typical female figures, except that the breasts are absent and the arms flexed across the abdomen, with the hands slightly asymmetrical in height.

Three other asexual figures are more or less typical, with flexed arms and hands resting on the front. In one (1678BM) the arms lie asymmetrically on the abdomen, but in the other two they are in the more common breast position. In each, low-relief decoration is carved on the top of the head, apparently to represent a head covering (Fig. 21). The external malleolus is one of the unusual details of No. 1678BM. In the most variant (1676), there is no perforation between the flexed arms and the body. The ears and facial features are especially well carved; the eyes are oval and lack the medial groove.

The last four asexual figures to be considered (Pl. 42b, c, d) are unusual with respect to arm position, but more or less typical in regard to legs and other details. All are of the art style of the first described (1676); the eyes are oval and without a medial groove, the ears flat, with the details naturalistically portrayed. The figure shown in Pl. 42c has the common decorated head crown, and in another specimen the crown is striated to represent hair. The arm position in each is variant; in the figure in Pl. 42c the arms are flexed behind the back, the hands meeting at waist level without any perforation between the arms and the body; the arms of the figure shown in Pl. 42b are flexed upward, the hands meeting asymmetrically behind the head; the left arm of another figure rests on the abdomen, while the hand of the right arm is raised to the mouth. No orifice exists between

arm and body in either case. In the figure illustrated in Pl. 42d, the right arm rests on the abdomen, while the left is flexed in an anatomically impossible manner, with the hand at the back of the head. The latter figure is unfinished—the features are merely roughly blocked out; the spaces between the legs and between the arms and body are unperforated, and the base is broad and not shaped into feet.

SMALL SEATED FIGURES

Small, seated, human or anthropomorphic stone figures are typical and characteristic products of the Mercedes site. All are made of volcanic lava tuff or pumice and are relatively compact in form. They rest upright on buttocks and feet, with the knees tightly flexed. Though varying from rude blocked-out forms to examples displaying technical and artistic excellence, their homogeneity is so marked that their contemporaneity and identity of origin are definitely indicated. The crudest figures are evidently either unfinished or examples of inferior workmanship of the same period as the finest objects. They range from 10 to 22 centimeters in height.

The seated figures are classifiable into two groups, those with crossed arms, the hands resting on the elbows and the arms on the knees, and those holding an object to the mouth with both hands.

Of the first group with folded arms, all the figures are definitely human (Pl. 43a-c). Eleven figures compose this group. The rudest figure (7110) has the typical form, but is merely blocked out and may be unfinished. In all the others, the interstices between the limbs are perforated, so that they stand out in full round. These finer figures display varying amounts of sculptural detail, including the delineation of the fingers and toes, the naturalistic male sex organs, spinal column, and naturalistic ears and facial features.¹

The small figures holding an object to the mouth compose a rather larger group, consisting of 19 specimens (Pl. 43d-g). For the greater part, these are inferior in execution to the former group, only two being comparable in merit to the majority of the others. More of them are ruder in execution, and the majority

¹ An unusually large and admirable example of this type from Rio Frio is shown in Kelemen, 1943, vol. 2, Pl. 96b. It is seated on a bench.

show effects of weather erosion and breakage. This physical differentiation between otherwise closely analogous figures is difficult to explain; it may possibly be ascribed to differences in utilization and consequently in preservation, or to dissimilarities in degree of veneration and consequently of care.

The lower limbs and torso are identical with those of the first group described. The elbows rest on the knees, but the forearms are bent upward, holding an object to the mouth. In most of the figures, this is held in both hands, but in four instances it is held in either the right or left hand, the empty hand grasping the wrist of the other hand. The object might be interpreted as a musical instrument, a cigar, or a piece of food. In the finer figures, wherever a definite form is shown, it appears as a thick, elongated, cigar-shaped object. In the best figure in the group (Pl. 43g), the relation of the hands to the object held is very uncertain, possibly due to conventionalization. The arms are apparently folded; a spirally twisted object extends from them to the mouth, though the object might be interpreted as the fingers of one hand, and the intertwined arms and hands as decorative ornaments on the arms. The heads are generally elongated, and the noses and eyes are frequently large, presenting a quasi-anthropo-zoomorphic appearance, in some specimens more definitely human and in some more animal-like. In several figures the crown of the head is surrounded by an incised ring, and in two instances it is decorated with geometric motives similar to those found on the best human heads.

Lines¹ believes that the seated figure holding an object to his mouth represents the curing priest or shaman, known as *tsügür*, *sukia*, or *isogro*, all variants of one native name. He is smoking a cigar or tobacco pipe, a common practice of curing shamans, and one confirmed for this region by historical reports. Lines believes that the shaman is deified, a Güetar Esculapius. This identification is most plausible, though the quasi-zoomorphic character of some of the faces argues against it. The spiral nature of some of the objects held to the mouth is very similar to cigars. Some former writers suggested that these figures are represented as playing flutes; another identification is that of an anthropomorphic jaguar deity in the act of

eating. These seated figures are very common to, and characteristic of, the Güetar region, but occur in none of the surrounding archaeological culture areas.

A few unusual and atypical seated human figures are included in the collection. One (Pl. 44c) is composed of two typical seated figures like those in the first group, joined back to back and made of a single solid piece of stone. The hands are clasped under the chin, one arm being missing, but there is no evidence of anything being held to the mouth. They are excellently made. On the tops of the heads are incised geometric designs, probably representing head coverings.

Another aberrant figure is shown in Pl. 44a. Its provenience is not quite certain, but all evidence points to Mercedes. The treatment, on the whole, is similar to that of the other Mercedes seated figures, but the head is relatively larger, the legs are disproportionately small, and the right hand rests on the knee while the left is raised to the mouth. The crown of the head is covered with geometric designs of fine, shallow, incised lines. The material is also of a finer-grained and lighter-colored lava.

The figure illustrated in Pl. 44b is certainly from Mercedes, of the usual style of treatment, but more variant in form concept. The human figure kneels on the left knee on which the left hand rests. The right leg is flexed, and the right hand is raised to the head. A band across the forehead may represent a carrying strap. The upper surface of the inclined head, neck, and shoulders is flattened off to a long plane, as if to support some object. Vertebrae and male sex organs are represented, and the general treatment is admirably naturalistic.

Two atypical stone figures, of uncertain provenience but presumably from Mercedes, complete this group. One, a rude figure of rough reddish lava (Pl. 44d), has prominent breasts which identify it as the sole female figure of the group. Legs are apparently entirely missing, though a raised ring around the base of the figure may represent them as flexed horizontally. The arms rest at the sides, and the hands clasp the basal ring at a point which probably indicates the knees. The interior of this ring is hollowed out to a considerable depth, thus strengthening the hypothesis of the leg position. The facial features are rude and the ears massive.

¹ Lines, 1938b, 407-431; 1938a, 19, Fig. 5; 1934, 75.

The only one of the group with definite archaic appearance (Pl. 44e) considerably resembles the archaic figure from Lagarto (Pl. 61a). It is not impossible that it may also be from this locality, since the provenience is uncertain. It is a small, compact, seated figure of rough gray porphyritic lava. The proportions are grotesque, the low relief arms being folded behind the flexed knees. A large hump on the back probably represents either a burden or an infant. The face is upturned in a manner characteristic of archaic figures, and the eyes and nose are large and bulging.

HUMAN HEADS

Sixty-three human heads, all carved in grayish or reddish tuff, lava, or pumice, are in the Keith Collection. The majority were doubtless made as independent heads, the necks being thick, cylindrical, and with flat bases on which they can rest in a natural position. In a minority, however, the necks have irregular bases, and apparently were broken from larger figures. A few are cut off sharply at the chin, the assumption being that heads broken from figures were later reworked and the fractures worn down evenly so that they could be used independently. Some of the first class may also belong to this category, but as there seems to be no clear type distinction between the independent heads and those broken from figures, it is impossible to distinguish them.

The independent heads average larger in size than the heads of figures, but considerable variation exists, since they range from 6 to 18 centimeters in width. Their variation in quality is equally great, and they may be graded from rude and plain to excellent specimens displaying considerable detail. To some extent, quality of workmanship and quantity of sculptural detail are correlated, the plainer heads being normally the ruder, the more ornate examples the better executed. However, a fair number of plain specimens display workmanship superior to that observable in more highly ornate pieces, and neither feature can be taken as a criterion for classification. It is a natural assumption that the plainer and ruder heads belong to an earlier and more archaic period than the finer, more elaborate examples. However, such is the relative homogeneity of the entire group that it is an inevitable deduction that the developmental period was rather brief, and, furthermore, that

the variation in quality is due to individual differences in skill among contemporary artisans.

While no definite criteria for grouping the heads into types are evident, a classification founded on eye form affords the most satisfactory basis. Also, this division by eye form is more or less correlated with quality of workmanship and quantity of detail, and therefore, presumably, with temporal development. Three principal eye types may be distinguished: plain oval, grooved oval, and depressed. Plain oval eyes are naturally the simplest concept and one usually associated with stone figures of the archaic cultures in Mexico and elsewhere. Since none of the heads with this type of eye in the present collection is of the finest grade, it is a natural deduction that they are, actually, the more primitive. The heads with grooved eyes range from very rude and plain to excellent and ornate and may be considered the more typical. Most of the complete figures have eyes of this type. In this group also are all the heads that are obviously broken from figures. The depressed eyes, on the other hand, are found in only a few of the finest heads and may be considered the culminating form.

Thirty-three heads, a bare majority of the total, comprise the type with oval eyes. All of these have short cylindrical necks with flat bases and are remarkably homogeneous in size and workmanship. None is especially large, carefully executed, or finished with a great amount of detail. On the other hand, none can be considered as truly archaic. The eyes are normally oval, convex, and rather large; the noses are rather high and grade from thin to broad. The mouths are normally raised with a medial groove which produces two thick lips. Eyebrows are frequently delineated by a groove above the eyes concentric with the upper eye border. The ears, on which a secondary classification is based, vary from plain and protruding to naturalistic and flat. A bare majority of the crowns of the heads are decorated with relief designs.

The rudest head of this group is rough and earless, and has neither eyebrows nor crown decoration. Nevertheless, the surface is regular and finished throughout. In the next subgroup, consisting of six heads, the ears are more or less naturalistic, and the eyebrows are delineated in the majority, but the crowns are plain and the general appearance is rather rude, due largely

to the roughness of the vesicular lava employed. Two similar heads made of reddish pumice are of somewhat superior workmanship. Of seven heads with plain crowns which may be considered the best made, two are illustrated (Pl. 45a, b). Their ears are portrayed and generally well made, and in all but one head, the eyebrows are delineated. The superior quality of

the workmanship was largely facilitated by the finer grain of the gray vesicular lava employed.

The 17 heads with oval eyes and decorative coronal designs differ in no important respect from those with plain heads, though the quality of workmanship may average a trifle better. In the rudest head (6824) the design is, unfortunately, broken away. Another has large eyes,



FIG. 22. Variation in representation of the crowns on independent human heads, Mercedes.

raised ears, and hair represented by a few broad parallel strands on the top and back of the head. To some extent all of these have jaguarean characteristics. The heads shown in Pl. 45c and Fig. 22a have similar eyes and ears, a circular decorated boss on the top, and a low-relief crescentic ornament or object on the cheeks, extending from the eyes to the ears. Three heads are rather rude and possess no especial merit, except for the head crowns (Fig. 22c, d, e) and a more naturalistic and human appearance of the ears. Another slightly variant head (Pl. 45d) is made of a lighter-colored grayish lava, and has large protruding ears and

large and the ears small, outstanding, and placed high on the head, producing a distinct jaguarean appearance. The crown of the head has the usual decorated boss.

Of the remaining 30 heads, eight are independent with grooved eyes, six are independent with depressed eyes, and 16 are broken from figures. The independent heads with grooved eyes are virtually identical in other respects with the heads with oval eyes, the workmanship ranging from poor to good. The crowns of some are plain, while others are ornamented. One, however, is distinctive and of a grade of excellence not approached by any of the former

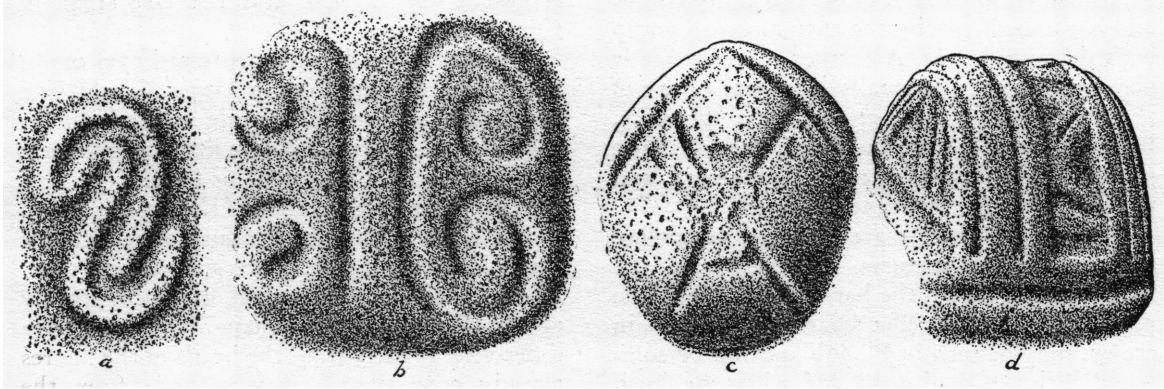


FIG. 23. Coronal ornamentation of independent human heads, Mercedes.

a conical headdress. The workmanship, however, is rather rude. Four others are slightly superior with respect to facial features, but the ears are large, human, and well conceived and the ornamental crowns well decorated (Fig. 22f; Pl. 45e). The best quality of craftsmanship in this group is exemplified by the heads shown in Fig. 22h, i and Pl. 45h. In addition to the usual characteristics of facial features and ears and coronal decoration of superior quality, all these heads portray the curving wrinkle from the base of the nose over the mouth to the angle of the jaw. In Pl. 45i the nostrils are well carved. The head shown in Pl. 45h is of a smooth-grained dark lava and closely resembles that represented in Pl. 46b, to be considered later, differing from it mainly in eye shape; the latter head also possesses the mouth wrinkle. It is evident that these two heads had a common origin and that, therefore, the manufacture of the two types of eye form were, to some extent at least, contemporaneous. The eyes of the head illustrated in Pl. 45g are unusually

type. The eyes differ in that the oval center is traversed by a thin, striated, horizontal groove.

Two other heads are severely plain, with undecorated crowns. The form and finish, however, like that of the rudest of the former type, are probably as good as the coarse-grained lava employed will permit. The ears of one are protruding, of the other, flat. In no degree superior, the head represented in Fig. 23a has an interesting double-scroll decoration carved in low relief on the top. The heads shown in Fig. 23b and c are rude as regards facial features, but contain coronal ornamentation of the usual type.

Six stone heads may be segregated into a single subtype (Pl. 46a-c) in which a correlation of material and technique is observed, indicating a homogeneous origin. Nevertheless, this grouping cuts across the classification adopted on the basis of eye form. Eyes of apparently all three types are found in this small group, suggesting that the eye-form classification cannot be accepted as completely indicative of tem-

poral or local unity. The head shown in Pl. 45h, already considered (p. 267), has plain oval eyes. In the next three specimens, the eyes each have a medial groove, and in the final pair, the eyes, though unfinished, are apparently depressed. The characteristic feature of this group is the material, a very dark, almost black lava of very fine grain. The unusual fineness of this medium, which has been fully utilized, permits a superior refinement and finish in the sculpture. These characteristics are identical with those of Group 5 of the jaguar metates (p. 228), indicating a community of origin.

The quality of carving and finish of these heads is superior to that of the preceding groups and is equaled only by the ensuing small group with depressed eyes. A further resemblance is observable in the unusually large size of one of the heads. Both latter groups may, therefore, be considered as products of the ultimate period in the development of Güetar art, and presumably contemporaneous.

The finished heads are alike in possessing excellent facial features and ears and the wrinkle groove from the base of the nose to the angle of the jaw. The coarsest, with plain crown, may be seen in Pl. 46b and can be compared with the head in Pl. 45f, while the finish and workmanship of another are superior, and the coronal decoration is very detailed. In quality of art, size, and type of coronal ornamentation, the head illustrated in Pl. 46a equals those with depressed eyes and is far superior to any other head of the oval or grooved-eye type. The naturalistic ears deserve special notice. A very similar head from an unknown locality (30-8458) is in the Museum collection. The unfinished heads (Pl. 46c and 7125BM) are also large. The ears are large and flat, the mouths projecting, and the eyes somewhat depressed, but all the features are only rudely blocked out, with no distinctive details.

The most homogeneous group of Mercedes stone human heads is represented by four specimens (Pl. 46d, e, f, h). These are also the largest, most striking, and, in many respects, the finest in the collection. While less naturalistic and somewhat more grotesque than several of the other heads (Pl. 47d, e), they exceed the latter in size, sharpness of relief, wealth of detail, and excellence of finish. The material is a light gray volcanic tuff. The eyes are oval and deeply depressed, suggesting that eyeballs of

another material had been cemented in the cavities, a technique that attained considerable vogue in Mexico. In three of the heads an inner ridge at half the maximum depression represents the eyelids and, in the fourth, an inner central depression forms the eyeball. The large noses are high and aquiline, with broad high nostrils. The mouths are projecting; two are shown partly open, with the regular teeth well displayed. The protruding ears are of natural size, with the details carved in slightly conventionalized fashion. The heads are crowned with quasi-hemispherical caps or coiffures decorated in low relief. These heads probably represent the highest and the last stage in Güetar sculpture.

Among the heads with depressed eyes one is small and broken from a larger figure. The facial features are rather rude and, except for the shape of the eyes, it bears little resemblance to the other four heads of this type. The small ears protrude, and the top of the head is plain.

The heads broken from figures are, with the exception above noted, of the grooved-eye type. The eyes are generally oval, but occasionally approach a rectangular shape. Naturally they differ very slightly from the heads of the figures already considered and vary little from the independent heads. One difference, which may be significant, is that the ears of all protrude, in contrast to the ears of the majority of the independent heads which are flat, large, and naturalistic.

Two heads (1719BM and 1720BM) are rude, plain, and broken. Another is crude and battered, but retains traces of the cascade of hair down the neck so frequently found on female figures. Number 1716BM is of a similar type, but well executed and preserved. Number 6893BM is a much smaller and better-made head of the same type; the details of the ears are well shown. In two small well-made heads (Pl. 46g, i), of uncertain provenience but of Mercedes type, the bases are carefully smoothed off from the chin to the occiput, the neck being entirely lacking and the face tilted upward at an angle. In the first head (Pl. 46g) the top and the ears are plain and the eyes rectangular. The second (Pl. 46i) is unusually well made, with excellent facial features, perforated ears and head decoration, largely composed of cross-hatching and probably representing hair, from the forehead to the neck.

Two additional heads, excellently conceived and fairly well executed, but in poor condition, are shown in Pl. 47a and Fig. 23d. The first has the typical feminine hair-cascade down the back of the head, but a forehead ornament consisting of a central disc, apparently with a human face in relief, flanked by two radiating plumes which may represent feathers. The second head, of which only the crown is illustrated (Fig. 23d), is decorated with a headdress or coiffure, which may represent a cap like that now worn by the Arhuaco of the Sierra Nevada de Santa Marta in northern Colombia, extending to the forehead in front and to the base of the head in the back. The ears are perforated, probably for the attachment of earrings. The heads illustrated in Pl. 47b and c are better preserved. Both are surmounted by headdresses or caps extending to the forehead. The crowns are peaked, with a conical protuberance possibly representing the point of the knitted cap. One cap (Pl. 47c) is highly ornamented with geometric designs; the second (Pl. 47b), with plain parallel spirals. The ears of the former are perforated; those of the latter are large and somewhat naturalistic.

A slightly different type of eye form is represented in the unusually large and excellent heads shown in Pl. 47d, e. Instead of a groove through the oval eyeball, an interior concentric oval has been carved to represent the eyelids and eyeballs. These two are by far the most naturalistic of all the Mercedes heads, especially that represented in Pl. 47e, and may be considered representative of the culmination of Güetar art of the latest period. Furthermore, their unusually large size connects them with the large independent heads of the depressed-eye type and with the large, fine, black head illustrated in Pl. 46a. The head shown in Pl. 47d has a decorative headdress similar to that on the first head in the plate (Pl. 47a), with a central disc and flanking plumes, a well as a protuberance at the apex. The ears are perforated. This apical protuberance also occurs on another head (Pl. 47e), but the entire hemispherical headdress is covered with a diamond pattern in unusually high relief, resembling a head net. The finish, however, is somewhat inferior to that of the other massive heads.

Two heads of a decidedly aberrant type are represented in Pl. 47f, g. These are of uncertain provenience and may not be from Mercedes,

though other heads and figures in this number sequence are very typically of the Mercedes group. They are of reddish, light, coarse-grained volcanic pumice and are rather grotesque, with a somewhat archaic appearance. Both are tall in comparison with their width and length. The head shown in Pl. 47g is ruder than that in Pl. 47f and somewhat battered. The eyes are oval-grooved, the ears perforated, and the head is covered with a headdress or coiffure of unusual type, with a median wide high relief band, like a Plains Indian roach or scalplock. The second of these two atypical heads (Pl. 47f) is tall and narrow, with rectangular grooved eyes, perforated ears, and a high conical headdress with excellent geometric relief decoration.

The representation of human heads, independent from the body, is a very rare concept in aboriginal American art, either in stone or in pottery. In the Isthmian area they seem to be restricted to the Güetar region and to be absent in the Nicoya, Chiriquí, and Coclé areas. They are not, however, limited to Mercedes; Hartman excavated a few at Chircot and Orosi.¹ It is not unlikely that these heads are portraits; Lines² believes that they represent chiefs.

SMALL ANIMAL FIGURES

Five small anthropomorphic animal figures of two distinct types form a noteworthy group of Mercedes stone sculpture. One (Pl. 49a) is of distinctly anthropomorphic form and resembles some of the foregoing human figures. It is very small, 13 centimeters high, and made of a very rough, light red volcanic pumice. The short legs are massive, angular, with the space between them barely perforated. The feet are joined in a broad rectangular base. The arms are flexed, with the hands at the groin, only one being freed from the body by an orifice. The facial features are barely indicated, but are distinctly jaguarean, with short high ears. The figure may be unfinished.

Another figure (7114) is rude and archaic. The legs and arms are missing, but the general shape was apparently anthropomorphic. The large head has massive thick projecting ears;

¹ Hartman, 1901, Pl. 24, Fig. 4; Pl. 50, Fig. 1; Pl. 55, Figs. 2, 3; Pl. 69, Figs. 1, 2. See also Lothrop, 1926, vol. 2, Pl. 188c.

² Lines, 1939, Fig. 6; 1941.

the mouth is indicated by a broad groove and the eyes are represented by rude depressions. Doubtless a jaguar was intended, but the result is unusually rude.

Three admirable small sculptures are shown in Fig. 24a-c. The general form is anthropomorphic, but in each a thick, long, free tail curls upward to the height of the head. The legs and arms are relatively human, with fingers and toes represented naturalistically. In the first figure (Fig. 24a), all the anatomical details, except the tail, are quite human; the

domen is broad and protruding. The continuous curve from the neck to the tip of the tail produces a distinctly animal appearance, simian, jaguarean, or bird-like. In the first of these two figures (Fig. 24b) the left arm is flexed, with the hand under the chin. The right arm is raised and the hand, parallel with the top of the head, holds a club or other object behind the head, the top of both being flat and at the same level. The facial features are grotesque and heavy, but anthropomorphic or simian ears, fingers, and toes are well executed. The flat top



FIG. 24. Anthropomorphic sculptures with upward curving tails, Mercedes.

facial features and ears with earplugs are especially well executed. The feet are not flat. This is one of the very few known Mercedes figures with feet of this type. The figure supports itself only on the tripod formed by the tips of the toes and the curving tail. The right arm is flexed, with the hand at the right shoulder. The left arm extends backward in an impossible attitude and joins the end of a long thick queue of hair extending outward from the back of the head. The queue and the arm form a semicircle separated from the head and body by a wide orifice. The coiled hair on the crown and the straight striations on the queue are well portrayed.

In the other two figures (Fig. 24b-c) the ab-

of the head and the under side of the tail are decorated with intertwined rectangular geometric designs in low relief. These two figures are made of a fine-grained volcanic tuff. The last figure in this series (Fig. 24c) is somewhat larger, ruder, and made of reddish porphyritic lava. The elongated head, oval eyes, flat long nose, and short ears produce a jaguar-like appearance. The arms are flexed, the right hand rests on the protruding abdomen, while the left hand is raised to the mouth.

One of the finest examples of Güetar stonework, a shallow bowl in the shape of a crab, is shown in Fig. 25. This is of dark gray fine-grained lava, the same material employed for the choicest human heads and apparently re-

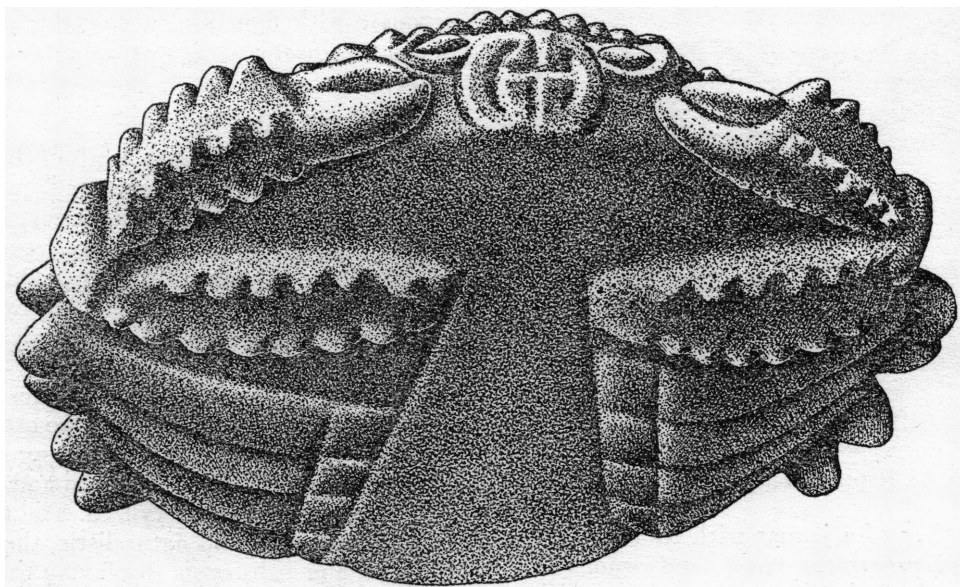


FIG. 25. Shallow bowl in form of a crab, probably ceremonial, Mercedes.

served for the superior products of Mercedes handicraft and, presumably, in the latest and best period of artistic development. The bowl measures 20 centimeters long by 15 wide and 5 high, and has approximately the shape of a crab's back with lateral points and convex front and back. Its central depression is approximately 2.5 centimeters deep; the rim is rather thick. The latter is surrounded by a scalloped edge to represent the points of the crab shell. The sides and base are carefully carved in relief to represent the legs, claws, and head of the crustacean in naturalistic, though slightly conventionalized, form. Four legs and two claws are shown in relief on the base which is covered with spines. The ends of the legs may be seen at the sides, the claws in front, where an anthropomorphic face is also portrayed. The back is decorated with an up-curved posterior pair of legs.

Doubtless this was a ceremonial or sacrificial bowl, used in religious observances. An object of such excellent workmanship, requiring so large an expenditure of labor with primitive stone tools, would, in all probability, be made only for a religious purpose. However, the crab is seldom deified or represented in aboriginal American art, and seems to be restricted to the area between Nicaragua and Peru, where apparently a crab god was recognized. Anthropomorphic crab gods are depicted on Chimu

pottery vessels from the northern coast of Peru, and on textiles from farther south. They form a prominent motive on Coclé pottery,¹ as well as in effigy form, and are also portrayed in Isthmian goldwork. A relief sculpture of a crab deity has been found at Baúl, in western Guatemala.²

Two small figures of general reptilian form, rather similar in concept and quasi-naturalistic, complete the list from Mercedes. One (Fig. 26b) clearly represents a crocodile. The head is large, broad, and flat, and the nasal ridges, the bulges along the edge of the upper lip forced up by the lower teeth, the prominent teeth, the lines of serrated scales on the back, the short legs, and the massive curving tail are all well portrayed. The head closely resembles that of the great anthropomorphic figure (Pl. 35b). The tail is unnaturally short and turned to one side, while the head is bent to the opposite side. Another (Fig. 26a) is very similar in general shape; the body is long, with a massive short tail turned to one side, while the head is oriented in the opposite direction. The legs are similarly short. The resemblance ends with these general analogies. The high peaked head of this reddish pumice figure more nearly re-

¹ For a thorough study of the crab element in this region, with many footnote references, see Lothrop, 1942, part 2, 41-43. See also Lothrop, 1926, vol. 1, 169-171.

² Thompson, 1943, Pl. 10a.

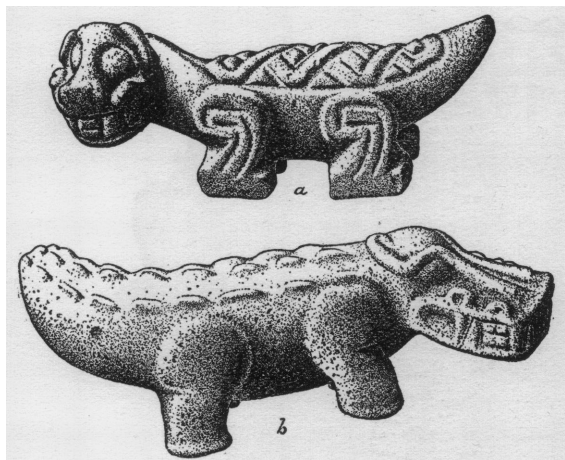


FIG. 26. Reptilian sculptures, Mercedes.

sembles that of a jaguar with its round eyes, large and prominent teeth, and semicircular ears. The body is distinctly reptilian, with a short, massive, crocodilian tail, short and conventionalized feet, resembling a figure 2. The top of the neck and the back are decorated with interlaced rectangular designs. It may possibly portray a mythological composite animal whose import has long since been forgotten.

The crocodile (or alligator) is not important either as an art motive or as a religious concept in the Güetar region, or apparently in the archaeological areas farther north. The same is true of the greater part of South America. The center of the crocodile worship seems to have been in Panama, especially Coclé, though the peripheral areas of Colombia and Costa Rica participated in this trait. A probable connection with draconic forms, especially crested dragons,¹ may carry the concept much farther to the north and south, from southern Peru (Nazca) to southern Mexico. Stylized crocodiles carved in shell are very characteristic of Santa Marta, Colombia.² One of the classes of Chiriquí pottery is known as "Alligator Ware" from the saurian painted motives that characterize it. Crocodile figures in gold are known,³ but are not common in Chiriquí; they are more frequent in Veraguas gold work. At Coclé, most of the great gold plaques are decorated in

¹ For a detailed study of crocodile and dragon elements, see Lothrop, 1937, part 1, Figs. 84-89 *passim*, 113-125; 1942, part 2, 38-40; 1926, vol. 1, 172-180.

² Mason, 1936, Pls. 133-135.

³ Holmes, 1888, 48, Fig. 39; MacCurdy, 1911, Figs. 349-351, 365-368.

repoussé with figures of a crocodile god, and one of the finest gold figure pendants represents a crocodile.⁴

JAGUAR HEADS

In addition to the jaguar heads of the typical Mercedes metates, a few separate jaguar heads are found in the Mercedes collection. Like the human heads, these are of two types, either broken from metates or independent. They differ in proportionate quantity, however, from the human heads, only two independent heads having been found.

Seven heads broken from metates are included in the Keith Collection. Two others may be from metates in other collections in the Museum. Three of these are plain and naturalistic, though somewhat stylized. The faces are long, the ears low and naturalistic, the nostrils broad, the mouths open, displaying the prominent canines, and the eyes are large and oval. The whiskers are depicted on one head (Pl. 48a), but absent on the others. The fracture has been worked over and smoothed in one of the heads (7140), but is untouched in the others. Somewhat larger and superior in type is the head shown in Pl. 48b. The nostrils are small scrolls, the place at which the upper lip is forced up by the point of the lower canine is depicted as a hemispherical knob, with three concentric semicircular rings, and the incisors and molars are rectangular. The ears are missing.

Though somewhat weatherworn, the heads shown in Fig. 27a, b represent the most ornate types of jaguar metate heads. Of large size, all the natural characteristics found on the other specimens are here displayed as well as geometric designs in low relief. In the smaller specimen (Fig. 27a) rectilinear and rectangular decoration is confined to the top of the head and the neck. The larger head (Fig. 27b) has a rosette pattern on the neck and top of the head, with ramifications of slightly different type on nose and cheeks.

An unusual type of jaguar head is represented in Pl. 48d. The form is relatively oval, the face high; the ears are low, and the eyes depressed. Canines and other teeth and whiskers are shown, but less naturalistically than in some of the other heads. An ornamental design is engraved on the top of the head and probably

⁴ Mason, 1943, Fig. 36.

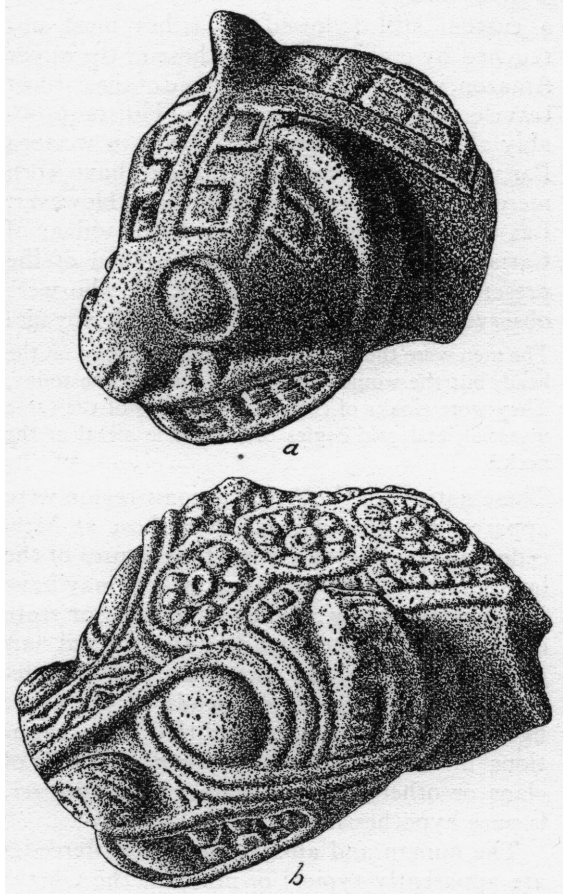


FIG. 27. Ornate jaguar heads broken from metates, Mercedes.

originally extended back to the now missing neck.

Only two jaguar heads (Pl. 48e and c) are independent and probably were never parts of metates. Both have short, cylindrical, well-made necks, with a flat base parallel to the main axis of the head, so that they rest firmly in natural position with the mouth forward. Both are stylized naturalistic and rather plain, without ornamental design. In point of size, however, they differ immensely; the head in Pl. 48e is massive, the largest head of all, 28 centimeters long by 23 wide and 19 high, while that in Pl. 48c is tiny, less than 5 centimeters in any dimension. The latter is daintily naturalistic, though somewhat weatherworn, and has no careful details or points of merit, while the large head is admirable in conception and finish, naturalistic, though somewhat conventionalized.

UNUSUAL STONE FIGURES

A few stone figures of unusual types remain to be considered. Number 1731BM is apparently an animal head so absolutely untypical of Mercedes as to suggest either importation from another locality or an error in provenience. However, since its art style is archaic and not typical of any other known locality, it may probably best be considered as archaic, made in an early period of stone sculpture before the stylistic peculiarities of art and technique had become stabilized. It is a rough, thin, quasi-oval piece of coarse sandstone or fine conglomerate of irregular thickness; one of the few, if not the only piece from Mercedes not made of igneous rock. Though rude, it is quite symmetrical, the head being mainly in profile. A long, broad, deep groove represents the mouth; other broad but shallower depressions depict the eyes; and troughs and grooves delineate the nose and nostrils. The general finish is rough, and the animal represented is difficult to identify.

One of the legs of a fragmentary metate or table (Pl. 49c) is carved in low relief on the front face to represent a female human figure. This is in typical Mercedes style, the arms are flexed, with the hands on the abdomen below the breasts. The carving is rather rude and the finish poor. It probably belonged to a specimen very similar to the oval seat shown in Pl. 24b.

A statue of most unusual type is shown in Pl. 49d. Its provenience is uncertain, but the general style of art is quite similar to that of Mercedes. The object resembles a miniature totem pole, cylindrical or columnar, and is made of coarse vesicular lava. A ferrule of twin rings surrounds the base, and it is surmounted by a crown with radiating grooves. Twin figures in low relief are engraved on opposite sides, one above standing on the head of the figure below. The two on one side are rude asexual figures with arms flexed and the hands at the groin, while those on the opposite face are apparently male, one with the hands at the groin and the other at the breasts. The details are poor, and the finish is very crude. Its purpose is very uncertain. The object is too heavy and the circumference too great for it to have been employed as a baton or scepter, though it may have been used ceremonially. It will not stand upright, but may have been placed in the ground or perpendicularly in a specially prepared niche.

Human stone figures with tenons for support in the ground are not characteristic of any area in Middle America, but are found sporadically from Guatemala south. Probably the greatest number at one site were found by Verrill¹ in the first excavations at Coclé, though none are known from the type site of Sitio Conte.

An object which may be a fragment of a column similar to the above (Pl. 49b) is also of uncertain provenience. The same inverted conical crown with radiating grooves and concave upper surface surmounts the head. Below the crown is an animal head with long projecting snout, large mouth with prominent teeth, round eyes, and very large protruding ears with drilled orifices. The opposite side is cylindrical and plain; the rest of the column is missing.

Except for the massive statuary, human and animal, which stood above ground on ceremonial sites, all the stone figures were found in the graves with the pottery and other mortuary objects. Whether some of these figures represent the image of the person interred is doubtful; the absence of distinguishing divine attributes suggests that this might be the explanation. More probably, however, they all represent divinities and may have been the household idols of the deceased. Unfortunately, the deities of the ancient Güetares are not well known, and the figures are difficult to identify. A fertility goddess and a god of war seem to be two of the principal divinities. A curing god may be a third. Others, or possibly the same deities, are often portrayed in zoomorphic form, most frequently the jaguar, occasionally the crocodile or other animal.

From the human images a few deductions may be made concerning dress and ornamentation. Most of the figures show no attire. Ornamentation is confined to the top of the head; whether this represents types of coiffure or head covering is uncertain. This absence of clothing,

a custom still followed by tribes most untouched by civilization, like those of the upper Amazon, is substantiated by some of the earliest travelers. Thus in the province of Huista (probably the Chiriquí region of David in western Panama) the women are reported to have worn merely a loin truss, the men nothing. However, Las Casas says of the natives of the village of Cariari, probably in the neighborhood of the present city of Limón, Costa Rica, who were observed by Columbus on his fourth voyage: The men wore their hair braided and wrapped on the head, but the women short, like that of men today. They wore cloaks of cotton and jackets of the same material, and gold eagles of low-grade metal at the neck.²

These natives of the Atlantic coast region were apparently better dressed than those at Mercedes, as exemplified in the stone figures of the latter, although the cloaks or jackets may have been extraordinary regalia donned only on state occasions. The note regarding the braided hair done up on the head, however, probably accounts for the decorated heads of the stone figures. It has been suggested that these variations in head decoration may be insignia of clans or other social divisions; this, however, is pure hypothesis.

The human and animal figures of Mercedes are apparently typical of much of the Güetar region, and identical specimens were found by Hartman at Chircot and other localities. They are, however, quite different from those of the peculiar localized type of the Las Pacayas-Capelladas region not far distant. The type of figure found in the Chiriquí region of western Panama and in the Quepo and Coto regions of southern Costa Rica, as exemplified by the specimens from Palmar and Buenos Aires, is also quite different from the Mercedes figures, and those from the Chorotegan region of the Nicoya Peninsula are entirely different.

CENTRAL HIGHLAND SITES

CARTAGO AND CURRIDABAT

Cartago and Curridabat are cities or towns in the central part of Costa Rica, not far removed from San José, the capital; they are 15 kilometers apart and about 50 kilometers from

Mercedes. As these sites are in the center of the highland Güetar region, they may be considered

¹ Verrill, 1929, plates facing 76, 84.

² Las Casas, 1875-1876, vol. 3, [Book 2], 114: "Los hombres traian los cabellos trez dos, revueltos á la cabeza y las mujeres cortados, de la manera que los traen los hombres nuestros. Traian mantas de algodon y jaquetas de las dichas, y unas águilas de oro bajo, que traian al cuello."

as more typical of the Güetar culture, since Mercedes is in the Atlantic foothill region and possibly near the border of the Güetar and Talamanca regions. Since the Cartago-Curridabat region has long been settled and agriculturally developed, the pre-Columbian graves here have been much more thoroughly rifled than in the Mercedes district which was exploited comparatively recently and mainly by the United Fruit Company under the direction of Mr. Keith. It follows that archaeological objects from the Cartago region are much better known and more numerous in the museums of the world than those from Mercedes. In the collection under consideration, they constitute a tiny fraction of the total, and are of indifferent artistic and technical merit.

Owing to its small size and obviously fragmentary nature, it is impossible to treat the Cartago-Curridabat series as typical of the area and compare the culture it represents with that of Mercedes. Certain differences, however, are suggestive. The great slab altars and probably the very finest stonework are absent here. The ruder implements seem to differ somewhat, but in almost every respect the influence of the Chorotegan culture to the west appears, as would be expected, to be stronger. Thus both the knob type of club heads with a central shaft and the flat serrated type with a medial groove are apparently more common, and the Chorotegan type of celt occurs in greater proportion than at Mercedes.

In the opinion of a specialist in Costa Rican archaeology, Doris Stone,¹ the differences between the central highland area and the Mercedes district are not great. Metates and "portrait heads" are equally common and of similar techniques. Small human figures are rare in the central area, but large sacrificial bowls with jaguar heads and an outlet, presumably for blood, are found.

Only one object from Curridabat, a tripod metate (Pl. 50a), is in the Keith Collection. This is a massive specimen of vesicular lava, the shape being a modified oval rectangle with rounded corners. The interior is quite concave, reaching a maximum of 4 centimeters, the concavity being greater near the rim, the center nearly flat. This interior is smooth, although the general finish is quite rough, indicating that

it was actually employed as a metate. The rim is thick and massive, but irregular and broken. At each "corner," just below the rim on the exterior, is a horizontal knob, its purpose unknown. The three short, thick, cylindrical legs are close together near the center and slightly divergent; one is broken off close to the base and the fracture worn down.

The collection from Cartago is small and varied, and contains no specimens of much artistic merit. The ruder and more utilitarian objects differ little from those from Mercedes or, indeed, from the southern sites at Buenos Aires or Paso Real. Those that do have some artistic quality are in a style slightly different from that of Mercedes, tending a little more toward the art of the Chorotegan Nicoya region, and rather ruder. This must not be assumed to prove, however, that Cartago art is inferior to that of Mercedes, since the Keith Cartago collection obviously consists only of gleanings.

A tripod metate (Pl. 50c) is somewhat similar to the preceding specimen from Curridabat, and resembles Nicoyan and even Mexican metates more than those from Mercedes. It is rather large and heavy, of very rough black vesicular lava, with a poor finish. The interior is quite concave in both axes and worn smooth by use. The rim has a slight inclined pitch, like the Chorotegan and Mexican metates, is convex vertically on the high end, and somewhat concave on the other three sides. A slight marginal border rim is found on all but the lower edges. On the under edge are six decorated knobs, one at each corner and in the center of the long sides. The metate rests on three slightly diverging massive cylindrical legs.

One four-legged metate is in the Cartago collection (Pl. 50b). It is of coarse vesicular lava, low, and rather rude. The interior, smooth from use, is very slightly concave and surrounded by a narrow, low, marginal rim. The long sides are very slightly, and the short sides quite, convex horizontally, but asymmetrical. The side walls are almost vertical, but not wide; the under side is convex and somewhat thicker in the center. The four legs are thick, cylindrical, and well spaced, but very short and of uneven length, though without evidence of fracture.

Only one small, rude, zoomorphic metate of vesicular lava comes from this region (2842).

¹ Personal correspondence, 1944.

The shape is oval and the concave excavation 2.5 centimeters deep. The four legs are hardly more than knobs; between the terminal pairs are wider, flatter, plain semicircular knobs which probably represent either head and tail or twin heads. The finish is rude and the ensemble thick and massive. The dimensions are: 13 by 17 centimeters and 8 centimeters high.

Five objects with central vertical shafts are catalogued in this group, one with a wide shaft and thin walls, and four with narrow orifices and massive walls; the former may be a pot-rest ring, the others club heads, though in either case the exact use is conjectural. The pot-rest ring (Pl. 51f) is very rough and possibly unfinished, of coarse stone of generally circular shape and relatively thin walls. The diameter is less at the base, the specimen having a ferrule shape; the minimum diameter of the central orifice, 5 centimeters, is near the base. At opposite points on the side, just below the rim, four rude knob heads project 1.5 centimeters beyond the rim. These are rudely carved in what is apparently human form, but virtually only the nose and mouth are shown. The remainder of the side wall is carved in low relief to represent the limbs of these figures; the arms are joined into single bars, and the legs are flexed in stooping position, the bodies missing. Four are apparently club heads (Pl. 51b, c, d). The presence of comparatively so many club heads in the small Cartago collection, in contrast to the great Mercedes series, where they play a most trivial part, seems to indicate that these implements were far more common at Cartago. This is significant, because Cartago is considerably closer than Mercedes to the Nicoya Peninsula, where club heads are found in abundance and variety. It is possible, therefore, that the Cartago club heads were importations or trade objects from the Chorotegan region, as deduced by Hartman¹ who says,

On the uplands of Costa Rica . . . only a few clubs, shaped like rings or cog-wheels, have been here and there encountered. In the vicinity of San José there were exhumed during my last stay in an ancient burial-ground a few clubs of the type of those found at Las Guacas, which I procured. They had probably in olden time found their way to this place through barter.

It is noteworthy, however, that of the 50 club

¹ Hartman, 1907, 53.

heads figured by Hartman from Nicoya,² only three are of lava, the others being of finer-grained stones, better carved and polished, with the central shaft drilled, presumably with a hollow drill. Two of these three,³ of the cog-wheel shape mentioned by Hartman as typical of the central highlands, are in the National Museum in San José, and are roughly finished. All four of the Cartago club heads in the present collection are of gray lava with a rough finish, and with central shafts which were apparently not made by drilling. Moreover, the shapes of two of them are identical with the two figured by Hartman. The obvious deduction is that the rough, rude, lava club heads in which star or cog-wheel shapes predominate, their shafts not made by drilling, are native to the Cartago region, and that the two specimens corresponding to this type in the National Museum in San José were either wrongly ascribed to the Nicoya region or else taken thither in trade. The lava club heads from Cartago which resemble in biomorphic details objects of finer stone from the Chorotegan region may be ascribed to the influence of Chorotegan art on a neighboring people.

The object shown in Pl. 51d⁴ is a thin, nearly circular ring of vesicular lava with a small central perforation, apparently pecked through, with the periphery carved into 10 rude knobs or scallops. A smaller specimen (2838)⁵ of a little finer-grained stone and superior finish has a small central orifice. The periphery consists of three rows of small knobs, upper, lower, and central, the latter row being "staggered." It is broken on one side, but there were originally eight knobs in each row. The measurements are: diameter, 6 centimeters; height, 4 centimeters. Another club head is shaped like a massive seal finger ring, though with a small central orifice (Pl. 51b). The material is a dark gray vesicular lava. To one side, carved in high relief, is apparently the head of an owl, with large depressed eyes and a short beak. Hartman⁶ figures several objects from the Nicoya Peninsula which resemble it closely in style, though differing in material and technique. It may be considered, therefore, an artistic influence from the

² Hartman, 1907, Pls. 25-31.

³ Hartman, 1907, Pl. 31, Figs. 2, 3.

⁴ Cf. Hartman, 1907, Pl. 31, Fig. 2.

⁵ Cf. Hartman, 1907, Pl. 31, Fig. 3.

⁶ Hartman, 1907, Pl. 26, Fig. 2; Pl. 27, Fig. 5.

Chorotegan region. The last specimen (Pl. 51c) exceeds all the others in size, massiveness, rudeness, and coarseness of its vesicular lava. The central orifice is actually, though not relatively, large, smooth, and tapering from both ends toward the center, though without evidence of drilling. At the rear it is somewhat rectangular, but considerably elongated anteriorly and carved in the form of a grotesque prognathous head, with prominent chin, cheeks, nose, ears, supraorbital ridges, and sunken eyes. The general type of art is Chorotegan, several somewhat similar specimens being figured by Hartman,¹ and it may be considered as showing Chorotegan influence.

Two human heads ascribed to Cartago differ not only from each other, but more or less from the human heads from Mercedes. The head illustrated² (Pl. 51a) shows the closest resemblance to Mercedes heads, being small, of reddish vesicular lava, and resting on the flat cross-section of the neck. It is probable that it was made independently, though the possibility that it was broken from a larger figure and the fracture reworked is not precluded. The workmanship is good, though the finish is rather rough and weathered. The eyes are large and oval, made of an incised ellipse with a medial horizontal groove; the nose is high, with broad flat nostrils; the ears are naturalistic and in high relief. The crown of the head resembles a tam-o'-shanter cap, a convex circular disc with small central knob, the convex surface decorated with rectangular designs of incised lines.

Quite unusual is another carving (Pl. 51e) which may possibly be mislabeled as to provenience. It is apparently part of a columnar figure or statue of dark vesicular lava, a line of fracture being visible at the top and bottom. The posterior half of the column is semicircular in cross-section, the anterior half carved into a massive angular head in high relief. The salient characteristics are the deep-set eyes and the large rectangular mouth with great oblong teeth resembling the representations of the Mexican rain god, Tlaloc. It is possible, therefore, that it is an importation, or the result of influence from the Chorotegan region where Mexican influences were much stronger, and where figures of the Tlaloc type are found.

A small number of stone implements are in

the Cartago collection. This region seems to be the center for the manufacture of the thin, broad, double-bladed ax heads with serrated or scalloped edges. Hartman³ speaks of

the beautiful double-bladed serrated ax or bannerstone (Archaeological Researches in Costa Rica, Pl. 60, Fig. 6), which form seems to be limited to the burial-grounds of a small district near Cartago.

The American Museum possesses one from Cartago, and two more are in the Keith Collection (Fig. 28a, b). They are quasi-oval, relatively thin, irregular, and asymmetrical. Though generally smooth, the finish does not obliterate the initial rough flaking. A scalloped or serrated blade is produced by notches chipped in the edge, and unusually deep notches

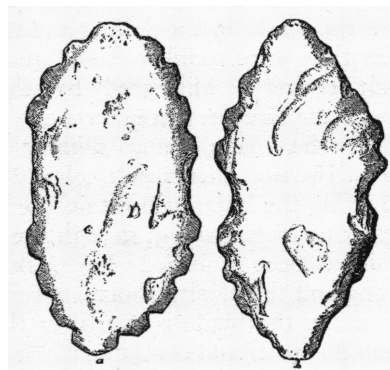


FIG. 28. Flaked double-bladed axes, Cartago.

on both sides, at the middle, form a constriction by means of which the blade was probably hafted. The blade in Fig. 28a is roughly oval in shape and of a fine-grained gray sandstone. The second (Fig. 28b) is of a greenish limestone, of quasi-diamond shape, the projecting surfaces smoothed off, but the depressions and notches, particularly on one side, showing the rude flaking by which it was shaped.

Fourteen celts compose the largest group of stone objects in the Cartago collection. These are of several different types, materials, and sizes, but vary in no important respect from the celts from Mercedes. All are of fine-grained, well-smoothed stones and all are ungrooved, probably having been hafted by insertion into a wooden shaft. The majority, however, have sharp and unchipped blades, bearing no evidence of use, and were probably especially

¹ Hartman, 1907, Pl. 26, Fig. 1.

² Cf. Hartman, 1901, Pl. 24, Fig. 4 from Chircot.

³ Hartman, 1907, 53.

manufactured for burial with their deceased owner.

While none of the Cartago celts is of a type absent or rare at Mercedes, there is a definite quantitative difference in the celts from the two regions. The celt with faceted faces and sharp side angle (Type A), the commonest and most characteristic at Mercedes, is relatively rare at Cartago, where the majority of specimens are of Mercedes Type B. The latter, moreover, approximates more closely to the characteristic Chorotegan type from the Nicoya Peninsula, a not unexpected feature, in view of the intermediate geographical position of Cartago.

Two of the specimens (2852), of fine-grained basalt and limestone, are of the type of the short gray tufa celts from Mercedes (Fig. 5a) and show the marks of the flaking and chipping by which they were roughly flaked and which were not entirely obliterated by the final polishing. Each side has three facets and a sharp side edge, the blade being slightly curved and sharp. In two other basalt celts (2850BM and 2853BM) the butts still retain the depressions resulting from flaking, though the irregularities have been polished down. Both are rather long and thick, with short, curved, sharp blades; in one the blade is narrower than the maximum diameter and consequently it falls in the category of chisels. This celt is of the same hard black material as Mercedes celts of the type shown in Fig. 8, but differs somewhat in shape from any specimen of this group.

Only one of the Cartago celts (2851) of porphyry is of the flat type, with a straight blade and the nucleus of a flat side, resembling Mercedes celts of the type illustrated in Fig. 7a. Another (2861), also of porphyry, is a very rude form, apparently merely a reworked pebble; it is, however, polished and has a distinct blade.

The majority of the Cartago celts belong definitely to Mercedes Type B, which is also the most characteristic Chorotegan type. This form is petaloid, with a sharp curving blade, a pointed butt which is frequently left unpolished and a thick diameter which approaches a circular cross-section. The range in size and material is great. The largest (2859), of smooth greenish limestone, measures 19 by 6 by 4 centimeters. It most closely resembles the Mercedes celt to be seen in Fig. 12a, and has a sharp, smooth, curved blade, and unpolished

butt. One face, however, is quite irregular. Three other celts are similar, though slightly smaller, regular, and symmetrical. One of sandstone (2845BM) is most like the Mercedes celt in Fig. 13b, and is polished only in the vicinity of the sharp blade. Number 2847BM, of a coarse porphyry, flatter than most, and polished throughout, has its nearest parallel in a Mercedes celt (1816BM). Number 2848 is of a fine black porphyry, polished throughout, irregularly shaped, thick, with a pointed butt and a sharp curved blade. The remaining three celts are small and even more typically Chorotegan in form, though varying somewhat in detail. The smallest measures 6 by 3 by 2 centimeters. The materials are diorite, diabase, and a fine conglomerate or coarse sandstone. The celts are so few in number and have such minor individuality that none is illustrated.

Eleven rubbing or polishing stones complete the total of the Cartago collection. Ten of these are small natural quartz pebbles and do not differ from similar stones from Paso Real, Buenos Aires, and Mercedes. They were doubtless used for polishing pottery. Another (2860 BM) of basalt has the approximate shape of a celt, but is triangular in cross-section, without a blade, and was probably employed as a polishing stone.

LAS PACAYAS

A small group of stone figures in the Keith Collection is ascribed to Las Pacayas, situated on the slopes of the Irazu Volcano in central Costa Rica, some 10 kilometers from the railroad at Juan Vinas, and about equally distant from the town of Capelladas. Lehmann¹ describes and illustrates some stone figures, which he named "Capelladas style," from the latter site, very different in style from the usual Güetar type. The Pacayas figures are typical representatives of this style. From an artistic point of view, they have nothing in common with Mercedes or Cartago style, with the Chorotegan art of the Nicoya Peninsula, or the Chiriquí art of western Panama. Nevertheless, the Las Pacayas and Capelladas sites are generally assumed to have been in Güetar territory. When further careful investigations and excavations shall have been made in Costa Rica, it may be found that this style of art is more widely distributed, and its temporal and geo-

¹ Lehmann, 1913, Pl. 24, Figs. 17-18.

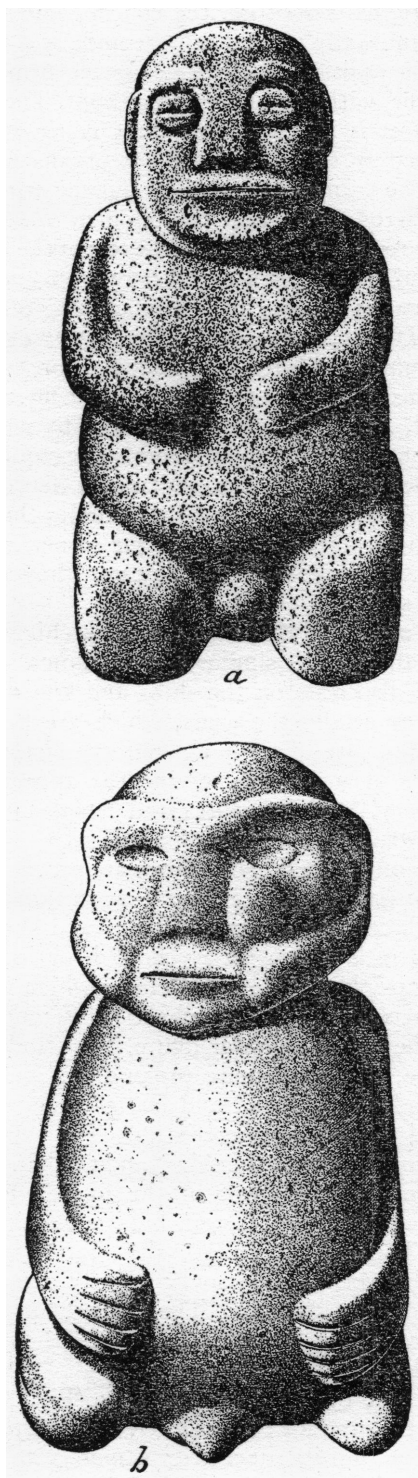


FIG. 29. Kneeling male figures, Las Pacayas.

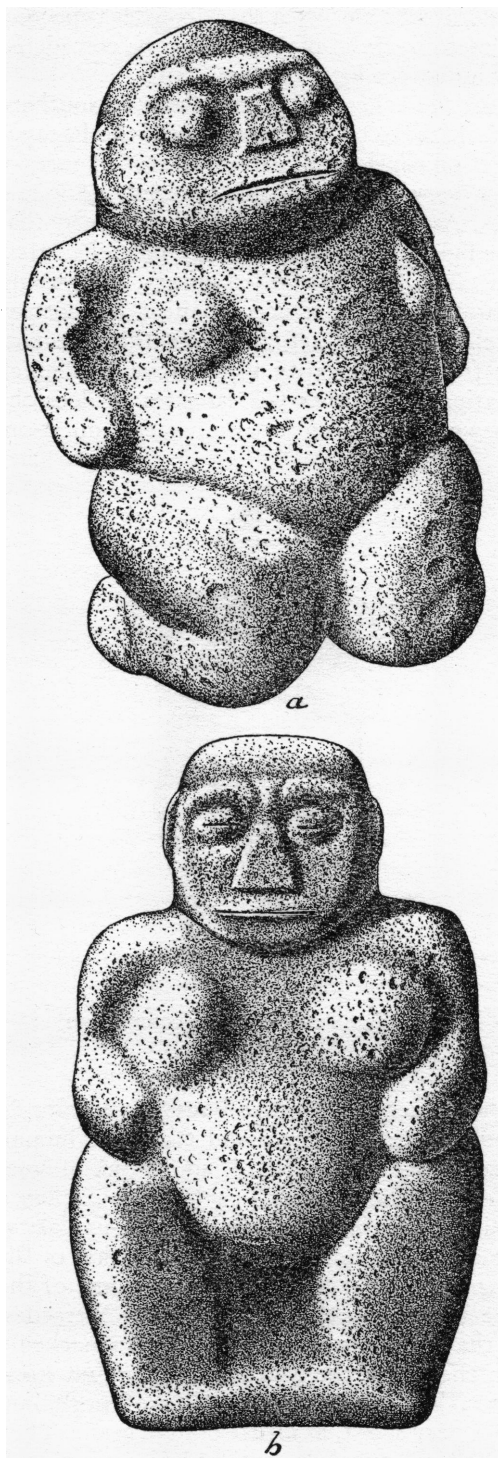


FIG. 30. Kneeling and standing female figures, Las Pacayas.

graphical relations with the Mercedes type may be determined; at present it can be considered only a distinct localized variation.

Like the collection from Palmar in southern Costa Rica, to be later considered, the Pacayas collection consists exclusively of stone figures of a few very characteristic localized individual types. As at Palmar, it may be assumed that these figures were surface finds, since, had they been taken from excavated graves, they would certainly have been accompanied by pottery vessels and other artifacts. Whether the pottery from this locality would reveal as much variation from other Güetar sites as does the stonework is, therefore, an unsettled question.

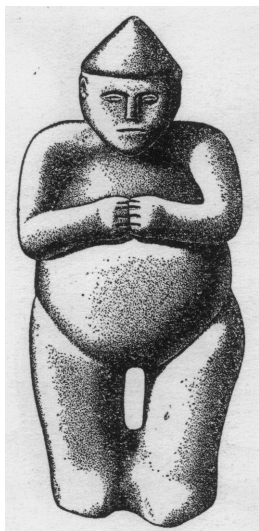


FIG. 31. Female figure with conical cap, Las Pacayas.

The collection from Las Pacayas contains 24 stone figures: six female and two male human figures, three birds, and 13 jaguars, all of igneous rocks. The figures in each group display a striking and unmistakable stylistic similarity. This art bears some resemblance to that of the naturalistic relief figures found on some of the stone altars from the Güetar sites of Mercedes, like that shown in Pl. 31d, but differs markedly from the art of the Mercedes individual stone figures. Variation in the quality of workmanship is very slight, as all are of high grade. They may, therefore, all be ascribed to a single culture period and a homogeneous tribal group.

The two male figures (Fig. 29a, b), of porphyritic lava and granite, are excellent examples

of aboriginal sculpture, the concept and finish being unusually good. Both are nude and are in kneeling position, the figures resting firmly on the shins, with the knees at the front. The general effect is infantile, the limbs being disproportionately short, and the sex organs immature. The trunks are massive, and the arms are flexed across the breast or abdomen in a naturalistic restful manner. Like the rest of the body, the head of Fig. 29a is excellently proportioned, the features finished in low relief. The proportions of the second example (Fig. 29b) are somewhat more grotesque, the abdomen protrudes, the arms are longer than in the first figure described, and the fingers are marked by parallel striations. The head also is more grotesque and in higher relief. The eye cavities are depressed, and a bifurcating raised ridge encircles the face from the bridge of the nose to the corners of the mouth, the angle forming the ears. They are of similar size.

The rudest of the female figures (Fig. 30a), of volcanic tuff, is similar, though much smaller, and also rests on the shins and knees. The limbs, especially the arms, which are held at the sides, are disproportionately short; the trunk is very massive, giving the appearance of obesity. Facial features and female breasts are shown in low relief. The finish is rather rough.

Four of the six female figures are nearly identical in artistic concept and execution (Fig. 30b); three are of a porphyritic lava, and one is of a granitic rock with a yellowish patina. All stand upright on the flat surfaces which represent the soles; the feet are barely differentiated from the legs in only one figure. The trunks are massive, the abdomens protruding, and the hips and thighs broad and fat, all being exaggerated female characteristics. The slightly flexed arms hang at the sides, and the hands extend toward the front of the figure. Facial features, ears, and female breasts are in low relief. The legs are unnaturally short, and the space between them is only slightly depressed and not cut through. The largest of these measures 23 by 14 by 8 centimeters, the smallest 16 by 8 by 5 centimeters.

The last of the female figures (Fig. 31) is distinctly superior to the others in concept and execution, but its superiority is merely an elaboration of the general tendencies present in the whole group. It is carefully finished of a fine-grained granite with a light-colored patina.

Like all the Pacayas figures, it stands upright on its broad feet which, in this case, are well differentiated from the short massive legs. Though the feet are joined, the space between the legs is entirely cut through, in this respect resembling the figures from Palmar. The hips are broad, the abdomen protruding, the trunk massive, and though no specific female characteristics are displayed, the general effect is exaggeratedly feminine. The arms, in much higher relief than usual, are flexed across the breast; the hands and fingers are differentiated and meet. Exceptionally well carved, the head is of naturalistic proportions; the face is also carefully carved and is surmounted by what is apparently a conical cap.

The three bird figures (Fig. 32, and 6476, 6477BM), two of porphyritic lava and one of volcanic basalt, apparently represent parrots and are excellent examples of primitive naturalistic art. All stand upright, resting on the tripod formed by the legs and tail. The wings, tail, legs, and head are well carved and the finish is good, but with little detail in low relief. In the basalt specimen (Fig. 32), the relief is somewhat higher, and the detail of the feathers on the wings, head, face, and neck is suggested by fine shallow incised lines. The head is inclined to the right in a very naturalistic asymmetrical position. The largest measures 20 centimeters high, 13 centimeters wide, and 9 centimeters thick; the smallest, 15, 9, and 8 centimeters.

The 13 animal figures are all small and of a single very definite and unmistakable type, the differences in detail being negligible, as compared with the general homogeneity. All are in seated position and stand upright on their bases. Two main groups are distinguishable, but whether these depict two different animals or variant forms of one animal is debatable. The distinguishing characteristic of both groups is the position of limbs and tail; other details are less constant.

Group A consists of five figures in which the tail is long, thin, and in low relief, curved over the back asymmetrically, to the right between the body and leg. The animals are seated, resting on the buttocks and tightly flexed hind feet. In three instances (Fig. 33a, b) the disproportionately long forelegs are also flexed, parallel with the hind legs, and rest on the ground in front of the latter, while in two figures (6473 and 10863BM), they are flexed

across the breast. All the limbs are massive and thick. The heads approach roundness and are inclined forward; the ears are short and semicircular. The faces are broad and flat, the eyes round and raised, the noses flat, and the mouth is represented by a broad, thin, straight incised line. Porphyries, porphyritic lavas, and granites are the stones employed. Certain details suggest monkeys, while others are more suggestive of jaguars; the writer inclines to the latter interpretation. The variation in size is slight, the heights ranging from 11 to 15 centimeters, the widths from 5 to 9 centimeters, the thicknesses from 7 to 12 centimeters.



FIG. 32. Naturalistic carving of a parrot in basalt, Las Pacayas.

One figure (10866BM) is intermediate between the two groups, resembling 6473 in all respects, except that the comparatively thin tail rests vertically against the spinal column. In dimensions it is like the smallest of the preceding specimens.

Group B, consisting of seven figures, is characterized by a long, broad, thick lanceolate-shaped tail, pointed at the anal end and broad at the tip, which extends vertically up the back. All the figures stand upright and rest on the buttocks and hind feet, the hind legs being closely flexed. The head is relatively small, elongated, with a more or less pointed snout, and inclined forward. The ears are small and semicircular, the eyes small and round. The

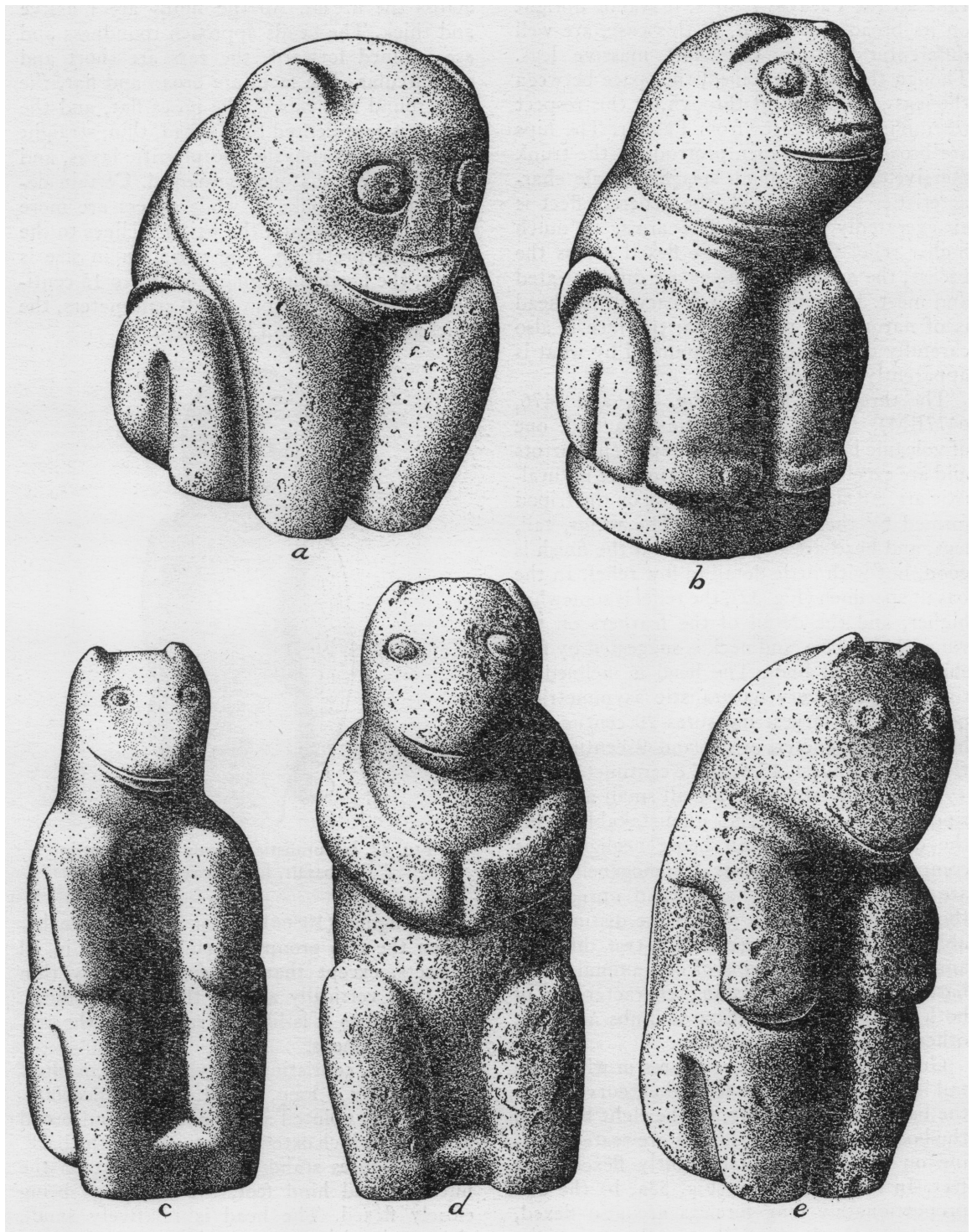


FIG. 33. Small seated animal figures, Groups A and B, Las Pacayas.

mouth is formed by a long, thin, straight incised line. In the largest porphyry figure (Fig. 33d) the forelegs are clasped across the breast, but in the other six, of lavas, porphyritic lavas, and granites (Fig. 33c, e), they are flexed vertically and generally rest on the knees. Some of the characteristic details suggest a squirrel, but identification as a jaguar is equally plausible. Except for the large figure which measures 20, 9, and 9 centimeters, these are of very uniform size; the heights range from 13 to 16 centimeters, the widths from 6 to 7 centimeters, the thicknesses from 7 to 8 centimeters.

In view of the small number of objects, the absence of pottery and small artifacts, and the marked homogeneity of the figures, few deductions of any importance can be drawn from the collection from Las Pacayas. As previously noted, the figures differ radically from those of other known localities in Costa Rica. There is almost no resemblance with Palmar. The latter figures are mainly human, male, incapable of standing upright, and are usually made of sandstone. The Pacayas figures, on the other hand,

are chiefly animal. The human figures are pre-vaillingly female, capable of standing on their own bases, and principally made of igneous rocks. In the latter three respects they resemble Güetar figures from Mercedes, a nearer locality. Whether or not the inhabitants of Las Pacayas were Güetares can hardly be decided on the basis of comparison of this collection with that from Mercedes; if Güetar, it presents a surprising amount of local variation.

Particular mention may be made of the animal figures, which are generally identified as local deities. The parrot is rarely represented elsewhere, but its peculiar linguistic abilities naturally make it an object of especial interest. The squirrel is virtually unknown in Central American mythologies or religions, and it is difficult to believe that it could ever have been an object of reverence; on this account this identification may be considered as unlikely. The monkey and jaguar, on the other hand, are the principal animals represented at the Güetar site of Mercedes as well as at other sites of the same and other cultures in Costa Rica.

SOUTHERN COSTA RICAN SITES

South of the well-known Güetar sites along the line of the Costa Rican Railway, the forests of the Atlantic seaboard are largely unexplored and few, if any, archaeological sites are known. On the west side of the cordillera, however, along the river known as the Diquis, Coto, General, or the Rio Grande de Térraba, are found archaeological sites of a different culture, rather closely related to that of western Panama.¹ The northernmost, El General, near the sources of the river, is well known, but the specimens in the Keith Collection from this locality consist entirely of pottery and gold. Nearer the mouth are the sites of Buenos Aires, Paso Real, Palmar, and Lagarto. The objects in the Keith Collection from the two former sites fall into one group, those from the latter two into another, the two groups being quite different in content and in art.

Since no data are available as to the circumstances under which specimens were collected, any scientific deductions must be based upon an

empirical study of the objects themselves and a comparison with other specimens from neighboring localities. The fact that the collections from Palmar and Lagarto consist exclusively of stone objects and almost entirely of human and animal figures which show considerable weather erosion indicates that they were surface finds and not secured in graves. Except for the jaguar figures which rest on four feet, the figures are incapable of standing upright; many of them have rounded tenon knobs extending beyond the feet. These tenons were presumably inserted in the ground. The natural assumption is that they were idols representing deities and stood in sacred places, possibly within temples constructed of perishable materials. Such sacred enclosures, with lines of tenon figures, were found at Coclé,² but have not been reported from the Chiriquí region.

With few exceptions, the figures are male, in contrast to those extant from the Chiriquí region which are prevaillingly female. Anthro-

¹ Stone, 1943, 74-75.

² Verrill, 1929, illustrations opposite 76, 84.

pomorphic jaguar and serpent figures are found, as well as stylized naturalistic jaguars, armadillos, birds, and other animals.

If the costume of the figures may be taken as a criterion, the natives were generally nude, or, at most, were attired in a breechcloth or other standardized pubic covering.¹ Necklaces, pendent gold breast ornaments, and labrets were occasionally worn. The hair was often gathered into a flowing mane, and apparently ornamented casques were frequently worn on the head. Staffs were often carried, and warriors bore a club into which a stone blade had been inserted.

The aboriginal culture of the General Valley, and of the Térraba and Coto-Brus rivers, was, despite the variation between the present collections from Buenos Aires and Paso Real, and those from Palmar and Lagarto, virtually homogeneous. It resembles most closely that of the Chiriquí region, not far to the southeast, on the border of Panama and Costa Rica, and more distantly that of the Güetar area; the three had the same fundamental basis. Its bearers were apparently the Quepo and Coto tribes who inhabited the region at the time of the Conquest; these tribal names are no longer used, and the peoples are considered extinct, but the modern Brunca or Boruca who still live there are probably their descendants. They all belonged and belong to the Talamanca group, which also includes the Güetar and Chiriquí, and all spoke languages connected with the great Chibcha linguistic family of Colombia.² Their ethnological and linguistic affinities are, therefore, basically South American.

In marked contrast to the Güetar and Nicoya regions of Costa Rica, the stonework of the Chiriquí culture of Panama is little known. This is, of course, because no full report of scientifically controlled excavations in that region has ever been published; the classic works are based on the collections of treasure hunters, consisting mainly of pottery and gold ornaments; the large stone sculptures found were probably not

exported. Holmes³ figures only eight sculptures, MacCurdy⁴ only 20. Most of these are of typical jaguar metates; only seven are figures, two animal and five human. The two animal figures and three of the human ones are small, rude, and unstylized. Two are large, well finished, and of a definite angular style that apparently has no congener in any other region; these two are, however, insufficient to establish their style as that characteristic of Chiriquí. One⁵ is almost identical with some of the Palmar figures, and two others⁶ are of the same Boruca archaistic style, symmetrical, with vestigial legs in low relief, but rather crude. Two of the latter three are male, like the Palmar figures; the other is indeterminate. All the five figures of non-Boruca type are female or apparently sexless. The variation in the few known specimens is, therefore, too great to establish any Chiriquí type of stone figure, or to indicate that it was not approximately the same as that of the Térraba region.

The sole published stone figure of definite Palmar type that the author has succeeded in finding is one figured by Holmes⁷ from Golfo Dulce on the Pacific coast at the boundary of Costa Rica and Panama. This is a little south of the Rio Grande, but north of the typical Chiriquí area. It is a small, stylized figure of Group C.

Another of the stone figures published by Holmes⁸ displays the characteristics of archaic art. With protruding head and abdomen, it somewhat resembles Palmar figure 6270BM. It apparently came from the Island of Cano off the southern coast of Costa Rica, not far from the mouth of the Rio Grande. Both of these figures may, therefore, be considered as belonging to the Palmar culture.

Stone figures of archaic types are also found occasionally in the Chiriquí region of western Panama, and three are illustrated by MacCurdy.⁹ They are, however, rather different in art style and technique from the present Palmar figures and would be noted as unusual

¹ Espinosa, the first explorer of the Pacific coast of Costa Rica and Panama, reported that the natives of "this province [Huista, the region of David, Chiriquí, Panama] and of that of Burica [the boundary between Panama and Costa Rica], were almost exactly the same in the fashion of their clothes, and in their customs. The women wore a truss around their loins, as their clothing; the men were naked." De Andagoya, 1865, 24.

² Mason, 1940; Johnson, 1940.

³ Holmes, 1888, Figs. 6-13.

⁴ MacCurdy, 1911, Figs. 17-30, 34-40.

⁵ Holmes, 1888, Fig. 7.

⁶ MacCurdy, 1911, Figs. 37, 38.

⁷ Holmes, 1888, 24, Fig. 7. Those figured by Spinden, 1943, Pl. 8, are from the Keith Collection.

⁸ Holmes, 1888, 25, Fig. 8.

⁹ MacCurdy, 1911, 37, Figs. 36, 37, 38.

types were they encountered in a collection from Palmar.

A Chiriquí figure of better type, from San Carlos, and figured by MacCurdy¹ exhibits some of the characteristic features of the Palmar figures. The feet are joined at the base, while the legs are separated by an orifice. The figure, however, is female, and the facial features are better executed.

Animal figures are even a greater rarity than human figures in the Chiriquí region; two are illustrated by MacCurdy.²

The Palmar jaguar metate (6634) closely resembles similar objects from the Chiriquí region which are in turn almost identical with those from the Güetar region of central Costa Rica. A uniformity of this type throughout the three regions is consequently suggested. The four-legged oval metate (Pl. 60e) is also somewhat similar to certain Chiriquí specimens.

Even less resemblance is noted between the Palmar specimens and those of the Güetar culture of central Costa Rica, and these similarities are greater in detail than in ensemble. Thus figures holding severed human heads, with ornamented casques on the top of the head and with flowing manes, are very characteristic of the Güetar region, while figures with perforations between the limbs are occasionally found. Archaistic figures are also known, but these are distinctive and would not be confused with those from Palmar. Jaguar figures and heads, as well as anthropomorphic jaguar figures, are frequent and always of a superior style of art. Jaguar metates with long tails are almost identical with a Palmar figure (6634) as well as with Chiriquí metates.

Virtually no resemblances are found between the stonework of the lower Rio Grande de Térraba and that of the Chorotega of the Nicoya Peninsula. Only the slanting-concave tripod metate (Pl. 60f) is at all reminiscent of Nicoya stonework.

In brief, it may be said that the Palmar region presents an individual culture, markedly different from either the Güetar or the Chiriquí cultures, but that all three have the same fundamental basis.

BUENOS AIRES

Buenos Aires is one of the better-known ar-

¹ MacCurdy, 1911, 38, Fig. 39.

² MacCurdy, 1911, 37, Figs. 34, 35.

chaeological sites of southern Costa Rica, situated on the upper Rio Grande or Diquis, about 30 kilometers north of Palmar and Lagarto. Lothrop's³ concise description is:

Buenos Aires (Hato Viejo), C. R. "In the vicinity are several traces of ancient edifices, witnesses of a population which existed here in remote times and whose importance is proved by the innumerable sepulchers which are found in all the surrounding territory." (Pittier, 1892, p. 80.)

Dr. Pittier described to the writer these remains, which consist apparently of rings of stone around the base of the palenques, which were set on square mounds such as Habel describes in the vicinity of Santa María de Dota.

Von Frantzius (1869) says that this part of the country was very thickly populated, and that many objects of gold and pottery had been found in the vicinity.

A Mr. Garvis told Señor Alfaro (1896, p. 11) that he had seen the foundation of a square building in this place. The central part was filled with earth and in the center of each side was a graded approach.

The Keith Collection contains a large number of specimens from this locality. The bulk of this consists of pottery vessels and figures, almost identical with those found at Paso Real, and very similar to those from the Chiriquí region of western Panama. The stonework, consisting mainly of implements, forms a minority of the collection, but is of fair quantity. Like the pottery, the stone objects closely resemble Chiriquí stonework and bear a slightly more distant relationship to Güetar handicraft, but differ radically from the stonework of Palmar and Lagarto as herein exemplified.

POLISHING STONES

A handful of small pebbles, generally with a shiny surface, probably served to smooth and polish the surface of pottery vessels during their manufacture. Almost all are of natural shape and differ in no degree from similar objects from other localities. Five, however, are roughly round, flat, and discoidal and were apparently cut or worked to this shape. These may possibly have been used as counters or pawns in playing a game (Fig. 34a).

FLAKED IMPLEMENTS

Unpolished stone implements are very rare in Costa Rica, arrow and spearheads presum-

³ Lothrop, 1926, vol. 2, 443.

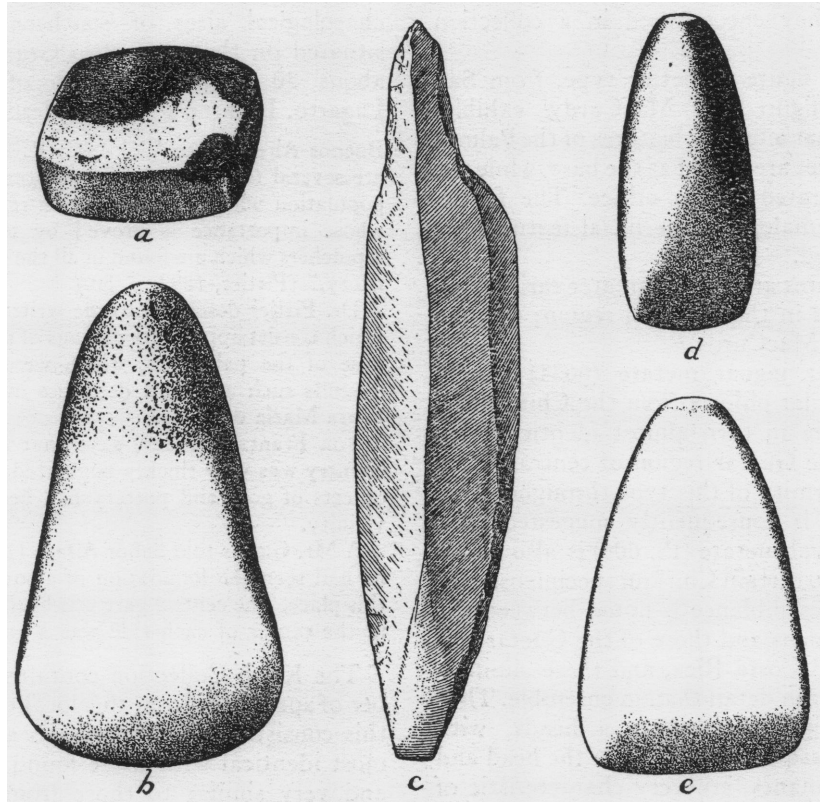


FIG. 34. Variety of stone implements, Buenos Aires.

ably having been, as today, made of hard wood, bone, or other perishable materials. The sole flaked objects in the present collection are two that are identical with points from Chiriquí which are considered spearpoints by MacCurdy¹ and Holmes.² Almost identical points are found at Coclé.³ Both are made of a single flake of greenish chert. They are triangular in profile and in section, the broad side fracture being slightly concave. In both, the butt containing the bulb of percussion has been reduced by chipping to form a stem to fit into the spear shaft. In one, edges and point are unchipped, but in the other (Fig. 34c), one edge has been retouched near the point with secondary chipping.

CELTS AND AX HEADS

Disregarding the natural unworked polishing stones, four-fifths of the stone objects from

Buenos Aires, 68 specimens, may be classified as celts or ax heads. This large percentage is a feature of considerable scientific import and indicates the considerable role which these objects played in the aboriginal economy. The great proportion, as compared with arrowheads, which in most cultures are decidedly in the majority, is especially noteworthy. While minor variation is considerable, there is a general homogeneity in shape, technique, and materials, which appears to indicate an essential unity of population and culture period. Much of this homogeneity doubtless results from the limitations imposed on the aboriginal artisans by the presence or absence of certain natural materials. Thus, the absence of flint and obsidian is noteworthy. Nearly all the implements are in an excellent state of preservation, few display any evidences of use, and all are admirable examples of aboriginal handicraft.

By far the majority of the celts are made of fine-grained basaltic rocks and porphyries which take a good polish, a much smaller number being of a fine-grained tufa that resembles

¹ MacCurdy, 1911, 22, Figs. 4, 5.

² Holmes, 1888, 33, 34, Fig. 24.

³ Lothrop, 1937, Fig. 64.

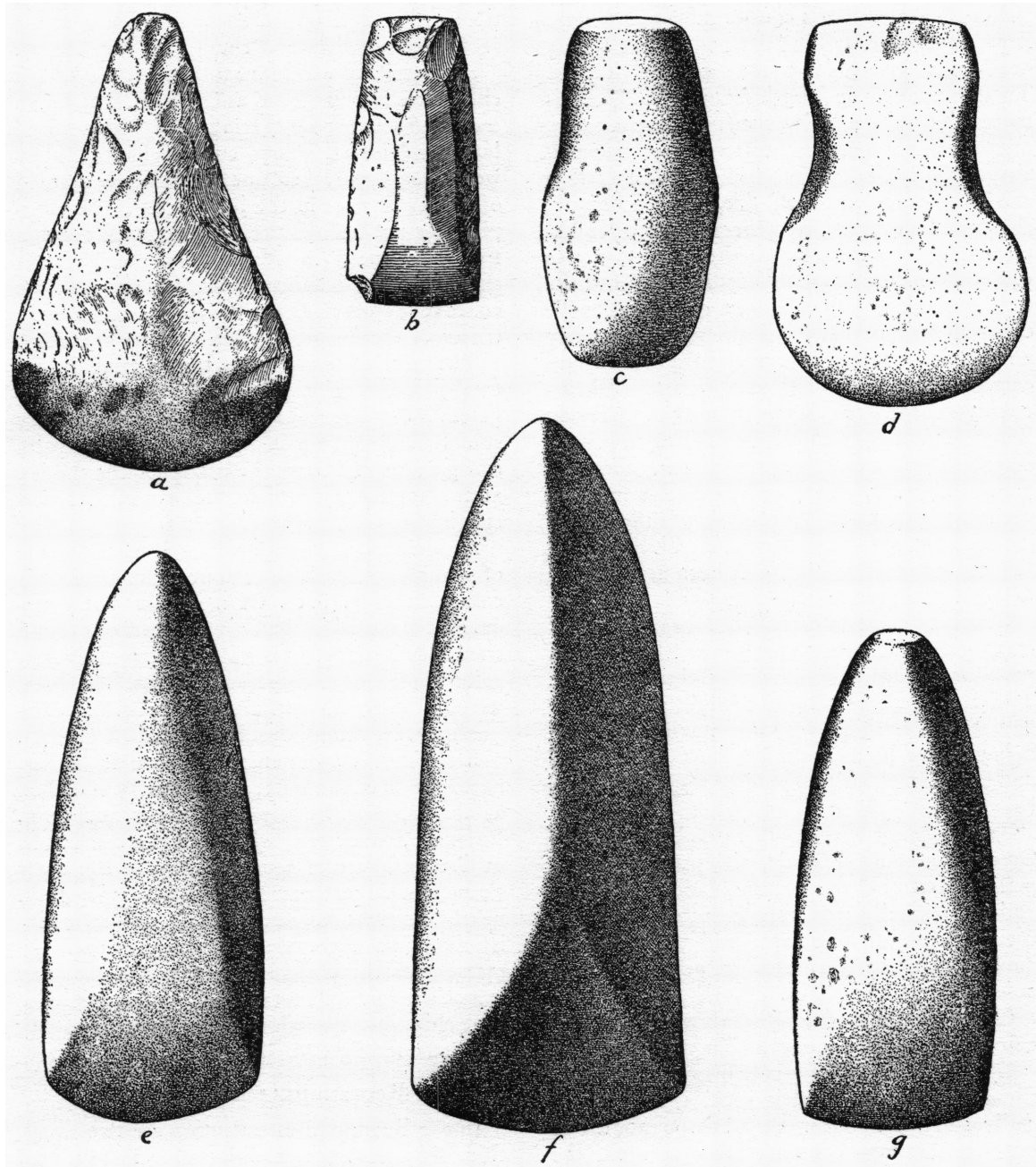


FIG. 35. Celts classified in Groups B, D, E, and F, Buenos Aires.

slate, with a light patinated surface and a black core. Most of them are well smoothed and polished over all, but a considerable number are left unsmoothed at the butt end, where the ax head was inserted in the wooden handle. Though varying in length from 4 to 22 centimeters, tiny and massive specimens are missing, and there is a general uniformity of size and shape. To a limited extent, some correlation exists between material, size, and technique; the basalt specimens are generally larger, thicker, and have pecked butts; the porphyry celts tend toward flatness with faceted faces; and the tufa specimens are generally elongated, with chipped butts. Adzes and gouges are entirely absent, and notched and grooved specimens are extremely rare, the method of hafting with encircling withes or thongs having apparently been unknown in this region. They may be divided into several classes which, however, grade into each other, celts and chisels being the main groupings. Most of them differ little, if any, from celts from Mercedes, Chiriquí, and Coclé; comparative data have been noted in the Mercedes section.

Group A consists of polished basaltic specimens in which the length-breadth-thickness proportions are approximately three-two-one. The blades are curving and slightly flaring or bell-shaped with angles, the maximum width being at the blade end. The butts are pecked and unpolished, either broad or slightly pointed (Fig. 34b).

The celts of Group B resemble those of Group A in being of basalt, with pecked and unpolished butts. However, the blades curve less, and occasionally are approximately straight, their corners do not flare, and they are frequently thicker. The butts are generally more or less pointed (Fig. 35g).

Group C differs from the above, mainly in being smoothed throughout (Fig. 34d, e).

Group D is decidedly specialized. Almost all these are of a porphyritic rock, and are especially well made and smoothed throughout. The butts are always comparatively pointed, the blades wide, curving, and sharp, the thickness being proportionately less than the foregoing groups. The most characteristic features, however, are the sharp lateral edges and the faceted faces. The former is a constant feature, but in many instances the flat faces have been worn down to a smooth curve. In the majority, the

medial surface is a flat face, forming a hexagonal cross-section, but in a few cases, a medial rib breaks the front surface, forming a cross-section of quadrilateral character (Fig. 35e, f).

A few celts of variant nature and of dark hard chert may be considered as Group E. The forms are flattish and roughly triangular, with pointed butts and broad, sharp, curving blades. They were roughly blocked out by chipping instead of by pecking, as in the basalt celts. The chipping has not been entirely obliterated, varying from specimens in which only the blade is smoothed, the balance of the celt showing the concave depressions, to those in which only traces of the deep chipping remain (Fig. 35a).

The celts of fine-grained tufa, Group F, are small, for the most part, and frequently elongated. Other details vary. A few are completely smoothed down, but in the majority the posterior portion still bears the marks of the flaking and chipping by which the implement was roughly shaped to form (Fig. 35b).

A single, small, irregularly shaped celt made of a light greenish sandstone belongs in this collection (Fig. 35c). Of a similar but finer-grained material is the only notched celt found from this locality. It is flattish with a semicircular blade and a constricted waist. The butt, which is wider than the waist, is broken. The method of hafting is problematical (Fig. 35d).

Elongated implements with small blades, narrower than the butt, are generally classified as chisels, though their exact use is uncertain. Buenos Aires chisels, which may be considered as Group G, are of general cylindrical or cigar shape, with short curving blades varying from nearly straight to semicircular. Light greenish tufa and chert are the stones utilized. In many celts the posterior portion has not been smoothed but still retains the indentations of the chipping by which they were roughly blocked out (Figs. 36, 37).

RECTANGULAR IMPLEMENTS

In the Buenos Aires collection are two small, thin, flat, rectangular objects of fine-grained tufa. In the first (Fig. 38b), all four edges are carefully beveled to form more or less straight sharp blades. This feature is evidently intentional and does not result from use as a smoothing implement. Their use is not known. Another implement of the same material is of an elongated spatula shape, narrow and thin (Fig. 38a).

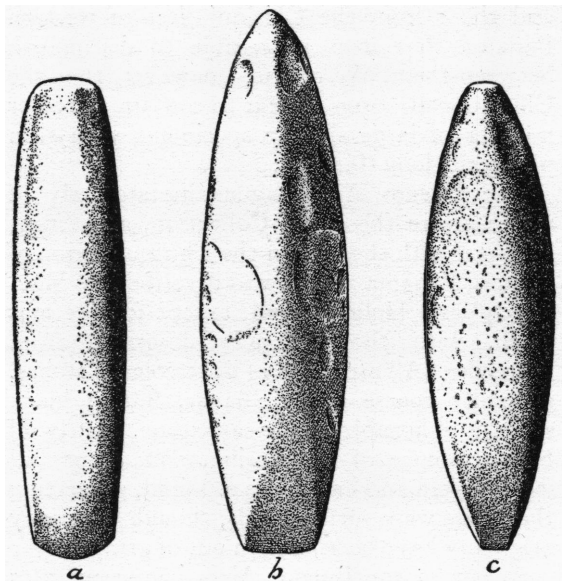


FIG. 36. Types of chisels, Group G, Buenos Aires.

The short, curving, terminal edges are slightly sharpened, while the lateral edges are more blunt. Its purpose is also dubious.

CLUB HEAD

One excellent club head (Fig. 39), presumably for a warclub, is from Buenos Aires. It is admirably made and symmetrically propor-

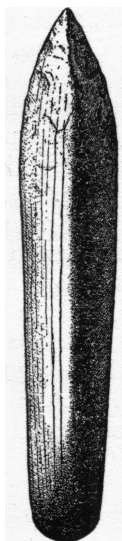


FIG. 37. Chisel with semicircular blade and pointed poll showing marks of chipping.

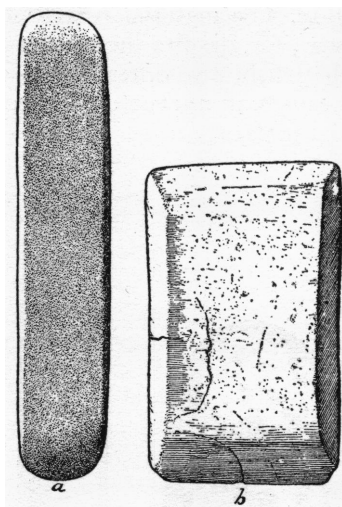


FIG. 38. Spatula-shaped and rectangular implements, Buenos Aires.

tioned, of vesicular lava, and bears a remarkably close resemblance to the hub of a wheel with short spokes. The hub has an inside diameter of 3 centimeters and a length of 7 centimeters; the eight radiating spokes are 5 centimeters long and about 3 centimeters wide.

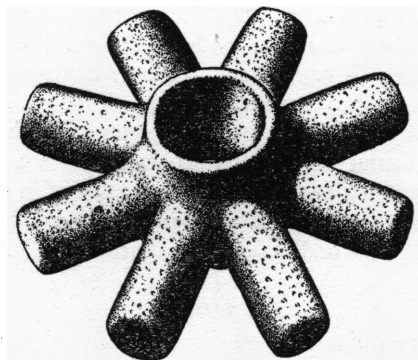


FIG. 39. Spoked head for a warclub, Buenos Aires.

GRINDING STONES

Three stone objects from Buenos Aires were presumably utilized as grinding stones. One (Fig. 40a) is of soft yellowish and hard brownish mottled porphyry. A thick rectangle with round corners, 18 by 9 by 6 centimeters, it is more or less convex on all surfaces. The two main faces have the fine parallel transverse striations which would result from use as a milling stone

on a metate. The material is well adapted to this purpose, for, despite the fact that it wears to a high polish, the difference in degree of hardness causes an uneven erosion resulting in an irregular surface.

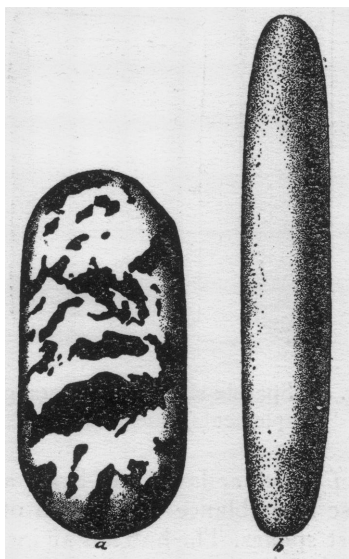


FIG. 40. Grinding stones, Buenos Aires.

Two grinding stones are of the more usual cylindrical or cigar shape and are made of vesicular lava, rough at the ends, but more or less smoothed in the middle section. The larger specimen (Fig. 40b) measures 27 centimeters in length and 5 centimeters in diameter. These quasi-cylindrical grinding stones resemble the type found in the Chorotegan sites on the Nicoya Peninsula and are exceptional in southern and central Costa Rica where grindstones of the shape of Fig. 40a are characteristic.¹

METATES

Stone objects in the form of conventionalized jaguar figures resting on four legs, with a broad, flat or slightly concave back, naturalistic head, and long curving tail are very characteristic of the cultures of central and southern Costa Rica and western Panama. They are universally known as metates and are assumed to have been used for this purpose. Some of them, however, may have been used for seats.

So close is the resemblance between the jaguar metates from the Güetar site of Mercedes

¹ See the preceding Mercedes section for comparative and distributional notes on mullers or manos.

and those from the Chiriquí sites of western Panama that it is impossible to distinguish between them. We can say, however, that the Chiriquí collections appear to contain a greater number of large slender specimens with thin plates and long thin legs.

The Buenos Aires jaguar metates, six of which are in the Keith Collection, are almost identical with those from the Chiriquí region of western Panama figured and described by MacCurdy² and Holmes,³ and, except for the material, with those already described from Mercedes.⁴ All are made of light-colored stones, generally coarse granitic lavas, full of black spicules of hornblende, or sandstone. Nearly all bear evidence of weathering, and almost all were broken and have been repaired, suggesting that they were surface finds, though they may originally have been thrown out of graves.

All six of the Buenos Aires jaguar metates conform to the general type described above. In five of the specimens the broad plates are oval, in the sixth, rectangular. The largest, slenderest, and most typically Chiriquian of the six measures 76 centimeters long, 41 centimeters wide, and 23 centimeters high and is made of sandstone. The thin oval plate is concave with surrounding rim; the side of the plate and the legs are decorated with curvilinear designs. Three others are similar, of medium size, oval, with nearly flat plates and slight rims, either undecorated or ornamented with incised geometric designs like those of Mercedes. Number 10861 is of the Chiriquí type with a large, oval, thin plate and tall slender legs. The plate is concave, without a definite rim. Several parallel horizontal lines decorate the outer side; incised rectangular lines, the legs. The rectangular specimen (Fig. 42) is the smallest of all. The plate is deep, nearly flat, with pronounced sides, the external sides being decorated with curvilinear ornament. The tail is flattened. The heads of the six metates are all naturalistic and well executed, being especially good on the two large figures. The legs are slightly flexed, and each tail is looped to meet the hind leg, in four metates the right and in the other two the left.

² MacCurdy, 1911, 26-33, Figs. 26, 27, 28, Pl. 3.

³ Holmes, 1888, 25-27, Fig. 10.

⁴ See this section for fuller notes on the distribution of metate types.

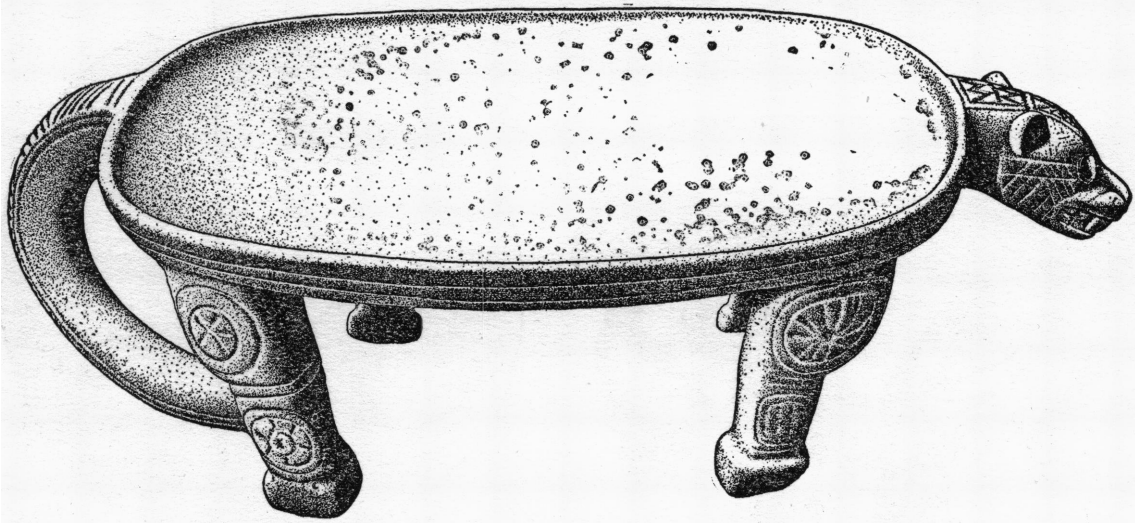


FIG. 41. Jaguar metate closely resembling the Chiriquí form, Buenos Aires.

STANDS OR STOOLS

The title "stool" is generally applied to objects of carved stone consisting of a circular plate or bowl supported on a latticed or solid base. It is questionable whether this characterization is justified, but the term has been standardized by accepted usage. These, as well

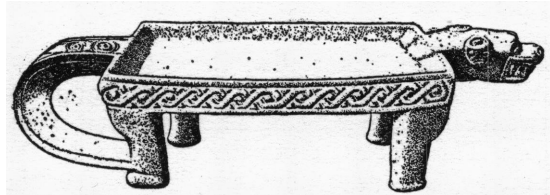


FIG. 42. Small rectangular jaguar metate, Chiriquí type, Buenos Aires.

as the metates, may actually have been used as stools, but probably both were employed for related purposes, most likely for the ceremonial grinding of raw materials. The stools, for example, bear a superficial resemblance to the chiligraters of Mexico and may have been used for a similar purpose. Again, their utilization as pedestals, stands, or altars is a possibility.

Two stone objects from Buenos Aires may be classed as stools. One (Fig. 43a), of a brownish volcanic tuff, is an admirable example of the type most characteristic of central and southern Costa Rica and western Panama, the Güetar and Chiriquí types differing only in minor de-

tails. It bears a marked resemblance to Chiriquí stools figured by MacCurdy¹ and Holmes.² The top is perfectly circular, with a deep lip or rim, and an almost flat plate. The exterior of the rim is carved in low relief with a geometric curvilinear guilloche pattern. The lattice-work support is composed of four symmetrical and admirably executed Atlantean figures. These stand separately; the feet are not connected by a basal ring, as is generally the practice. The upper bowl rests on the head and the upraised hands, and the tail of each figure is united with the elbow of the next figure to the left, thus achieving greater stability. These Atlantean figures, so characteristic of this type of object, are generally identified as monkeys, which, in the majority, is probably correct, but in this instance the resemblance is closer to the jaguar.

The second "stool" (Fig. 43b) is of a type quite different from any heretofore described from this region. Made of a light-colored granitic rock containing numerous spicules of hornblende, it consists of a large, circular, plain top, concave in only one plane and without a lip or rim. It is supported on four short, plain, solid, diverging cylindrical legs. The diameter is 34 centimeters; the maximum height, 9 centimeters. An extremely conventionalized figure, apparently representing a crocodile and carved

¹ MacCurdy, 1911, Pl. 4, Fig. d.

² Holmes, 1888, 28, Fig. 11.

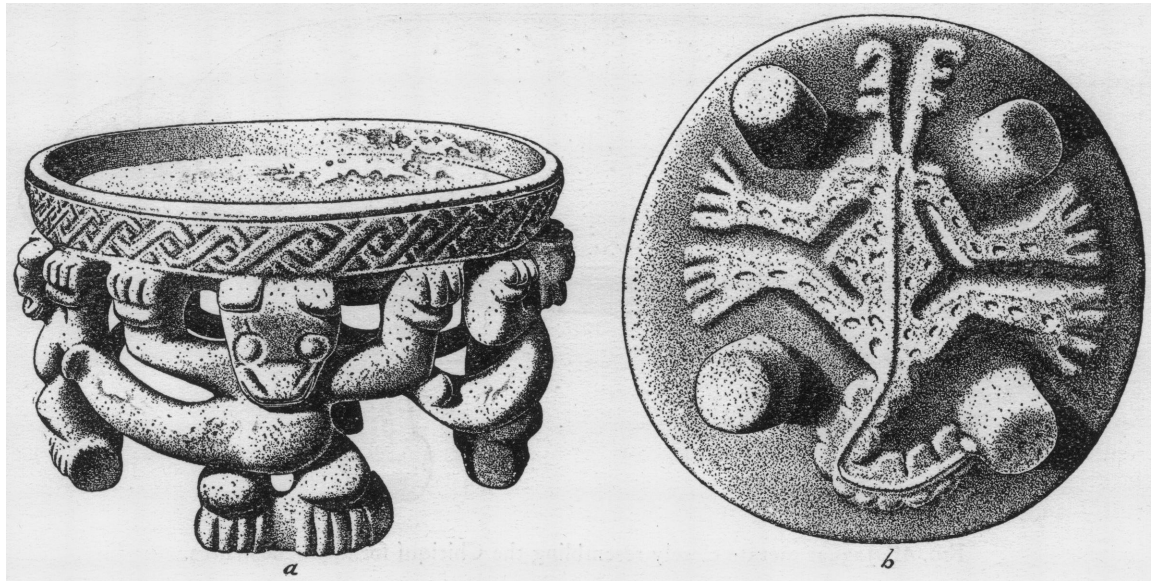


FIG. 43. Types of stools or pedestals, Buenos Aires.

in low relief, occupies the space on the under side of the plate between the bases of the four legs. The asymmetrical curving tail is in one of the spaces between the legs, the tip touching one of them. The space opposite is filled with the head which is shown as two similar symmetrical gaping jaws in profile. In the side spaces between the stool legs are the pairs of legs of the animal, right and left, all symmetrical, each with four toes. The roughly quadrilateral body occupies the central space. Body and legs are pitted with a few large depressions, and the serrated nature of the scales on the tail is well portrayed. Except for the jaws, which are shown in profile, the figure is visualized from above.

Carving, on the under side, especially of crocodile motives, is very typical of Chorotegan metates from Nicoya.¹ The present "stool" resembles these not only on this point but in the one-plane concavity of the top; it differs in the circular form and in the four legs. In concept and conventionalization of treatment this figure correlates also with similarly conventionalized crocodile motives painted on Güetar pottery vessels from Mercedes, on Chiriquí "alligator ware" pottery vessels, and impressed on gold plaques from Coclé.²

¹ Hartman, 1907, Pls. 4-19 *passim*.

² For a fuller discussion of the crocodile in Isthmian art, see the Mercedes section.

PASO REAL

Paso Real is a small settlement on the middle Rio Grande de Térraba or Diquis, some 20 kilometers below Buenos Aires and the same distance above Palmar. A small collection from this locality forms part of the Keith Collection. Like the Buenos Aires group, it consists mainly of pottery, the stone specimens numbering only 13. Although fewer than those from Buenos Aires, the specimens are almost identical in the two localities, evidencing a homogeneity of culture. This culture, especially as shown by the pottery, is almost the same as that of the Chiriquí region of western Panama.

Of the 13 specimens, 11 are small natural pebbles with smooth surfaces. The smoothness is partly inherent in the stone, but further intensified by its utilization, doubtless for polishing or smoothing the surface of pottery. One of the lot (2933), a round, disc-like shape, may have been worked to this form.

A single small stone object (Fig. 44) ascribed to Paso Real probably served as a bead, less likely as a spindle whorl or other implement. Of a hard greenish stone, of thick discoid shape, it has a central vertical drilled perforation of small diameter. The edge is a deep concave groove.

A metate of jaguar form (2239BM) completes the Paso Real stonework. It is virtually identical with similar objects from the Chiriquí region of western Panama and most resembles

Fig. 28 illustrated by MacCurdy¹ and Fig. 10 by Holmes.² The resemblance to similar metates from Mercedes is also strong. It is a conventionalized figure of a jaguar, resting on four

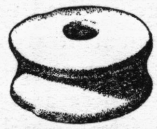


FIG. 44. Perforated stone, probably a bead, Paso Real.

angular, partly flexed legs. The tip of the long tail meets the left hind leg, and the head is conventionalized naturalistic. The upper oval surface is plain and slightly concave, without a rim. Head, legs, tail, and upper edge are decorated with rectangular geometric designs of shallow incised straight lines of indifferent workmanship.

The pre-Columbian inhabitants of the settlements of Buenos Aires and Paso Real had a culture very similar to, if not virtually identical with, that known as Chiriquí from western Panama. It may be assumed that they were a kindred group, and probably of the same or closely related language and blood. It is generally believed that they belonged to the Quepo and Coto tribes. Little if any difference obtained between the two settlements. This culture was also fundamentally similar to that of the Güetar people of Mercedes, though considerable and recognizable differences in detail existed. Probably the culture was almost identical with that of the nearby sites of Palmar and Lagarto, to be later described, although the nature of the objects composing the collections from the two pairs of sites is so dissimilar that no connection is obvious. The resemblance to the more distant Chorotegan culture of the Nicoya Peninsula is extremely slight. Like all the prehistoric Isthmian peoples, they were apparently a sedentary group, occupying permanent villages and subsisting mainly by the cultivation of corn.

The stonework, as represented in this collection, is characterized by the absence of the use of flint and obsidian, by the poverty of flaked implements, and the importance of ungrooved celts and axes.

PALMAR

Palmar is a small settlement near the mouth of the Rio Diquis or Rio Grande de Térraba some 20 to 25 kilometers below Paso Real. Lothrop³ gives the following notes on Palmar:

One mile southwest of the village is a hill, the entire side of which is covered with tombs, each marked by a small mound and a stone column. Some of the latter are carved. The graves consist of a cist built up of flat stones under which is often found a "huaca," or shaft, from 2 to 6 yards deep, at the bottom of which are found the objects deposited with the dead.

A second site is situated two and one-half hours' journey to the southeast of the town, on the Rio Grande de Térraba. Specimens found here were exhibited at Madrid in 1892 (Peralta, 1893, p. 23).

The present collections from Palmar and from Lagarto have nothing in common with those from Buenos Aires and Paso Real, suggesting the natural deduction that the cultures were entirely different. However, it is the nature of the objects from the two groups of sites that differs; the second group contains no figures, while the first consists almost exclusively of figures. The collections are, therefore, complementary and presumably represent the same general culture, the difference being due to the type of site from which the objects came. Those from Buenos Aires and Paso Real were probably secured by excavation of graves, those from Palmar and Lagarto by surface finds.⁴

Some 129 figures and other stone objects in the Keith Collection are ascribed to Palmar; the group contains not a single piece of pottery and consists exclusively of stonework, principally human figures. The latter differ radically from typical Güetar figures.

The Palmar stone objects fall into three main groups:

- I. Human figures. These constitute by far the largest part (85)
- II. Animal figures (12)
- III. Metates and similar objects (5)

HUMAN FIGURES

The majority of the Palmar human stone figures are of definite, characteristic, and ex-

³ Lothrop, 1926, vol. 2, 444.

⁴ MacCurdy, 1911, 21, reports that in the Chiriquí region "The stone images, statuettes, etc., are less frequently found; and are generally found either on the sur-

¹ MacCurdy, 1911, 31.

² Holmes, 1888, 27.

tremely stylized types of art, and of technical excellence. Nevertheless, they range from extremely crude and apparently undeveloped examples to rather ornate ones. However, certain characteristics are so uniform as to permit the identification of even the rudest figures. The art is archaistic, as noted by Spinden,¹ but he agrees that they are from a horizon later than true archaic. The limbs are short and close to the body. There is no evidence, however, that they are archaic or early in point of time; unfortunately, their association with ceramics is unknown. They may be, and herein have been, arranged in series according to archaic characteristics and quality of technique, though the criteria adopted sometimes do not all agree. But there is no evidence that this represents a sequential temporal development, and all may well be contemporaneous.

Two main groups of decidedly stylized and well-made figures and two of relatively naturalistic figures may be distinguished. Certain similar or identical peculiarities of art and technique in all four groups presumably indicate identity and, probably, contemporaneity of origin. The excellence of the technique, as well as the quality of the art and its approach to conventionalization, suggests that these figures were the products of the latest period. Since it is difficult to find examples of sequential gradations between these four advanced types, they must, therefore, be considered as parallel, contemporaneous developments. Possibly several deities were thus distinguished, but it is not impossible that the types result from differences in provenience.

Variations of lesser degree occur in each group, and these examples may, to a limited extent, be classified according to their details. Such a grouping may hint at artistic development and possibly temporal sequence, but the combinations of characteristic details are not uniform. In all the groups, however, certain objects are much simpler and ruder, and have a more archaic quality than others; these might be ascribed to an older period.

Supplementary to these main groups, with their ruder prototypes, are a small number of figures displaying an extremely rude, simple,

and archaic type of art and of forms which cannot with certainty be ascribed to any group. Because of their great variety they should properly be classed together. It is also not possible to draw any clear line of distinction between them and the more stylized prototypes. They have, therefore, been arbitrarily assigned to the types they resemble most closely. The natural assumption is that these are the true earliest and most archaic forms which antedated the stylistic peculiarities of the later art. A small number of figures have the characteristics typical of several groups. Artistically, if not temporally, these may be considered as transition types. A very few are somewhat aberrant.

The most archaistic human figures present the characteristics typical of the earliest stone sculpture of Middle America. A natural stone is only slightly modified by carving in very low relief. The limbs are either missing or vestigial, close to the body. The facial features are rude, and the general finish is very poor. The special characteristics that persist throughout the art of Palmar, even in the finest and presumably latest types, are found even in these crudest figures. The short vestigial legs converge toward the feet, the base being generally more or less pointed or knobbed. Generally, one or two encircling, or partially encircling, grooves represent the neck and waist. The male sex organs are frequently crudely delineated. Virtually no details are shown on the back, and fingers, toes, and teeth are not represented.

The four main groups may be distinguished as A, B, C, and D.

Group A is characterized by figures carved of igneous rocks instead of the sandstone of which the majority of the Palmar figures are made. Except for this characteristic, the figures are variable in style as well as in size, and some of them might well be placed in Groups B or C. However, all are quasi-cylindrical and demonstrate great freedom of treatment. Of the 13 figures in this group, eight are markedly archaic in style of art.

The simplest of the group are made of a coarse granitic rock, are quasi-columnar, and crudely carved in low relief (Pl. 52d, e). The facial features are rude, and the arms in low relief are flexed, asymmetrically in the figure in Pl. 52d. The legs in the figure in Pl. 52e are entirely missing, but are flexed in the first figure, which also has exaggerated male sex organs

face, above the graves or a short distance below." The implements were generally found in the graves.

¹ Spinden, 1917, 61, Fig. 19.

in displaced position. The finish of both is fairly good.

Three very small figures of decomposed granite form the next subgroup. Number 6606 BM is very rude, with arms flexed asymmetrically across the breast, vestigial legs, and striated mane; the ears and male sex organs are rudely indicated. The figure shown in Pl. 52a is cylindrical, with a good head, without legs, and with flexed arms barely indicated. Another (Pl. 52b) is rather flattish, with a small rude head, and flexed arms and legs which are merely suggested by notches at the sides. Twin breasts distinguish it as one of the few female figures.

A small seated figure (Pl. 52c), not of the typical cylindrical or flat oval shape, is radically different from any other from Palmar. The flexed legs, with long horizontal thighs and short shins, are doubled under the body and separated by a shallow groove which becomes a notch at the feet and buttocks. The flexed arms are clasped across the abdomen, and the shoulder blades are depicted on the back. The head is rude, and the male sex organs are shown in the form of a low knob.

The very similar figures, 6607BM and that in Pl. 53a, form another subgroup, the material being decomposed granite. They are small, long, and quite cylindrical, carved in low rude relief. A long mane hangs from the head to the base which is of tenon shape. The flexed arms and legs are shown on the sides and front, and the male sex organs are rudely indicated. Facial features are very crude.

Two figures of another type display considerable improvement in concept and execution. They are quasi-cylindrical, carved in relatively high relief, with all the surfaces finished, but are rather rude, with no fine details. The arms are flexed, with the hands on the abdomen. In both figures the top of the head is broad and relatively horizontal. The face is rather triangular, and extending down the back, from the horizontal top, is a cascade of what is apparently intended to represent hair, since it is striated in one of the examples. The facial features are poor and vaguely represented. In the second figure (Pl. 53b), of weathered granite, the legs are unrepresented, the feet being indicated by a bifurcated knob which forms an almost stable base. In the other example (6622), of volcanic tuff, they are well represented in full round as flexed, but the feet are broken off. This figure

has naturalistic male sex organs. These two may represent jaguar deities, since in the better figures the mane seems to be one of the characteristic features of this class.

The best figures of Group A are shown in Pl. 53c-e. They are all made of a granitic stone, large, massive, quasi-cylindrical, and well finished. The relief is low. The round heads are large in proportion; the facial features are shallow, but good, and the general treatment is naturalistic. Ears are shown in all instances and teeth in one. The arms are flexed across the breast, asymmetrically in two cases, and in one of the latter is held a vertical staff extending from the feet to the chin. The legs are short and flexed; fingers and toes are delineated. The male sex organs are naturalistic. The lower portion of the figure illustrated in Pl. 53c approximates the figures in Group D, inasmuch as the legs are bowed and converge toward a point, and the space between them is deeply excavated and almost perforated. The backs and sides as well as the front are finished, but naturally with less detail. The figure shown in Pl. 53d has geometric decoration on the back of the head which may represent either a coiffure or headdress. The last figure in this group is very large, massive, and well finished, measuring 80 centimeters high, 28 centimeters wide, and 26 centimeters thick. A headband encircles the forehead. The mouth is large and supplied with teeth, and a great striated mane hangs down the back. These may all be characteristics of an anthropomorphic jaguar deity.

Group B consists of 20 relatively flat, more or less naturalistic sandstone figures, varying from 20 to 60 centimeters in height. The rudest figures belonging to Group B (Pl. 54a) are the most truly archaic of all, being merely slightly modified, small, cylindrical stones. Either the limbs are not delineated at all or they are merely suggested by rude shallow vertical grooves. Horizontal grooves mark the neck and waist. The facial features are very rude, the general finish is poor, and no detail is shown on the back.

Four figures are of slightly superior art and execution (Pl. 54b). These are somewhat flatter than the preceding. The straight vertical arms are marked off close to the sides by slight grooves, frequently at both front and back; the short vestigial legs are similarly portrayed by a shallow, medial, vertical groove. The facial

features are rude and poor, and the penis is sometimes shown naturalistically. Number 6579BM may represent a jaguar deity.

Two large quasi-columnar figures compose the next type (Pl. 54d). The general form and finish are good, but the details poor, though the back is fairly well finished. The heads are large, but the facial features are barely indicated. The legs are vestigial or absent, but the arms are treated freely and flexed. The penis is in the form of a knob. In the figure illustrated (Pl. 54d), the arms are asymmetrical, one apparently holding a ball and one a bar.

Two figures (Pl. 54e) are of a type somewhat similar to the last, but superior in concept and execution. They are flat-columnar and well finished over all, the back being plain. The heads are large and high; the vestigial feet and legs end in a large knob. The male sex organ is shown as a large knob. In the figure under consideration (Pl. 54e) the arms are flexed and clasped on the breast, but in the second example of this type (6940BM) the arms and legs are delineated by slight, shallow, vertical grooves.

A series of three figures, all in this Museum (Pl. 54c), constitute the simplest specimens having one of the typical characteristics of Palmar figures, the complete perforation of the space between the legs, to separate them. The general form is somewhat flat and the finish good, that on the back being poorer. The legs are relatively short, converging, and end in a pronounced knob. In No. 6948 the arms are held straight down at the sides and separated from the body by deep grooves at the front and back; the detail on the back is good. Ears and fingers are rudely shown. In No. 6942 the arms meet across the abdomen and hold a bar vertically under the chin.

Of unusually large size and good concept and technique is the figure illustrated in Pl. 54c. Proportions and finish are good, as is the detail on the back. The face, though somewhat eroded, is apparently that of a jaguar, with a broad mouth and canine teeth. The striated mane is shown down the neck, and the penis is represented by a large knob. The arms are flexed across the abdomen and hold there what is probably intended to represent a human head, though the details are eroded. This concept of deity holding a human head is one which

finds full expression at the Güetar site of Mercedes farther north (*q.v.*). The deity represented is probably the same or cognate.

The most highly developed figures of Group B are those represented by six examples. These are small and naturalistic, finely made, with well-finished surfaces. The figure shown in Pl. 55a, for instance, measures 20 centimeters in height, 9 in width, and 5 in thickness. The heads are well differentiated, but the facial features are rather rude. The arms, straight down at the sides, are distinguished from the rest of the body by deep vertical grooves at both the back and front. In the best examples, the shoulder blades, buttocks, elbows, and other details appear on the back in low relief, very similar to that seen in the most developed examples of Group C. The legs are short, generally converging, and differentiated by a channel between them which varies from a shallow groove in one instance to a complete perforation in two other figures. The feet are generally knobs, and in one, a basal knob extends below them. Fingers and toes are represented in one figure, and the penis and the ears are generally carved rudely but naturalistically.

Two somewhat aberrant types are shown in Pl. 55b, c. The first (Pl. 55b), a figure of somewhat larger size, resembles the type in all respects, except that the arms are flexed asymmetrically and hold a vertical bar which reaches from the chin to the toes. A basal knob extends below the feet. All the details are unusually well executed, the toes are distinguished by grooves, and a wavy band encircles the head and forehead. The next figure (Pl. 55c) is difficult to classify. It is well developed in detail, but of rude and non-stylized art. It is small and naturalistic, with prominent breasts, one of very few female figures. The arms are flexed asymmetrically across the breast, the fingers and toes represented by deep striations. The legs are short and in full round, separated in natural fashion by a deep notch, and not perforated with a junction at the feet, as is the typical style. Lumps are shown on the knees. The shoulder blades and buttocks are represented realistically, but not in the more typical angular style; the back is plain, though well finished. The facial features and ears are in higher relief than usual, though somewhat grotesque; the mouth is marked by horizontal

and vertical striations representing teeth. A groove, possibly representing a casque, surrounds the head.

Group C consists of 19 quasi-cylindrical sandstone figures, with arms and legs generally flexed and frequently asymmetrical. The most developed figures in this group are characterized by a quasi-conventionalized angular style in which large hands with angular fingers are typical. They range in height from 15 to 81 centimeters.

Apparently the crudest examples of Group C are two very rude and quasi-cylindrical massive sandstone figures. No legs are shown, but the small, low-relief arms are flexed, with the hands to the front. The facial features are poor, with little detail, but the figure illustrated (Pl. 55e) has ears and a striated mane extending down the back, the latter feature being a normal characteristic of a jaguar deity.

The next type, which includes two figures (Pl. 55d), displays slightly superior artistic feeling and equally poor technique. They are small and quasi-cylindrical, the finish and detail rude. A marked development, however, is found in greater freedom of treatment; the legs are distinguished, in low relief, on the sides of the figures, partly flexed, and the arms are flexed in various attitudes. The penis is generally present, always naturalistic and frequently exaggerated. The back is well finished with some detail.

Two figures form a distinct subgroup, very similar in type, but varying in quality, the unillustrated piece (6614) very rude, the one shown in Pl. 55f, well finished. The carving is in rather high relief, the chin and abdomen protrude, the neck and waist are compressed. The arms are flexed across the abdomen, and the hands possibly hold a severed human head there. The legs are short and flexed, and a basal tenon extends beyond the feet. The characteristic feature is the naturalistic indication of ribs. The facial features, as usual, are poor.

A single figure (Pl. 56b), unique in concept, is difficult to place in series with the others. Its tendencies, however, are toward the archaistic, since it represents an unstylized naturalistic art. The figure is large and massive, the lower third being a great unmodified knob. It is roughly columnar, the depth from front to back being greater than the breadth. The relief is

relatively high, with arms and legs short and flexed, the hands holding a vertical staff in front of the body. Part of this staff is entirely broken away, but it was obviously semi-detached from the body, the evidence of two perforations being plain. The use of orifices to separate the elements of the stone figure is a well-developed technique in this region, particularly in the more stylized figures, but this figure differs in that the perforations are from side to side and not from back to front, as in every other case. Facial features and ears are very rude, and all other details are absent.

Another aberrant example which may fall in this group may be seen in Pl. 56a. This figure is small, short, quasi-columnar, and rude. The only details are the small head which is inclined forward, with the facial features barely suggested, and the low relief arms which are flexed across the front and hold a long bar or staff in an inclined position.

Four small figures of rather variant types and possibly forming a developmental series may be considered together. All are small, quasi-cylindrical, and have simple details in low relief. Number 6604 has only a head with raised eyes and nose and long flexed arms, with the hands under the chin. The base is rounded and the finish is good. Number 6967BM is ruder in finish, but has more details and is somewhat conventionalized. The legs are bowed and vestigial, but the detail of the buttocks is shown. The arms are flexed, with the hands under the chin, and the ears and male sex organs are rudely depicted. Two other figures have a good finish throughout, but are in low relief, and possibly weather-worn. The general effect, however, is that of extreme conventionalization. The legs of the figure illustrated from front and back (Pl. 56d, e) are very short and bowed. The low-relief arms are flexed across the abdomen, and the penis is rudely indicated. The barely suggested details of No. 6603BM are a large head, small body, vestigial legs, and flexed arms.

The first group of eight definitely stylized figures (see Pl. 56c), though differing greatly in detail, are all small and uniform in size. The heights range from 25 to 27 centimeters, the widths from 9 to 10, the thicknesses from 8 to 9. The shape is quasi-columnar. The figures are well finished at every point, and of a similar,

very stylized, and somewhat conventionalized type of bas-relief sculpture. The only uniformity in detail observed is that in all the figures, fingers, toes, and phalli are depicted; the legs are short and converge to a point; three grooves mark the neck, waist, and ankles; shoulders, buttocks, and other details of the back are in an angular style which typifies the art of the entire group. In five of the eight examples, the head is in profile, though the rest of the body is shown from the front. In two instances, the flexed arms are crossed behind the back; in two, they are joined under the chin; in two others, they are folded on the abdomen; and in the last two figures, they are treated freely and asymmetrically on the front of the figure. In five figures, the partly flexed legs are apparently bowed, and the toes are indicated by large vertical striations at the front and sides of the basal point. In two examples, the feet are naturalistic and the basal knob extends beyond them; and in the eighth instance, the feet are relatively naturalistic, with the toes slightly indicated. In two figures the male sex organs are naturalistic, in one simplified, and in five apparently covered by a characteristic object which is one of the identifying criteria of the following Group D. No two of these details are so combined as to permit a further subdivision of the group.

A very homogeneous group of seven distinctly stylized stone figures, very similar to the last type, forms the last of this series. In size and quality of workmanship they are more variable than the preceding group, but they are almost identical in artistic detail. The shapes are quasi-columnar, the relief is low and of a decidedly stylized type of art, approaching angularity. The hands are exaggerated; the large rectangular fingers are placed across the abdomen. Arms and legs are flexed; the latter are short and converge toward a point, where angular vertical toes similar to the fingers are represented. The details of the back are in low angular relief. The sex organs, probably uniformly male, are represented in all but one figure, where they are naturalistic, by an element which may represent a breechclout or penis cover. The facial features are poor. Number 6588 is rudely carved and some of the characteristic details are missing; nevertheless, it is more probably an example of inferior, though contemporary, workmanship than of a

more archaic period. The figure shown in Pl. 57a is typical but unusually large.

Of this general type, but much larger and with more detail, is the figure illustrated in Pl. 57c. The facial features are good, and the hair is represented by striations down the back of the head. A pair of animals with four long flexed legs, probably representing lizards or possibly insects, is shown at each shoulder and hip in conventionalized low relief. A smaller, flatter, oblong-shaped figure (Pl. 56f) carved in low relief is evidently of the same period and style of art. It is covered to the knees with a cowl or hood through which the face is seen. This cowl, naturally, obscures all the bodily detail at the front and back. One arm is flexed across the breast, and the fingers of the large hand grasp a vertically held staff. The feet are depicted more carefully than usual, with large vertical toes.

Nearly half (34) of the Palmar stone human figures fall into a very homogeneous, decidedly stylized, and somewhat conventionalized group of sandstone statues, characterized by their general flat nature and triangular or oval shape. The shoulders and feet form the apices, and generally triple perforations separate the legs and the normally vertical arms from the body. Fingers and toes are usually exaggerated in size and conventionalized, and, in the better examples, teeth are likewise shown. Other details vary from simple to complex, but are always in conventionalized style. These figures compose Group D. It is difficult to arrange them in a developmental scheme. The few differences may as well be ascribed to local variation as to temporal sequence. None of the figures has definite archaic characteristics.

The simplest of this group are exemplified by two figures. These are of flat, oval shape, with large, broad heads set apart by an encircling shallow groove. The arms are wide, separated by deep grooves or perforations; the legs are vestigial or missing. The back is finished, but plain. The facial features are large, grotesque, and of an art style decidedly more archaic than that displayed in the remainder of the figures of this type. One (Pl. 57d) is of average size for this group; the depression between the arms and body at the front and back, though deep, is not cut through, and the legs are entirely absent. The penis is rudely shown in the peculiar fashion of the more developed figures of

Group C. Number 6575BM is small; the arm depression is cut through; and the legs are shown by a short vertical groove at the front and back.

The figure to be seen in Pl. 57b might as well be considered as belonging with the more developed figures of Group B. Though flat and somewhat triangular in body shape, it is more naturalistic than most of the figures in Group D. Shallow, unperforated grooves separate the arms and legs, fingers and toes are marked by vertical striations, and the penis is naturalistic. The finish is good, with some details of the shoulder blades and buttocks.

Two figures (Pl. 57e) are unusual and quite conventionalized in character. The single difference between them is in size, the former being of average size, the latter much smaller. Both are thin and of a triangular, quasi-oval shape. The finish is good, and the backs are plain, except for a broad depressed band apparently representing the waist. No grooves or perforations separate the arms or legs, the latter being represented solely by large vertical toes similar to the most developed types of Group C. The hands are similarly treated; the arms are shown as broad, slightly raised sections above the hands. The facial features are of the same type as the most developed examples of Group D to be described later. The smaller figure shows the horizontal groove beneath the nose which is also typical of some later forms.

Very similar are two other figures (see Pl. 57f); their size is below normal and the illustrated specimen is unusually small. Both are flat, but the bases are more pointed than in the last type. The finish is good, the backs are nearly plain. The smaller figure is unperforated, but the larger one has a small, long, rectangular perforation between the thighs. In the smaller figure a notch at the base represents the feet. The toes in both are marked by vertical striations. In the two figures the arms are in low relief, flexed across the breast in a very similar angular-concave fashion. In the smaller specimen, however, they are apparently bent downward from the shoulder, the fingers being represented by vertical striations at the groin; in the large example, the arms are apparently flexed upward, and the hands appear at the shoulder in the form of horizontal striations. The general effect, however, is almost identical. The facial features are like those of the more developed

types of this group; in the smaller figure they are ruder.

The figure illustrated in Pl. 58a is apparently a more developed example of the type shown in Pl. 57f. While it resembles the unillustrated figure more closely, the arms are flexed downward in the position of those in Pl. 57f; the hands are at the groin. A perforation separates the legs, but there are, naturally, no arm orifices. In other respects it belongs with the more developed examples of Group D. The head is large and flat, with oval eyes, a groove below the nose, and with ears and teeth indicated. The back is relatively plain.

As opposed to those heretofore considered, the remaining large number of Group D figures are of one type, the differences being of a minor nature. They are generally rather flat and quasi-triangular, with three perforations between arms and legs. The finish is good, but the backs are comparatively plain. The legs are relatively short and slightly converging; the fingers and toes are shown in exaggerated size by vertical striations. The facial features are grotesque, but stylized; the pubic regions are covered with a triangular object probably representing a breechcloth.

In Pl. 58b may be seen one of six of the least differentiated of this subgroup. The next type (Pl. 58c) consists of five figures. The heads are generally smaller, the necks frequently longer, the faces often have an edge below the nose, and the mouth is receding. In one of these figures this last feature is very prominent. A thin groove, apparently representing the knees, encircles that region in all examples except one, where it is replaced by knobs that evidently portray the patella; in one figure a similar groove on the arms probably represents the elbow. A groove, possibly depicting a headdress or cap, surrounds the head, and the ears are generally shown. The size is nearly uniform.

The three best figures of this subgroup are rather large and well executed (Pl. 58e). The elbow and knee grooves are well developed on all. The heads are rather large and flat, and the figures all have the groove below the nose, and receding mouth region. The flat noses are broad, the oval eyes in low relief, and the ears are shown as an angular scroll. The forehead groove, instead of surrounding the head as is characteristic of the last type, encircles the ears.

Of rather variant, but decidedly stylized art, and possibly of later period, are six figures in which the position of the arms is unusual. In three of them (see Pl. 58d) the arms are crossed on the breast, and the hands are at the shoulders. A perforation is made between the legs, but, naturally, none between the arms. The male sex organs are slightly conventionalized. In other respects the figures epitomize the art of the most developed types from Group D, with a groove under the flat nose and ears, but no forehead groove. The backs are well finished. They vary from severely plain to conventionalization of the shoulder blades in one figure.

In three similar examples, the position of the arms is different (see Pl. 58f). In two of these figures the arms are flexed, with the hands under the chin, while in the first, they are flexed asymmetrically across the breast. In the first two the legs are divided by a groove, but the arms are not so separated. The latter two apparently represent females, while 6564BM is less definite. Striations represent the hair on the back of the head in the figure shown in Pl. 58f. The finish on the back varies from relatively plain to stylistically developed. A fragmentary figure (7154BM) is artistically superior to the others. Three small low knobs or discs are carved on the breast. These may be decorative, as is apparent in the following types, but may possibly represent female breasts and navel. The facial features, displaying teeth and ears, and the decoration on the top of the head, probably representing a cap or headdress, are on a par with those of the next type, the finest figures of the group.

The remainder of the figures in Group D present details and general artistic treatment of a grade much superior to those heretofore considered, the inference being that they are products of the latest period of artistic development.

A connecting link between the last considered and the ensuing types may be observed in the figure in Pl. 59a. It is unusual in that the feet are not connected at the base, as in the great majority of figures, but the stubby vestigial legs are separated by a short deep notch. The arms are flexed asymmetrically across the body and carry a long club diagonally. Near its end is a low oval knob undoubtedly intended to represent a weapon in a wooden haft. A ring of large discs below the neck probably portrays

a bead necklace. The nose is flat, the eyes are oval, and the mouth is large. Teeth, fingers, and toes are shown by striations, and the penis is shown as a knob. Long flowing hair descends behind, and apparently an article of dress covers the hips. The execution is, on the whole, poor and rude. Certain characteristics indicate that it may have been intended as a jaguar deity.

Of the four finest figures of Group D, selected from the standpoint of artistic excellence, wealth of detail, and technical execution, one is shown in Pl. 59e. All are large and are characterized by lines of large dots or discs on the front of the arms and breast. Not unlikely, these represent jaguar spots. In addition to all the usual bodily features, the navel is marked. One figure (Pl. 59c) is female with twin breasts and vagina. The other three are male, the sex organ being shown once in a stylized naturalistic manner, and twice with the rectangular object, possibly a breechcloth, characteristic of the most developed types of Group C. In 6932BM this is decorated with geometric rectangular motives composed of striated lines, probably representing designs on textiles. The female illustrated in Pl. 59c has no perforations or grooves between the arms and body, but the other three figures have the typical three orifices. The backs are well finished, but without an unusual amount of detail. The ears and teeth are well displayed, the nose is broad and flat, but the eyes differ in technical execution. The top of the head of 6559BM is carved with a low-relief cross which apparently represents either a headdress or coiffure; a labret is indicated in the lower lip.

A small group of five figures is variant in that, though the bodies are identical with those of Group D, the heads are anthropomorphic representations of a carnivore, probably the jaguar, or of serpents. Therefore, the figures probably represent anthropomorphic jaguar and snake gods, both deities common to many cultures of Central America and Mexico. Little or nothing is known, of course, concerning the names, mythology, or attributes of these gods.

Number 6572, one of the best figures in Group D, has double elbow and knee bands. Three discs on the trunk may represent navel and breasts, though the figure is male; a triangular breechcloth covers the penis. The head is flattish and decidedly anthropomorphic, except for the mouth, which is very wide, curving,

and with exaggerated canine teeth. The figure is well finished on the back.

In a ruder type (6952), with little detail on front or back, the head is relatively round and distinctly anthropomorphic; the canines, the only teeth shown, are greatly exaggerated, and a tongue extends from the mouth to the neck. It might be identified as either a jaguar or a serpent deity.

Also relatively plain is a figure (6931) of unusual size. Except for the very large mouth, the head is anthropomorphic. The only teeth shown are two great fangs. The thin lower jaw projects, and a slender tongue extends to the breast where it forks. It is, therefore, definitely a serpent deity.

An unusually good and very large statue (6964BM), 79 centimeters high, is rather plain and more naturalistic than the majority, though of the usual type of art. The legs are relatively longer than usual and the feet decidedly naturalistic, displaying soles and toes, the ankles being bound together. The hands also are good, and the male sex organs are naturalistic. The head is quasi-anthropomorphic, but flattened antero-posteriorly. The top of the head is flat; at either side is a projection which from the front appears to be a horn, but from the back is seen to be the head and foreleg of an animal, probably a reptile. The ears are shown as a rectangular scroll. The face is much weathered, obliterating all detail, but this has probably recently, unfortunately, been restored by the application of moulded relief of a pottery-like nature covered with black pigment. The un-restored eyes are large, bulging oval bosses; the nose is a flat, bridgeless, rectangular protuberance. The mouth is very large and consists of a low oval ring crossed by two low vertical ridges that represent fangs like those on the preceding figure described. No other teeth are shown. A thin vertical tongue like that of No. 6931 extends from the lower lip to the breast, where it apparently forks, though this part of the figure also has been destroyed and restored. It was undoubtedly intended to represent a serpent deity.

A small figure (Pl. 59d) with legs broken across the thighs is indubitably the finest and best finished of the Palmar stone figures. It is typically flat and stylized with the usual three perforations. The back is excellently finished with the buttocks well shown, the general artis-

tic treatment being angular. A slight flexing of the arms is shown with a small knob at the elbows. The hands are good. The penis is naturalistic. The anthropomorphic head is that of a jaguar, the large bulging eyes, eyelids, and flat nose being well portrayed. The mouth is large, the teeth are well made, with large prominent canines; the flat curved tongue extends down beneath the chin. Around the head is a halo or crown of four short, thick, rectangular nodes, like cogs, probably representing a ceremonial headdress, possibly of feathers. A mane of striated hair hangs down the back of the neck.

The last figure of this group (7155BM) is fragmentary, the lower part of an unidentifiable type.

A small head (Pl. 59b) most closely resembles the heads of figures of the type shown in Pl. 58c. The neck, however, is long, cylindrical, and bears no evidence of having been broken from a figure. It is impossible to determine whether it was made as an independent head or whether the line of fracture from a figure was subsequently worn down.

A head of very different type (7156BM) is large and roughly conico-hemispherical. Though in some respects it resembles the heads of the large jaguar figures, it is probably human. It too may have been broken from a larger figure, but the appearance of the base does not substantiate this hypothesis. Eyes, nose, mouth, and ears are represented in very low relief, possibly somewhat eroded by weather, and in a rectangular style of art. There are traces of low-relief rosettes on the top of the head, very similar to those found on the heads of certain Güetar figures.

ANIMAL FIGURES

Though numerically far less important than the human figures, animal figures are also characteristic of the Palmar culture. Sixteen such figures, generally carved in fine-grained sandstone, are found in the present collection, all but four of which apparently represent the jaguar. The latter four are relatively small, but the jaguar figures vary from 16 to 53 centimeters in length, the large ones being very massive, because of the large solid torso. Quite stylized and conventionalized, the figures are readily identified and unmistakable.

An armadillo is obviously represented in Pl.

60a. The legs are flexed in a rudely conventionalized style, the animal apparently resting on elbows and knees in a crouching position. The head is long and triangular, the neck short, and the nose rests on the ground. The thick bifurcated tail projects toward the ground; the back is high and arching. Ears, eyes, and nose are carved in relief, and the mouth is shown as a striation. Except for the mouth and tail, the relief is low, with the legs close to the body. The surface finish is fairly good, but not so smooth as that of the better jaguar figures.

A tiny figure (6629BM), the smallest of all, 9.5 centimeters long, represents an unidentified animal, possibly also an armadillo. The head is large and without features, except for the crescentic mouth, and the tail is horizontal, short, and thick. The legs are merely a group of four knobs made by means of a longitudinal and a transverse shallow groove crossing at right angles. No other details are shown.

An example of excellent conventionalized animal portraiture is represented in Pl. 59f, a roughly triangular figure made of a granitic rock. The head is large, with a long conical snout with a rounded end; the mouth is indicated by a groove, and the eyes and ears are indicated by low knobs. The body is much smaller than the head, with the limbs shown in low relief. The forelegs are crossed on the back, while the hind legs are short and merge into a cylindrical tenon, which is apparently the base of the figure, so that the animal is represented as standing on its hind legs with its large head in a horizontal plane. Probably a fox or a raccoon is intended, but the body may be anthropomorphic.

A bird, obviously an owl, is portrayed in Pl. 60b. In general shape and treatment it resembles the bird figures from Pacayas in the central Güetar region to the north. The relief is low, the sandstone unusually coarse and weather-worn, and the figure rests, rather insecurely, on the legs and tail. The large eyes and short beak are the identifying features. The feathers of the head, wings, breast, and tail, and the claws are indicated by groups of parallel, widely spaced, and relatively shallow striations. The workmanship, on the whole, is excellent, though the finish is rather rough.

The 12 jaguar figures vary greatly in size and merit, size being normally correlated with excellence. Except for the legs, the smallest figure

(6628BM) is naturalistic in proportions. The curving tail is close to the body, and ears, nose, and mouth are well conceived, though not so well executed. The legs, however, are very short; the flexures are indicated against the body in low relief, and the projecting paws are exaggerated. The legs of each pair are divided by a short, shallow groove, but the separation between fore and hind legs is more naturalistic.

The animal figure illustrated in Pl. 60c, while small, resembles the large figures more closely in the development of detail, quality of finish, and conventionalization. The proportions are unnatural, the head being abnormally large, the legs very short. The body is that of a tapir, rather than a jaguar, but the large head is unmistakable. Details are always symmetrical and regular, and the surface finish is good. The mouth is large and open, revealing the great canine and other teeth, and the large tongue hangs down below the chin. Eyes, nose, and ears are well portrayed in very low relief, and the tail is shown in a straight vertical position. The legs are abnormally short, separated from each other by wide grooves; the five toes are indicated by striations in the conventionalized manner. The shoulders, hips, and thighs are carved in low relief against the body.

A small figure of the same shape and type as the preceding jaguar statue is made of a white stone from which all details have been eroded, leaving only the typical body, head, tail, and very short legs, with suggestions of ears, nose, eyes, and rectangular shoulders and hips.

In a similar figure of soft white lime sandstone, all the details are eroded, but it has the general characteristics of the jaguar figures. The tail, however, is short, horizontal, and bifurcated, and the back ridge is hollowed out in a deep quasi-rectangular depression to serve as a receptacle or bowl.

Seven large jaguar figures are excellent in concept and execution. Though varying somewhat in minor details and in excellence of technique, they form a single group and probably differed only slightly in period. Presumably all are contemporary and probably of the latest or highest art period; none is noticeably archaic.

All are of sandstone, with smooth finish, and of stylized and conventionalized art. The bodies are quasi-cylindrical and in all the figures except one are much thicker in proportion than natural. The legs are also broad and short, the

greater part of them being shown in low relief against the body, in a conventionalized style. The shoulders and hips are depicted in relief, generally in a curvilinear style, but in one figure are quasi-rectangular. In two of the best examples, the portion of the legs extending beyond the body-line bears decorative elements. The feet are extremely short, broad, and massive, the entire body suggesting a hippopotamus rather than a jaguar. In all but two, horizontal incised bands separate the legs from the paws, and the toes or claws are represented by notches in low relief, varying from quasi-naturalistic to strictly conventionalized in the finest figure. The natural number of toes is common, but instances of four and six are found. The feet are in only two cases separated by the medial groove to the depth of the body, and in some instances the division is barely more than indicated in low relief. The curving vertical tail is shown in low relief, being, by the limitations of the art, much shorter than natural.

The neck is always short, and the head ranges from slightly larger to much larger than natural. Its position varies also from those in which the mouth is nearly vertical to one in which it is horizontal, the tendency being toward the former position. The faces differ considerably in detail, but in all the mouth is large, wide, and broad, quasi-rectangular, and filled with large oblong teeth and exaggerated triangular canines. The tongue, apparently missing on two specimens and broken off in a third, is curved over the chin in two figures. In the other two instances it has been restored, once over the chin and once projecting forward, the latter probably an incorrect position. The ears are always shown, in the finest figures as a scroll, and in the others as a horseshoe relief. The facial features are always conventionalized, in low relief, and the eyes are generally oval, in one instance rectangular. Continuous curving lines extend from the ears to the point of the nose, representing the brows and the nose. The end of the nose is much flattened; the nostrils are unrepresented.

The largest, finest, most ornate and most conventionalized of all the jaguar figures (Pl. 60d) is double-headed, the two ends being similar and symmetrical. In other respects it follows the general type, its peculiar details having already been noted.

METATES AND IMPLEMENTS

Five metates or metate-like objects are found in the Palmar collection. All are relatively small and made of volcanic tuff. They fall into three or four classes. Two small metates (Pl. 60f and 6637BM) are almost identical, somewhat resembling Chorotegan metates from the Nicoya Peninsula. The upper surfaces are quasi-rectangular, concave in one plane and slanting. They rest on three large conical legs. A metate illustrated (Pl. 60e) is larger, with a slightly oval concave upper surface, and rests on four short, thick, cylindrical legs. Number 6634 is virtually a small replica of Chiriquí or Güetar so-called metates of jaguar form. The upper surface is oval, deep, and concave, forming a bowl. The jaguar head is very well made and naturalistic, the end of the curving tail touching one leg. The four legs are somewhat conventionalized naturalistic, short and flexed, with the feet well shown. A little decoration of incised diagonal lines appears. A rude and apparently battered specimen (6636) may originally have been similar to 6634, though there are no indications of the former presence of head and tail. The upper surface is roughly circular or oval and concave. The four short legs on the corners have the general appearance of those of a quadruped.

The four-legged metate in the form of a jaguar is the characteristic type of the Terraba-Boruca-Chiriquí area, even more so than of the highland Güetar region.¹

Spherical stone balls of excellent technical handiwork are the outstanding characteristic of archaeological sites in the Terraba Valley.² Their purpose is unknown; they range from a few inches to 6 feet in diameter. Naturally, none of the largest size is included in the Keith Collection which contains three comparatively small balls. All are of granitic rock and are virtually spherical. A fourth may be natural, but is of very peculiar form and surface; large and roughly spherical, it is covered with rude, rough knobs of irregular size and shape.

LAGARTO

Lagarto is also located on the Rio Grande de Terraba, some 12 kilometers above Palmar. Four stone figures in the Keith Collection are

¹ For further details on the distribution of metate types, see the section on Mercedes.

² Stone, 1943, 77.

given this provenience. The art is distinctly related to that of Palmar, but none of the four figures is even an approximate duplicate of any in the Palmar collection. Two seem markedly archaic, while the others are somewhat stylized.

A massive figure (Pl. 61a) of decidedly archaic artistic tendencies is very rudely carved in low relief on a block of very rough sandstone. The head and facial features are large, the eyes bulging. The flexed arms and legs are seen principally on the sides of the figure, the latter converging toward a basal point and the hands apparently holding a circular object against the breast. The most noticeable feature, however, is an object in high relief on the back of the figure. This is oval-rectangular in form, with a knob at the upper end, and probably represents an infant borne in a baby carrier.

A small flat-cylindrical figure (Pl. 61b) bears a slight resemblance to certain Palmar sculptures. All the details are rude. The partly flexed arms are shown at the sides, but the legs are absent, the body ending at the thighs. Ears, eyes, and nose are in rude relief, and the mouth is incised. The abdomen is roughly cross-hatched.

A small fragmentary figure (Pl. 61c) of unusual type is carved of soft, white lime sandstone. Only the torso and head are shown, the

rest of the figure being problematical. The general effect is perfectly naturalistic, but thin and elongated. It is not impossible that it may be post-Columbian.

Another interesting example of stone carving, but unfortunately fragmentary, is a portion of a figure (Pl. 61d) preserved only below the thorax. In general type it resembles the Group D Palmar figures, being long and somewhat flattened, the feet joined and an orifice made between the legs. Much detail is shown in low relief. The legs are short, cylindrical, and slightly flexed with knee caps in the form of small discs. The toes are conventionalized knobs, the heels well carved, and a basal knob extends below the feet. The male sex organs are naturalistic. The arms are shown as tied at the elbows behind the back with the hands extending around to the front. The latter are conventionalized as circular discs surrounded by five small knobs representing fingers. On the breast a relief decoration consisting of two inverted, symmetrical, conventionalized animal heads of uncertain identification probably represents a pendent gold ornament. Though the figure is somewhat weather-worn, the detail is full and good, and it is an excellent example of conventionalized naturalistic art, superior to anything from Palmar.

CONCLUSIONS

THIS MONOGRAPH was intended as, and is primarily, a factual and visual report on a remarkable and unique collection from a region ordinarily not well represented in archaeological or art museums. The collection is extraordinary for the quantity and quality of the art objects and multiplies many fold the number of stone objects heretofore illustrated from this region. A fuller picture of the sculpture from the cultures involved is thus presented. From a scientific, archaeological point of view, its contributions cannot be great. It ignores the pottery, the archaeologist's best criterion for culture periods and contacts. It is accompanied by no excavation data. No deductions can be drawn from the absence of objects of any given type. Any conclusions, therefore, must be an attempt rather to place the cultures represented in their proper archaeological setting on the basis of known facts than to add greatly to the latter.

Only eight sites are represented, and by far the majority of the objects come from one of these, Mercedes. The sites fall into two culture areas, the Central and the Southern; the third principal Costa Rican archaeological area, the Pacific, Nicoya, or Chorotega, was not considered in the present study. In addition to Mercedes, the Central area is represented by Cartago, Curridabat, and Las Pacayas. Cartago and Curridabat apparently differ little from Mercedes; Las Pacayas is a sub-area with specific characteristics. The southern sites are Buenos Aires, Paso Real, Palmar, and Lagarto. The objects from the latter two sites differ greatly from the first two, but they are probably complementary rather than different, and probably all four represent a single culture.

Mercedes, generally recognized as the type site of its culture, was obviously a great ceremonial site. Here were found numbers of great and magnificently carved altars, stands, seats, metates, and figures, of types and of a quality unknown at the other sites. The mounds here are grouped in courts in a manner suggestive of influence from the north. Similar mounds have been found at Williamsburg and at Costa Rica Farm; they seem to be limited to the Atlantic coast drainage.

The central highland sites, including Merce-

des, are generally ascribed to the Güetar, historically almost the only known people of the region. Lothrop¹ states:

The Güetar are the only people of whom we have historical knowledge in the Highland area. In view of the general uniformity of archeological types, all remains are probably the handiwork of this tribe.

There is, however, some doubt whether the people of the Atlantic slope were Güetar as were those of the true highlands. Spinden² says:

On the available evidence it does not seem possible to connect the Güetar of the Costa Rica highlands with the archaeological remains.

Not much is known historically of the Güetar of the time of the Spanish Conquest; we have no knowledge of their theology. Human sacrifices were frequent. Their language was termed the "maternal and general" language of all Costa Rica. Like almost all the other languages of Panama and Costa Rica it was related to the Chibcha of Colombia.³

Lothrop⁴ divides the highland region into four sub-areas: Atlantic Slope, Cartago Valley, San José Valley, Pacific Slope. Spinden⁵ divides his "Province 2," northern Costa Rica and southern Nicaragua, into five sub-areas: Atlantic Slope, with Mercedes as the type site; highlands; Ometepe and Rivas, or Nicarao, Nicoya Peninsula; Térraba-Chiriquí.

All writers on this region agree that there was a basic unity in culture from the Chiriquí of Panama virtually to the borders of the Maya region, including the Paya of northern Honduras. Spinden⁶ calls it the Chorotegan culture area. While some general name is needed, "Chorotegan" was probably not a good choice, inasmuch as this name has always been used to refer to the most variant sub-region, that of the Pacific coast, in which northern influences were most pronounced. Spinden divides this into three great provinces: Northern Honduras and Eastern Nicaragua, Northern Costa Rica and Southern Nicaragua, Northwestern Nica-

¹ Lothrop, 1926, vol. 2, 392 ff.

² Spinden, 1925, 542.

³ See Mason, 1940; Johnson, 1940.

⁴ Lothrop, 1926.

⁵ Spinden, 1925.

⁶ Spinden, 1925.

ragua. The sub-areas of the second province, the one in which this monograph is interested, have been given above.

The important features in art and technology prevailing throughout the entire area . . . are sufficient to establish cultural unity in spite of minor provincial developments in the forms of decorative art . . . but the fact of basic unity is perhaps more important than that of superficial difference.¹

With this point of view there is general assent.

Spinden, however, believes that the archaeological remains are of an earlier Toltec horizon, left by Chorotegan peoples who were replaced in relatively late days by Güetar, Talamanca, and other peoples of Chibcha language and basically South American culture, peoples of a lower culture who left few traces of their relatively short residence. This radical hypothesis would explain the great and surprising difference between the high culture, exemplified by the archaeological remains, and the low culture of the present remnants of the recent native populations, such as the Talamanca and Miskito. It has not been generally accepted, however. One argument against it is the fact that Hartman² found European glass beads in stone cist graves at Santiago and at Mercedes, indicating that the burials dated from about the time of the Spanish Conquest; the neighboring cists must have been approximately coeval. As these graves apparently differed in no important respect from any others at Mercedes, and as there is no evidence of radical changes in population since the time of first European contact, it follows that the archaeological culture of Mercedes must have been that of the popula-

¹ Spinden, 1925, 529, 530.

² Hartman, 1901, 175.

tion found there in those days.

In 1926 Lothrop³ wrote:

In character these (Highland) remains bear strong resemblance to those of Chiriqui, so much so, indeed, that the region may well be considered to have had a specialized culture developed from the Chiriqui and modified by contact with northern influences.

Lothrop would probably state the case less strongly today. The basic unity with Chiriquí is obvious, also the stronger northern influences in the Highland region, but the latter can hardly be said to have developed from Chiriquí; both developed from a common background.

On the other hand, South American influences are very strong in the Chiriquí region, although Lothrop⁴ again probably is too dogmatic in stating that:

Examination of the pottery of Chiriqui indicates that it belongs almost *in toto* to South America.

The culture of the neighbors of the Chiriquí, the Boruca, as exemplified herein in the sites of Buenos Aires, Paso Real, Palmar, and Lagarto, is only slightly differentiated from that of the Chiriquí. The locale of the greater part of this monograph, the Costa Rican highlands, is, therefore, in the words of Lothrop⁵: "The real meeting-ground between the two continents." The stone sculpture, therefore, in addition to its intrinsic artistic merit, has great value for its bearing on these cultural connections.

³ Lothrop, 1926, vol. 2, 285.

⁴ Lothrop, 1926, vol. 2, 411. Lothrop's "Summary and Conclusions" (385-417), especially the sections on "Pottery Types and Historic Peoples," "Cultural Relations and Chronology," and "Interrelationship of Middle America and South America," constitute an admirable discussion of the problems involved.

⁵ Lothrop, 1926, 411.

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EXPLANATION OF ILLUSTRATIONS

PLATES

13. Types of tripod metates, Mercedes
 - a. Massive oval metate, most archaistic tripod form (11405; length, 58 cm.)
 - b. Tripod metate, convex in longitudinal plane, concave in transverse plane (11400BM; length, 37 cm.)
 - c. Crude archaistic metate with rolled rim (6865; length, 37 cm.)
 - d. Small oval metate with roughly scalloped rim (12524; length, 24 cm.)
 - e. One example from a homogeneous subgroup, with conical and divergent legs (12472BM)
 - f. Technically excellent metate with holes in plate, "ceremonially killed" (7026BM; length, 75 cm.)
14. Variations in quadruped metates, Mercedes
 - a. Small metate of vesicular lava, unused (14451; length of bowl, 10 cm.; height, 5.5 cm.)
 - b. Massive metate with circular bowl (1759; diameter, 11.5 cm.; height, 6 cm.)
 - c. Unique metate or mortar of slight height (14421; length of bowl, 32 cm.; height, 8.5 cm.)
 - d. Metate or seat with jaguar legs (7049BM; length, 41 cm.)
15. Jaguar metates of light gray felsite, Group 1; provenience uncertain.
 - a. Metate with flat interior and raised borders (11396, length, 49.5 cm.)
 - b. Low-legged metate with broken tail modified into a grotesque head (11401; length, 40.5 cm.)
 - c. Rectangular metate with reworked stump of looped tail (11397; length, 41 cm.)
 - d. Metate with undecorated legs (11403BM; length, 47.5 cm.)
 - e. Metate with alternating curvilinear and rectilinear motives on the legs (11394BM; length, 48 cm.)
 - f. Large oval metate with plain legs (11393BM; length, 67 cm.)
16. Jaguar and double-headed bowls or mortars of reddish vesicular lava, Group 2, Mercedes
 - a. Small jaguar bowl with triangular design on right side and diamond pattern on left (not shown) (7018; length, 28.5 cm.)
 - b. Double-headed bowl with plain legs (7022; length, 22.2 cm.)
 - c. Double-headed bowl with dissimilar decoration on the legs (7038, length, 23 cm.)
 - d. Jaguar bowl with incised decoration (6854; length, 32.3 cm.)
 - e. Jaguar bowl with plain head (7023; length, 24 cm.)
17. Jaguar metates and bowls of gray vesicular lava, Groups 3 and 4, Mercedes
 - a. Rectangular jaguar metate, with naturalistic head and tail, Group 3 (12530BM; length, 60 cm.; height, 16 cm.)
 - b. Rectangular double-headed metate with legs facing in opposite directions, Group 3 (7031BM; length, 60 cm.; height, 19 cm.)
 - c. Oval jaguar metate resembling the Chiriquí type, Group 4 (12469BM; length, 61 cm.; height, 18 cm.)
 - d. Oval jaguar metate with forelegs and hind legs each joined by a bar (7030BM; length, 64 cm.; height, 18 cm.)
 - e. Concave oval bowl or metate, a unique type, Group 4 (1755; length, 35.6 cm.; width, 22 cm.)
 - f. Bowl, with naturalistic head and tail (13705BM; length, 31 cm.; height, 11 cm.)
18. Metates or bowls of gray and fine-grained lava, Groups 4 and 5, Mercedes
 - a. Metate with double tapir heads and jaguar legs (1757; length, 26 cm.; height, 9 cm.)
 - b. Oval metate representing a crocodile or alligator (7025BM; length, 43 cm.; height, 17.5 cm.)
 - c. Jaguar metate executed in a variant artistic style (7039BM; length, 28 cm.; height, 13 cm.)
 - d. Metate of reddish lava, Group 2, but in the form and style of Group 4 (6881; length, 36.5 cm.)
 - e. Jaguar bowl, highly developed in technique and art style, Group 5 (6869BM; length, 46 cm.; height, 18 cm.)
 - f. Jaguar bowl with undecorated legs, Group 5 (7037 Buffalo Museum; length, 37 cm.; height, 14 cm.)
19. Metates or bowls classified under Group 5, and a zoomorphic bowl, Mercedes
 - a. Jaguar bowl with stumpy legs and broken tail, probably Mercedes (12516; length, 15.2 cm.)
 - b. Small rectangular bowl with unusually naturalistic legs (7020; length, 18.5 cm.)
 - c. Metate of general reptilian shape and jaguar head (6856; length, 38 cm.; height, 11 cm.)
 - d. Zoomorphic bowl related in style to Pl. 19e and f (6880; length, 25 cm.)
 - e. A variant form of jaguar metate, with bifurcated tail and rope-like connecting elements (6855BM; length, 32.3 cm.)

- f. Naturalistic jaguar metate, related in style to Pl. 19d and e, but less ornate (6857BM; length, 47 cm.)
20. Metates of Groups 5, 6, and 7, and a zoomorphic bowl, Mercedes
- Rectangular metate with naturalistic head, Group 5 (11389; length, 23.5 cm.)
 - Zoomorphic bowl with unusual treatment of naturalistic jaguar head (1753; length, 24.8 cm.)
 - Rectangular jaguar metate, Group 7, with naturalistic head, and tail extending outward (7032BM; length, 55 cm.)
 - Metate with naturalistic jaguar head, unusually high (6875BM; length, 45 cm.; height, 19 cm.)
21. Great zoomorphic metates and those classified with Group 7, Mercedes
- Double-headed rectangular jaguar metate with legs facing in opposite directions, Group 7 (7033; length, 51.4 cm.)
 - Rimless rectangular metate, Group 7, with scalloped decoration modified into anthropomorphic faces (12476BM; length, 63.5 cm.)
 - Great zoomorphic metate, fragmentary (7003; length, 188 cm.)
 - Metate resembling the Chiriquí type with oval plate, conventionalized jaguar head, and long naturalistic legs (7057BM; length, 126 cm.)
 - Metate with circular plate and scallops modified into human, monkey, or jaguar faces (7010BM; length, 59.5 cm.)
22. Miniature zoomorphic metates and zoomorphic metates with connected legs, Mercedes
- Very small oval metate, with a rude head (13180; length, 9.5 cm.)
 - Zoomorphic metate with oval bowl supported by connected legs (7024BM; length, 32 cm.)
 - Zoomorphic metate with rectangular bowl, and legs joined by monkey figures (12527BM; length, 41 cm.)
 - Bird-shaped metate or miniature stool (6853; length, 11.3 cm.)
 - Zoomorphic metate of dark lava with ornate legs joined by monkeys (6876; length, 32 cm.)
23. Variants from metate types, Mercedes
- Zoomorphic metate with rectangular plate and supporting monkey and unidentified animal figures (7015; length, 27 cm.)
 - Intermediate type between jaguar metates, oval seats, and lattice-supported bowls (6877BM; length, 25 cm.)
 - Unique bowl with knobs shaped like jaguar heads, probably in process of being carved (1758; length, 28 cm.)
 - Metate variant in style from the jaguar metates of Group 7 (13183BM; length, 37.5 cm.)
24. Oval seats, Mercedes
- Oval seat supported on four plain legs (1747; length, 32.5 cm.)
 - Oval seat supported on four independent legs carved in human form (12475; length, 38 cm.)
 - Oval seat with legs modified in Atlantean style and carved in monkey shape (13182; length, 39 cm.)
 - Oval seat with four plain legs (12526BM; length, 26 cm.)
 - Oval seat with connected legs and monkey figures (13185; length, 26 cm.)
 - Oval seat resembling zoomorphic metates with connected legs (7046BM; length, 38.5 cm.)
25. Rectangular and oval seats or stools, Mercedes
- Oval seat with four plain legs and two connecting bars surmounted by monkey figures (7028BM; length, 33.5 cm.)
 - Rectangular seat (?) resembling objects from Chiriquí termed metates (7013BM; length, 25.5 cm.)
 - Rectangular seat of fine-grained vesicular lava (7012; length, 32 cm.)
 - Oval seat supported on four plain legs joined by two bars on which monkey figures rest (7044; length, 35 cm.)
26. Rectangular bowls resting on jaguars, Mercedes
- Bowl with jaguar supports facing in opposite directions (6862BM; length, 20.5 cm.; height, 9 cm.)
 - Bowl paralleling style of jaguar metates, Group 5 (6861; length, 15 cm.; height, 8.5 cm.)
 - Variant form of bowl (7021; length, 18.5 cm.)
27. Vase stands and an altar, Mercedes
- Vase stand, probably unfinished (6850BM; diameter, 57 cm.; height, 29 cm.)
 - Vase stand with 15 pendent jaguar heads (7069; diameter, 45 cm.)
 - Vase stand with base cut into slots and 28 jaguar heads around rim (no number; diameter, 57 cm.)
 - Unique form, probably an altar, in the shape of a large labret (7063BM; diameter, 21 cm.)
28. Atlantean stands, Mercedes
- Atlantean stand with anthropomorphic jaguars with somewhat human faces supporting the plate (1834BM; diameter, 45 cm.)
 - A large uncompleted stand with jaguar figures in high relief (14417; height, 25 cm.)
 - Stand with hermaphroditic figures with alternating naturalistic jaguar and anthropomorphic faces (6848; diameter, 21 cm.)

29. Atlantean bowls, a stone pedestal, and pot-rest rings, Mercedes
- Bowl supported on the necks and raised arms of three human figures (7042; diameter, 15.5 cm.; height, 9 cm.)
 - Bowl resting on the necks and arms of three jaguar-faced human figures (7043BM; diameter, 14.5 cm.; height, 9.5 cm.)
 - Lattice-work pot-rest ring (6844; diameter, 11.5 cm.; height, 5.5 cm.)
 - Lattice-work pot-rest ring (6885BM; diameter, 9.5 cm.)
 - Pot-rest ring, a combination of the lattice-work and circle-of-heads style (7073; height, 11 cm.)
 - Stone pedestal, with heads carved in full round and Atlantean figures in relief (12477BM; height, 10.5 cm.)
 - Pot-rest ring; circle of heads represents jaguars (6843)
 - Atlantean pot-rest ring; the carved figures are jaguars (6846)
30. Sacrificial stones or altars, Mercedes
- Altar with band of human heads on side faces and a jaguar flanked by anthropomorphic jaguars at the top (6995BM; length, 136 cm.)
 - Altar with twin crouching jaguars at top (7002BM; length, 97 cm.)
 - Altar with human heads in low relief on the margins, and surmounted by symmetrical twin human figures (7008; length, 71 cm.)
 - Altar with two crouching jaguars at top (7004; length, 87 cm.)
31. Sculptured figures surmounting altars, Mercedes
- Naturalistic infantile anthropomorphic jaguars at top of altar (6997BM; height, 128 cm.)
 - Front and rear view of uncompleted twin figures at top of altar (6998BM; height, 132 cm.)
 - Infantile naturalistic human figures at upper end of altar (6996; height, 170 cm.)
 - Ornamental carving on crown of figures in Pl. 31f (7009BM)
 - Twin human figures sculptured in high relief on raised band on upper end of altar (7009BM; fragmentary)
32. Altar forms and sculptural details, Mercedes
- Bird figure, an eagle or hawk, surmounting an altar, semicircular at the opposite end (7005BM; height, 129 cm.)
 - Ornamental group, a human with monkey head flanked by two dead animals on an altar (7000; height, 100 cm.)
 - Altar with a low-relief border with three Atlantean monkeys (7007BM; height, 138 cm.)
 - Shovel-shaped concave altar surmounted by a hawk or eagle (7006; height, 74 cm.)
33. Anthropomorphic figures on large altars, Mercedes
- Massive unfinished figures representing jaguars (7001; height, 194 cm.)
 - Two views of three anthropomorphic figures at top of altar with small animal figures in relief on the sides (6999BM; height, 200 cm.)
34. Variant forms of altars, Mercedes
- A unique altar, largest and thinnest in the series, with relief figures of birds, bats, and jaguars (no number; height, 203 cm.; thickness, 4-6 cm.)
 - An altar, variant in form and decoration, provenience unknown, but probably Güentar (2918BM; height, 157 cm.)
 - Unusually thick altar with hook-shaped depression and a line of animal figures in high relief (6995; height, 160 cm.; thickness, 8 cm.)
35. Massive stone sculpture, Mercedes
- Female figure with bird head (7094; height 85 cm.)
 - Hermaphrodite figure with animal head (15345BM; height, 155 cm.)
 - Supine figure representing an anthropomorphic hawk-god, probably an altar (15346; length, 114 cm.)
36. Hermaphrodite and female figures, Mercedes
- Female figure (7089; height, 53 cm.)
 - Female figure with hair depicted by striations down the back (13189BM; height, 40 cm.)
 - Hermaphrodite figure (7095BM; height, 63 cm.)
 - Hermaphrodite figure (7093; height, 77 cm.)
37. Typical group of female figures, Mercedes
- Figure with hair depicted by radiating striations on the crown of the head (13175BM; height, 16.5 cm.)
 - Figure with breasts grasped between thumb and forefinger (1695; height, 25 cm.)
 - Small figure with arms flexed close to the body (13177; height, 11.5 cm.)
 - Figure with breasts held between second and third fingers (1697BM; height, 33 cm.)
 - Variant female figure with oval eyes and square knobs on the crown of the head (7092BM; height, 32 cm.)
38. Female and hermaphrodite figures, Mercedes
- Female figure with legs, feet, and arms not completely separated from the body (1587 BM; height, 12.8 cm.)
 - Female figure with arms flexed, but not freed from the body, and feet joined by a bar (1691; height, 37 cm.)

- c. Rude disproportionate hermaphrodite figure (5816; height, 33 cm.)
 - d. Figure with large conventionalized ears, and hands resting on abdomen (1688; height, 37 cm.)
 - e. Massive hermaphrodite figure with legs separated by a deep channel (7091BM; height, 47 cm.)
 - f. Figure with typical attributes of second homogeneous group of female figures (6821BM; height, 39 cm.)
39. Variant forms of female figures, Mercedes
- a. Well-finished figure having the typical characteristics of female figures (1692; height, 30.5 cm.)
 - b. Grotesque figure of archaistic type (14434; height, 16.5 cm.)
 - c. Reworked head and torso from broken figure (14441; height, 8.2 cm.)
 - d. Aberrant style figure with disproportionately short thighs and long legs (1693BM; height, 42 cm.)
 - e. Female figure with unusual decorative bands over the shoulders and arms (1690BM; height, 40.6 cm.)
40. Variations in standing male figures carrying severed human heads, Mercedes
- a. Figure with hairdress depicted by knobs, and a connecting bar between the ankles (7076BM; height, 26 cm.)
 - b. Small, excellently carved figure carrying a trophy head on the back (6818; height, 12 cm.)
 - c. Figure with severed head held against the left groin (1683BM; height, 35.5 cm.)
 - d. Typical warrior figure bearing a severed head (7086; height, 47 cm.)
41. Male warrior figures and a captive, Mercedes
- a. Figure of uncertain sex carrying a head on the back by a coil of hair over the right shoulder (7078; height, 38 cm.)
 - b. Captive with wrists bound and with a turban-like headdress (6819; height, 7.5 cm.)
 - c. Variant male figure with arms and hands flexed and held as in the female figures (7074BM; height, 44 cm.)
 - d. Warrior holding a double-bladed ax against the breast (7075BM; height, 49.5 cm.)
 - e. Massive figure with the left arm flexed in unusual position and holding a weapon (1686; height, 33 cm.)
 - f. Warrior holding a hafted ax against the shoulder (7096; height, 38 cm.)
42. Sexless figures, Mercedes
- a. Rudely finished figure with undifferentiated legs and feet, and arms flexed and cord-bound (7085; height, 20 cm.)
 - b. Typical asexual figure (1680BM; height, 30.5 cm.)
 - c. Asexual figure with coronal head decoration, and arms flexed and hands meeting at the back (1681; height, 35.1 cm.)
 - d. Massive asexual figure (7101BM; height, 31.6 cm.)
43. Seated human or anthropomorphic figures, Mercedes
- a. Human figure, typical of the group in conception and execution (1702BM; height, 10.5 cm.)
 - b. Male figure naturalistically carved (7104BM; height, 16 cm.)
 - c. Figure with crossed arms, and hands resting on the elbows (14437BM; height, 12.2 cm.)
 - d. Figure holding an object to the mouth (7108BM; height, 10 cm.)
 - e. Figure with cigar-shaped object held to the mouth in both hands (6811; height, 14.6 cm.)
 - f. Figure with object in right hand (7107; height, 15.5 cm.)
 - g. Finely executed figure more conventionalized than others in the group (1704; height, 15.8 cm.)
44. Variations in style of seated human and anthropomorphic figures, Mercedes
- a. Atypical seated figure; the variations from the norm are in the short legs, relatively large head, and the arm positions (13174; height, 18 cm.)
 - b. Aberrant form of naturalistic kneeling figure with a burden strap (1709; height, 20 cm.)
 - c. Twin seated human figures carved in a single block, but otherwise typical (7111; height, 12.3 cm.)
 - d. Rude female figure, provenience uncertain (14439BM; height, 15.2 cm.)
 - e. Archaistic seated figure resembling one from Lagarto (Pl. 61a), provenience uncertain (14428BM; height, 14 cm.)
45. Independent stone human heads showing variation in treatment, Mercedes
- a. Head of vesicular lava, with undecorated crown, and eyebrows in form of grooves (7117BM; height, 9 cm.)
 - b. Plain crowned head with oval eyes, well-marked eyebrows, and protruding lips (7121; height, 12.7 cm.)
 - c. Head with crown and cheek decoration, but otherwise of the style of a and b (1735; height, 11.2 cm.)
 - d. Head with cone-shaped headdress and protruding ears (6840; height 13.5 cm.)
 - e. Head with large ears and coronal ornament,

- generally well executed (6836BM; height, 12 cm.)
- f. Head with ornamented crown, and oval eyes modified by a horizontal groove (6829; height, 12.6 cm.)
 - g. Jaguar-like head with exaggerated eyes and small ears (6827BM; height, 14 cm.)
 - h. Head of smooth-grained lava with plain oval eyes, resembling head shown in Pl. 46b (6823; height, 10 cm.)
 - i. Head showing well-carved nostrils, the mouth wrinkle, and unusual ear treatment (7123BM; height, 14 cm.)
46. Samples from subtypes of independent human heads, Mercedes
- a. Finely carved head of the grooved-eye style, with decorated crown (12531BM; height, 14.6 cm.)
 - b. Head belonging to the subtype represented also in Pl. 46a and c (1729BM; height, 11 cm.)
 - c. Head with features roughly blocked out (6828BM; height, 16 cm.)
 - d. One of a homogeneous group of heads (see Pl. 46e, f, h) (7130; height, 18 cm.)
 - e. Slightly grotesque head with finely sculptured details (7132; height, 18 cm.)
 - f. Head with naturalistic eyes, a depression for the eyeballs, and teeth marked by incisions (7133; height, 19 cm.)
 - g. Small head, tilted, facial features well carved, provenience uncertain (14448; height, 6.7 cm.)
 - h. Finely finished head with depressed eyes, and teeth shown (7134BM; height, 19 cm.)
 - i. Head with decoration representing hair, and perforated ears (14449; height, 7 cm.)
47. Variant forms of human heads, Mercedes
- a. Head with typical feminine coiffure and a forehead ornament (1717; height, 13.3 cm.)
 - b. Head with ornamental cap and naturalistic ears (14427; height, 15.5 cm.)
 - c. Head with ornamental cap (7137; height, 12.5 cm.)
 - d. Head with decorative headdress (see Pl. 47a) and perforated ears (7148BM; height, 19 cm.)
 - e. Head with netted head covering; eyelids and balls represented by concentric ovals (7136BM; height, 14 cm.)
 - f. Atypical head, with unusual headdress (14447BM; height, 16.5 cm.)
 - g. Aberrant form of head (14429; height, 18 cm.)
48. Independent jaguar heads and heads broken from metates, Mercedes
- a. Naturalistic head, with whiskers portrayed, broken from metate (7142BM; length, 17.8 cm.)
 - b. Naturalistic head, ears lost, and unusual treatment of teeth, fangs, and upper lip (7149BM; length, 20.1 cm.)
 - c. Independent conventionalized naturalistic head (14612BM; length, 5 cm.)
 - d. Atypical head, from metate, with depressed eyes, and whiskers and other features somewhat stylized (7138BM; length, 13 cm.)
 - e. Independent naturalistic head lacking ornamentation (7144; length, 28 cm.)
49. Miscellany of unusual forms in stone, Mercedes
- a. Small anthropomorphic animal figure, probably unfinished (7080; height, 13 cm.)
 - b. Fragment from a column, an animal head with an inverted conical crown (14431; height, 11.5 cm.)
 - c. Leg fragment from a metate carved to represent a female figure (1722; height, 17.7 cm.)
 - d. Columnar statue with superimposed male figures in low relief, provenience uncertain (14607; height, 34.7 cm.)
50. Tripod and quadruped metates, Central Highland sites
- a. Massive tripod metate modified by a knob at the corners, Curridabat (2885BM; length, 46.5 cm.)
 - b. Quadruped metate showing wear from use, Cartago (2834; length, 28.5 cm.)
 - c. Tripod metate resembling Nicoyan forms (2835BM; length, 51 cm.)
51. Sculptured stone objects, Cartago
- a. Independent human head closely parallel to heads from Mercedes, Cartago (2841; height, 8.3 cm.)
 - b. Club head with owl head carving in relief (2839; diameter, 6.6 cm.)
 - c. Massive club head in the form of a grotesque head (2840; diameter, 12 cm.)
 - d. Scalloped, doughnut-shaped ring, probably a club head (2837; diameter, 8.2 cm.)
 - e. Fragment from a columnar figure resembling representation of the Mexican Rain God (2865; height, 15 cm.)
 - f. Pot-rest ring, probably unfinished (2836BM; diameter, 6.7 cm.)
52. Quasi-cylindrical carved figures, Palmar
- a. Legless figure with arms indicated, Group B (6609; height, 12 cm.)
 - b. Female figure, arms and legs suggested by notches, Group B (6589; height, 14 cm.)
 - c. Seated male figure, aberrant style for Palmar, Group B (6626BM; height, 14.5 cm.)
 - d. Male figure with arms flexed asymmetrically, Group A (6611BM; height, 23 cm.)

- e. Blocked-out legless figure, Group A (6616BM; height, 26.7 cm.)
53. Various representations of the human figure, Group A, Palmar
- Cylindrical figure carved in low relief with a tenon-like base (6619; height, 27 cm.)
 - Quasi-cylindrical carved figure, the divided base suggesting feet (6623; height, 22 cm.)
 - Massive male figure, the treatment of the legs and feet resembling Group D (6961BM; height, 44.5 cm.)
 - Naturalistic male figure carved in low relief (6958BM; height, 65 cm.)
 - Large massive figure having some characteristics of an anthropomorphic jaguar deity (6960BM; height, 80 cm.)
54. Flat naturalistic sandstone figures, Group B, Palmar
- Rude archaic figure (6946; height, 26 cm.)
 - Flat figure showing method of marking the arms by grooves (6941BM; height, 27 cm.)
 - Typical figure, with a jaguar face and flexed arms holding a human head (6959BM; height, 60 cm.)
 - Quasi-columnar male figure lacking definitive details (6953; height, 40.5 cm.)
 - Flat columnar male figure with vestigial legs and feet (6963BM; height, 48.3 cm.)
55. Highly developed or aberrant styles of figures, Groups B and C, Palmar
- Small naturalistic figure, Group B (6587BM; height, 20 cm.)
 - Atypical figure with asymmetrically flexed arms holding a perpendicular bar, Group B (6938; height, 37 cm.)
 - Aberrant naturalistic female figure, Group B (6586; height, 21 cm.)
 - Rude quasi-cylindrical figure, Group C (6620; height, 27 cm.)
 - Massive quasi-cylindrical figure with representation of hair like that on jaguar deities, Group C (6590; height, 35 cm.)
 - Figure carved in high relief with bulging abdomen and chin, subgroup of C (6970; height, 31.8 cm.)
56. Variations in style of figures, Palmar
- Small aberrant figure, with details in low relief (6617BM; height, 15 cm.)
 - Atypical massive figure, archaic in style (6955; height, 79 cm.)
 - Stylized quasi-columnar figure, a low-relief sculpture (6599BM; height, 27.2 cm.)
 - e. Front and back views of conventionalized figure carved in low relief (6602BM; height, 17 cm.)
 - f. Oblong figure carved in low relief, wearing a cowl and holding a vertical staff (6944BM; height, 27 cm.)
57. Stylized human figures, Groups C and D, Palmar
- Quasi-columnar figure, in low relief, with exaggerated hands and feet, Group C (6597; height, 47 cm.)
 - Naturalistic figure, general form of Group D, but more closely related to Group B (6577BM; height, 16.5 cm.)
 - Large figure, Group C, with lizards (?) in low relief at shoulders and hips (6962; height, 54 cm.)
 - Simple example of Group D figure (6937; height, 30.8 cm.)
 - Conventionalized figure resembling most-developed examples of Group C (6949BM; height, 38 cm.)
 - Flat figure, Group D, but similar to Group C; pointed base notched to indicate feet (6576; height, 14 cm.)
58. Variations in style of Group D figures, Palmar
- Figure, an example of further development of the style shown in Pl. 57f (6956; height, 33.5 cm.)
 - Flat, quasi-triangular figure with perforations between body, arms, and legs (6933BM; height, 36 cm.)
 - Example of slight variant from Group D figures (6945BM; height, 31.5 cm.)
 - Variant figure with unusual arm position (6571; height, 30.5 cm.)
 - Fine example of Group D figure (6939BM; height, 49.5 cm.)
 - Female figure, with arms in unusual position, legs separated, and hair on back represented (6569BM; height, 24 cm.)
59. Exceptional and variant figures of Group D style, and an animal head, Palmar
- Transitional form of figure, possibly representing a jaguar deity (6565; height, 29.2 cm.)
 - Head resembling heads on figures like that shown in Pl. 58c (6633BM; height, 9 cm.)
 - Fine female figure with arms undifferentiated from the body, and rows of discs on arms and breast (6578; height, 42 cm.)
 - Small broken figure with anthropomorphic jaguar head (6582; height, 23.3 cm.)
 - Fine male figure with characteristic discs on arms and breast, probably representing jaguar spots (6558BM; height, 50 cm.)
 - Conventionalized animal, probably a fox or raccoon (6625; length, 17 cm.)
60. Animal sculptures and metates, Palmar
- Armadillo (?) carved in low relief (6631; height, 24 cm.)
 - Owl resembling the bird sculptures from Pacayas (6627BM; height, 22.8 cm.)
 - Animal sculpture with jaguar head and tapir body (6632BM; length, 21.2 cm.)

- d. Ornate and symmetrically double-headed jaguar (6978BM; length, 53.5 cm.)
 - e. Quadruped metate with a concave plate (6994; length, 29.2 cm.)
 - f. Massive tripod metate (6638BM; length, 19 cm.)
61. Stone sculptures, Lagarto
- a. Massive archaic figure carrying an infant (2735; height, 24.5 cm.)
 - b. Flat cylindrical figure remotely resembling Palmar sculptures (2737; height, 14.5 cm.)
 - c. Naturalistic torso and head, possibly post-Columbian (2738BM; height, 16.5 cm.)
 - d. Fragmentary conventionalized naturalistic figure resembling Group D figures from Palmar (2736BM; height, 28 cm.)
- 8. Celt of fine-grained basalt, with semicircular blade and unfinished poll, Mercedes (6744BM; length, 22.5 cm.)
 - 9. Celts, hexagonal in cross-section, with pointed poll and curved blades, Mercedes
 - a. Large celt of fine-grained black basalt (10100BM; length, 23 cm.)
 - b. Type B celt (10106BM; length, 10.7 cm.)
 - c. Celt of black polished basalt with quadrilateral cross-section and pointed chipped poll (7210BM; length, 12 cm.)
 - 10. Celt, Type A, subgroup, with poll deeply pecked, Mercedes (7201; length, 11.2 cm.)
 - 11. Celts or chisels intermediate between Types A and B, Mercedes
 - a. Short celt with all faces convex (6800; length 6.4 cm.)
 - b. Massive celt, pecked at poll (1830BM; length, 11.5 cm.)
 - c. Cigar-shaped celt with pointed poll (7205BM; length, 9.3 cm.)
 - 12. Celts of Type B and variants, Mercedes
 - a. Massive celt of Type B with rudely pecked poll (7185; length, 19 cm.)
 - b. Type B variant with flaring blade and oval cross-section (6791BM; length, 18 cm.)
 - c. Variant of Type B celt with poll pecked (6768; length, 16.3 cm.)
 - 13. Variants of Type B celts, Mercedes
 - a. Small celt with flaring blade and pecked poll (7247; length, 8.5 cm.)
 - b. Celt with pointed and pecked poll (7189; length, 14 cm.)
 - c. Triangular-shaped celt with pecked and pointed poll (6794BM; length, 7.8 cm.)
 - 14. Thin celt of polished porphyry, provenience doubtful (13150BM; length, 10.7 cm.)
 - 15. Mullers or grinding stones, Mercedes
 - a. Muller of vesicular lava (7173; length, 21.7 cm.)
 - b. Muller of vesicular lava (13138BM; length, 18.6 cm.)
 - c. Grindstone or muller, possibly a toy (7176BM; length, 14 cm.)
 - 16. Simple and ornate pestles, Mercedes
 - a. Variant from plain conical pestle (7177; length, 13.5 cm.)
 - b. Plain pestle with concave sides and blunt top (1775; length, 11.2 cm.)
 - c. Variant form of plain pestle with flaring base (13181; length, 12.6 cm.)
 - d. Pestle with bulb-like top and convex sides (7181; length 12 cm.)
 - e. Variant form of pestle with bulbous top (7179; length, 17 cm.)
 - f. Ornate pestle with conical shaft surmounted by carving of bird (6866BM; length, 16.5 cm.)

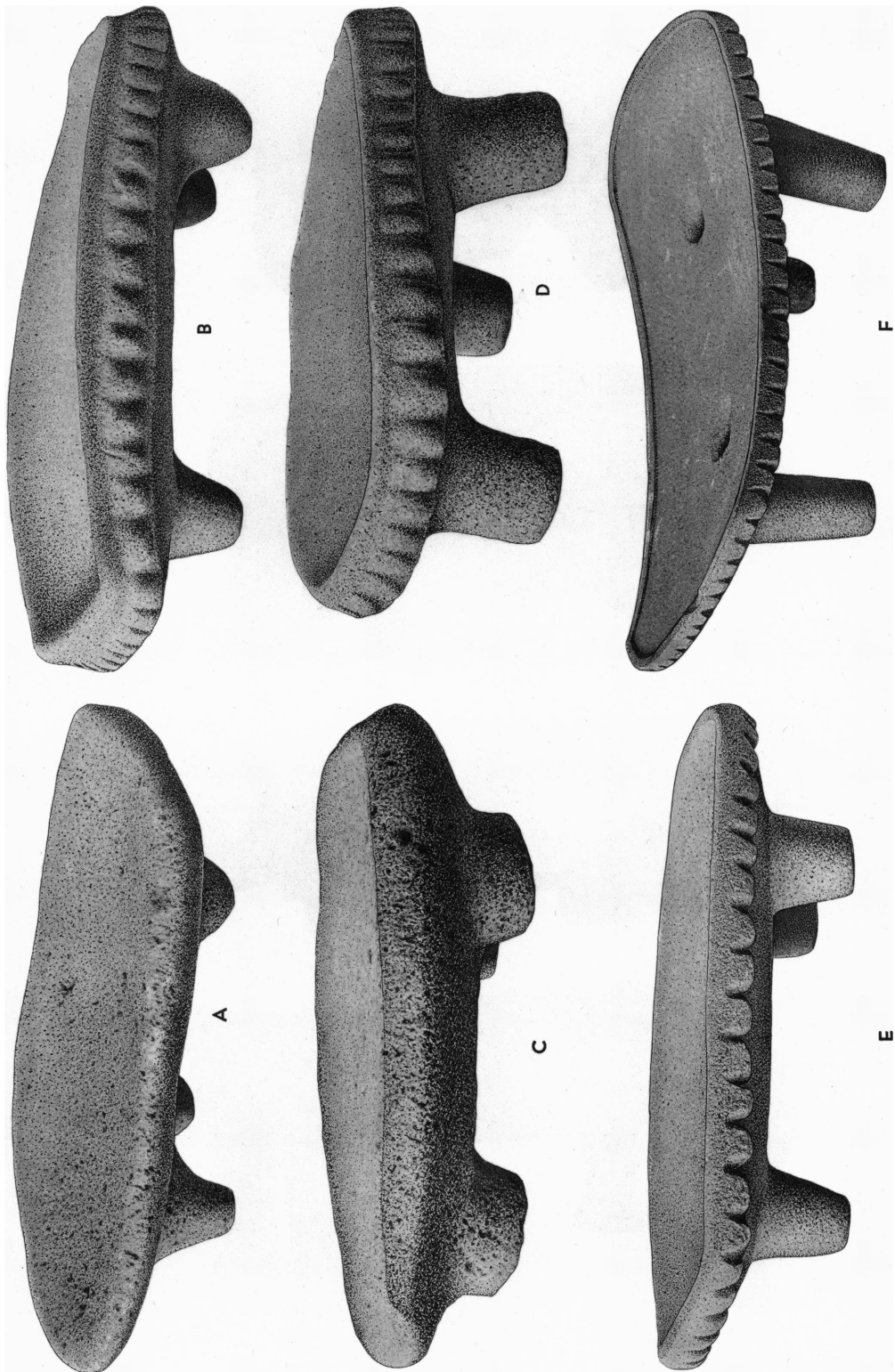
TEXT FIGURES

- 1. Map of Costa Rica showing archaeological sites
- 2. Chipped spearheads, Mercedes
 - a. Laurel-leaf form, chalcedony (369; length, 13.3 cm.)
 - b. Laurel-leaf form, chalcedony (13169; length, 7.6 cm.)
- 3. Double-bladed grooved and chipped ax heads, Mercedes
 - a. Chipped basalt ax (1832BM; length, 18.5 cm.)
 - b. Chipped basalt ax (14457BM; length, 18 cm.)
 - c. Smooth shale ax (7183; length, 14.5 cm.)
- 4. Range of chisel forms, Mercedes
 - a. Chisel with chipped poll forming a stem (7233BM; length, 13 cm.)
 - b. Chisel, quadrilateral in cross-section (6756 BM; length, 17 cm.)
 - c. Chisel of tufa ground on all surfaces (7234; length, 13.8 cm.)
 - d. Black slate chisel ground and polished (6754; length, 17.7 cm.)
 - e. Tufa chisel (7220; length, 15 cm.)
- 5. Short celts, Mercedes
 - a. Celt of tufa, probably reworked from a broken celt (7232; length, 6 cm.)
 - b. Short celt, triangular in cross-section (1814; length, 5.6 cm.)
- 6. Broad, thin, sharp-edged celts resembling Type A, Mercedes
 - a. Tufa celt with pecked poll resembling Type B (7265BM; length, 7.8 cm.)
 - b. Celt with a curved blade and flattened poll (6796BM; length, 6.1 cm.)
 - c. Large celt with side edges chipped (6789; length, 14 cm.)
- 7. Broad, thin, flat celts with curved blades, Mercedes
 - a. Tufa celt with evidence of chipping (7262BM; length, 6.2 cm.)
 - b. Celt with flattened poll and smoothly ground surface (6802; length, 4.3 cm.)

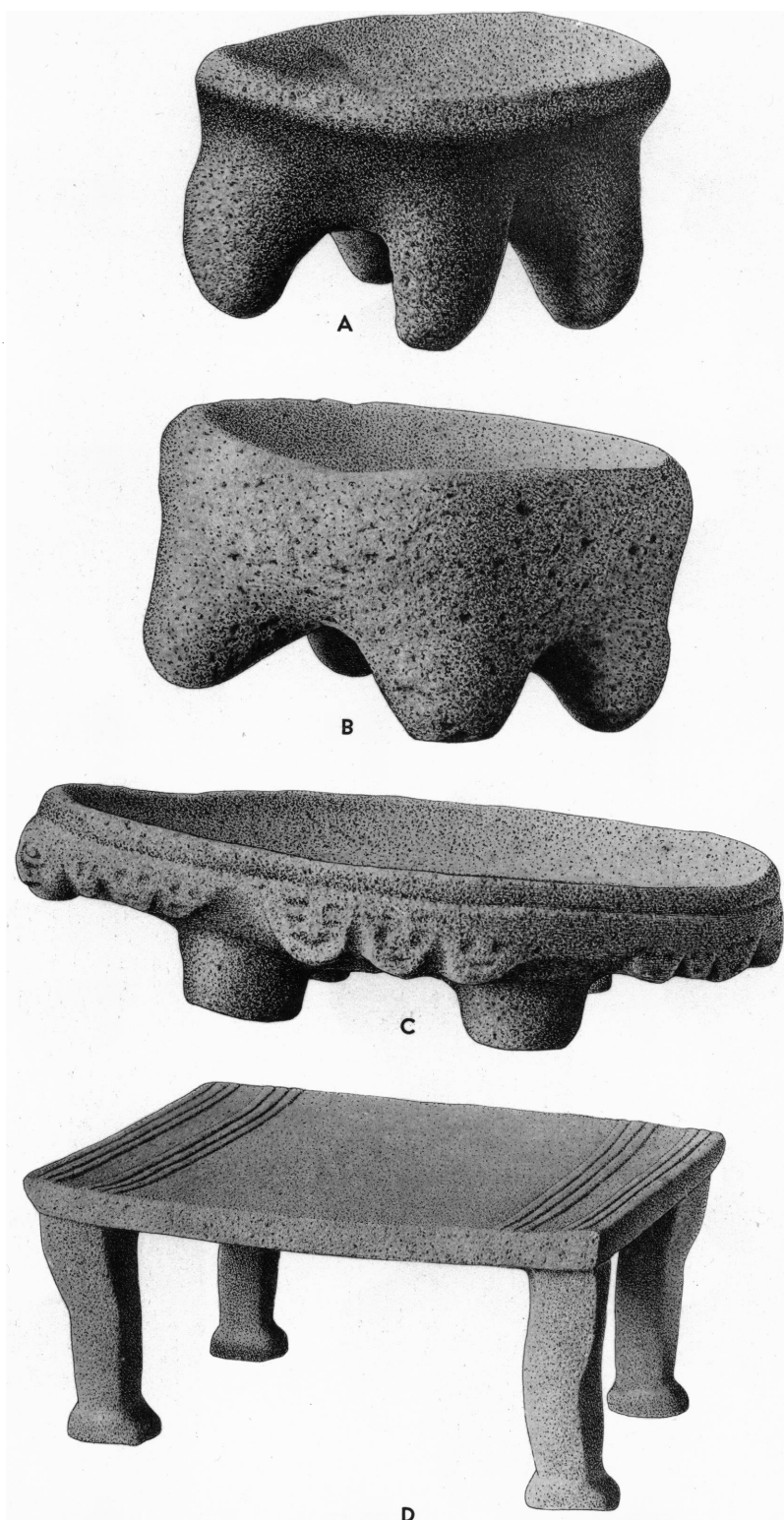
- g. Ornate pestle with bird carving at top (1777; length, 15.8 cm.)
- h. Pestle with mushroomed base and conventionalized animal figure at top (6867BM; length, 17.2 cm.)
17. Ornate pestles, probably for ceremonial use, Mercedes
- a. Conventionalized figure at top of a pestle (13178; length, 9.5 cm.)
- b. Pestle with mushroomed base and ornamental carving at top (13179BM; length, 14 cm.)
18. Cigar-shaped artifact, with ends showing evidence of use, Mercedes (7165BM; length, 23.5 cm.)
19. Carved club head, uncertain provenience (13173BM; diameter, 8.8 cm.)
20. Treatment of the crown of the head on female figures, Mercedes
- a. Peaked cap on female figure (7082; diameter, 7 cm.)
- b. Cascade coiffure (7099; length, 19.5 cm.)
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- a. Carving to represent headgear on asexual figure (1678BM; diameter, 6.5 cm.)
- b. Ornamental cap on male figure (7081BM; diameter, 11.5 cm.)
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22. Variation in representation of the crowns on independent human heads, Mercedes
- a. Circular decorated boss (7131; diameter, 8 cm.)
- b. Parallel grooves on top and back of the head, probably a hairdress (1736; length, 13 cm.)
- c. Cap-like fluted headdress (1731BM; diameter, 11 cm.)
- d. Asymmetrical coronal carving (7124; diameter, 7.5 cm.)
- e. Irregular elaboration of a simple quadrant (7135; diameter, 8 cm.)
- f. Parallel grooves forming a cross (6826; diameter, 10.5 cm.)
- g. An unusual treatment of the crown (6830BM; diameter, 7.5 cm.)
- h. An unmodified quadrant (1725BM; diameter, 8.5 cm.)
- i. Variant of the regular boss in a (7120 Buffalo Museum; diameter, 10 cm.)
23. Coronal ornamentation of independent human heads, Mercedes
- a. A double scroll carved in low relief (6838BM; diameter, 6 cm.)
- b. Parallel scrolls (1737BM; diameter, 8.5 cm.)
- c. Another version of the four-part division of the crown (1728BM; diameter, 10.5 cm.)
- d. Apparently represents a cap extending from the forehead to the base of the head (7147; height, 12 cm.)
24. Anthropomorphic sculptures with upward curving tails, Mercedes
- a. Figure supported on the toes and curve of the tail (6822BM; height, 12.5 cm.)
- b. Figure of fine-grained volcanic tuff with well-carved fingers, toes, and ears (1699BM; height, 14.5 cm.)
- c. Jaguar-like figure of porphyritic lava (7113BM; height, 21 cm.)
25. Shallow bowl in form of a crab, probably ceremonial, Mercedes (6852; length, 21 cm.)
26. Reptilian sculptures, Mercedes
- a. Jaguar-headed reptilian figure, probably a mythological composite (1711; length, 16.2 cm.)
- b. Crocodile with head resembling that of the great anthropomorphic figure, 15345BM (7112BM; length, 22 cm.)
27. Ornate jaguar heads broken from metates, Mercedes
- a. Jaguar head with rectilinear decoration on top (7143BM; length, 18.2 cm.)
- b. Jaguar head with repeated rosette design on top and on neck (7150BM; length, 24.5 cm.)
28. Flaked double-bladed axes, Cartago
- a. Ax head of fine-grained gray sandstone (2863; length, 18 cm.)
- b. Roughly flaked ax head of greenish limestone (2864BM; length, 18.5 cm.)
29. Kneeling male figures, Las Pacayas
- a. Nude figure with massive trunk and short limbs (6464BM; length, 29.6 cm.)
- b. Nude figure with exaggerated trunk and disproportionate limbs (6465; length, 24.5 cm.)
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- b. Standing figure with exaggerated female characteristics (6462BM; height, 23.4 cm.)
31. Female figure with conical cap, Las Pacayas (6463BM; height, 32.5 cm.)
32. Naturalistic carving of a parrot in basalt, Las Pacayas (6478; height, 22 cm.)
33. Small seated animal figures, Groups A and B, Las Pacayas
- a. Animal figure with flexed fore and hind legs, Group A (6467; height, 14.4 cm.)
- b. Animal figure probably representing a jaguar, Group A (6469BM; height, 11.5 cm.)
- c. Animal figure suggesting a squirrel, Group B (6471BM; height, 15.2 cm.)
- d. Animal figure with forelegs clasped across the breast, Group B (6472; height, 20.5 cm.)

- e. Animal figure with flexed forelegs resting on the knees, Group B (10865; height, 11.5 cm.)
34. Variety of stone implements, Buenos Aires
- a. Polishing stone, possibly also used as a counter in a game (7651; length, 1.9 cm.)
 - b. Celt with flaring blade and pecked and unpolished poll, Group A (6480; length, 8.4 cm.)
 - c. Pressure-flaked point, one edge retouched with secondary chipping (6555; length, 13 cm.)
 - d. Polished basalt celt, Group C (6524BM; length, 5.6 cm.)
 - e. Basalt celt, smoothed throughout, Group C (6512; length, 6.5 cm.)
35. Celts classified in Groups B, D, E, and F, Buenos Aires
- a. Chert celt showing evidence of two stone-working techniques, pecking and chipping, Group E (6494; length, 9.2 cm.)
 - b. Celt of fine-grained tufa with marks of flaking, unretouched, Group F (6510; length, 5.9 cm.)
 - c. Sandstone celt, Group F (6502; length, 6.8 cm.)
 - d. Semicircular-bladed celt, notched for hafting, Group F (6495; length, 7.6 cm.)
 - e. Celt with sharp lateral edges, Group D (6519; length, 11.1 cm.)
 - f. Celt, quadrilateral in cross-section, Group D (6532; length, 14.1 cm.)
 - g. Celt with slightly blunt poll (6498BM; length, 10 cm.)
36. Types of chisels, Group G, Buenos Aires
- a. Chisel with curved blade (6554BM; length, 9.6 cm.)
 - b. Chisel with straight blade with evidence of chipping (6551; length, 10.7 cm.)
 - c. Cigar-shaped chisel with straight blade, and indentations left by chipping (6549; length, 9.1 cm.)
37. Chisel with semicircular blade and pointed poll showing marks of chipping (6548BM; length, 21.5 cm.)
38. Spatula-shaped and rectangular implements, Buenos Aires
- a. Elongated spatula with sharpened curved edge (2732BM; length, 12.5 cm.)
 - b. Implement of fine-grained tufa with edges beveled to make sharp blades (2731BM; length, 8.6 cm.)
39. Spoked head for a warclub, Buenos Aires (6910; diameter, 16.1 cm.)
40. Grinding stones, Buenos Aires
- a. Grinding stone typical of southern and central Costa Rica (2734BM; length, 19 cm.)
 - b. Cylindrical grinding stone resembling the Chorotegan type (6738BM; length, 27.4 cm.)
41. Jaguar metate closely resembling the Chiriquí form, Buenos Aires (2704BM; length, 76 cm.; height, 23 cm.)
42. Small rectangular jaguar metate, Chiriquí type, Buenos Aires (6906BM; length, 42.2 cm.)
43. Types of stools or pedestals, Buenos Aires
- a. Atlantean stool closely resembling those from Chiriquí (6909BM; diameter, 25 cm.; height, 14 cm.)
 - b. Bottom view of four-legged stool, with low-relief conventionalized carving of a crocodile (2733; diameter, 34 cm.; height, 9 cm.)
44. Perforated stone, probably a bead, Paso Real (2227; diameter, 1.8 cm.)

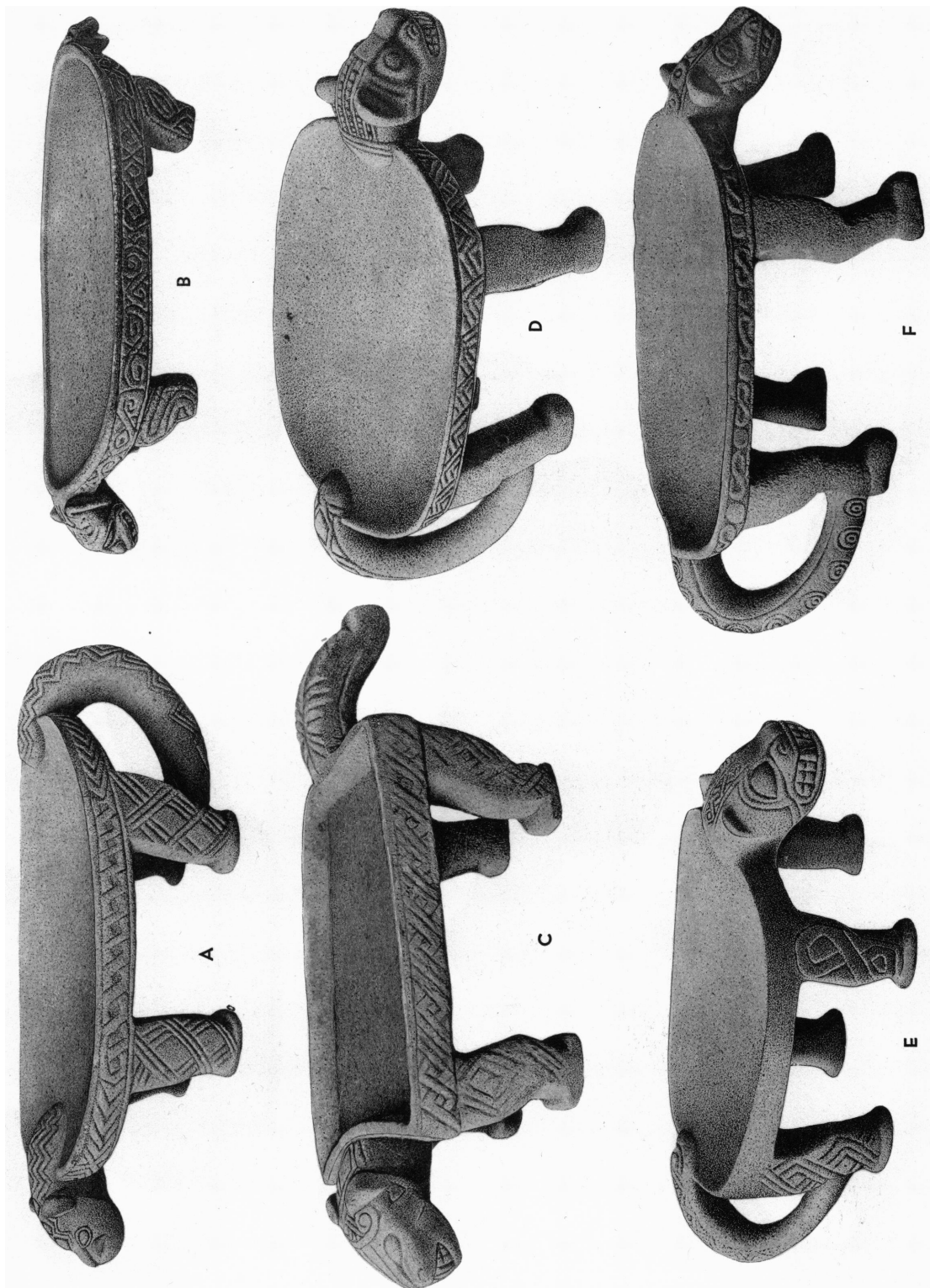
PLATES 13-61



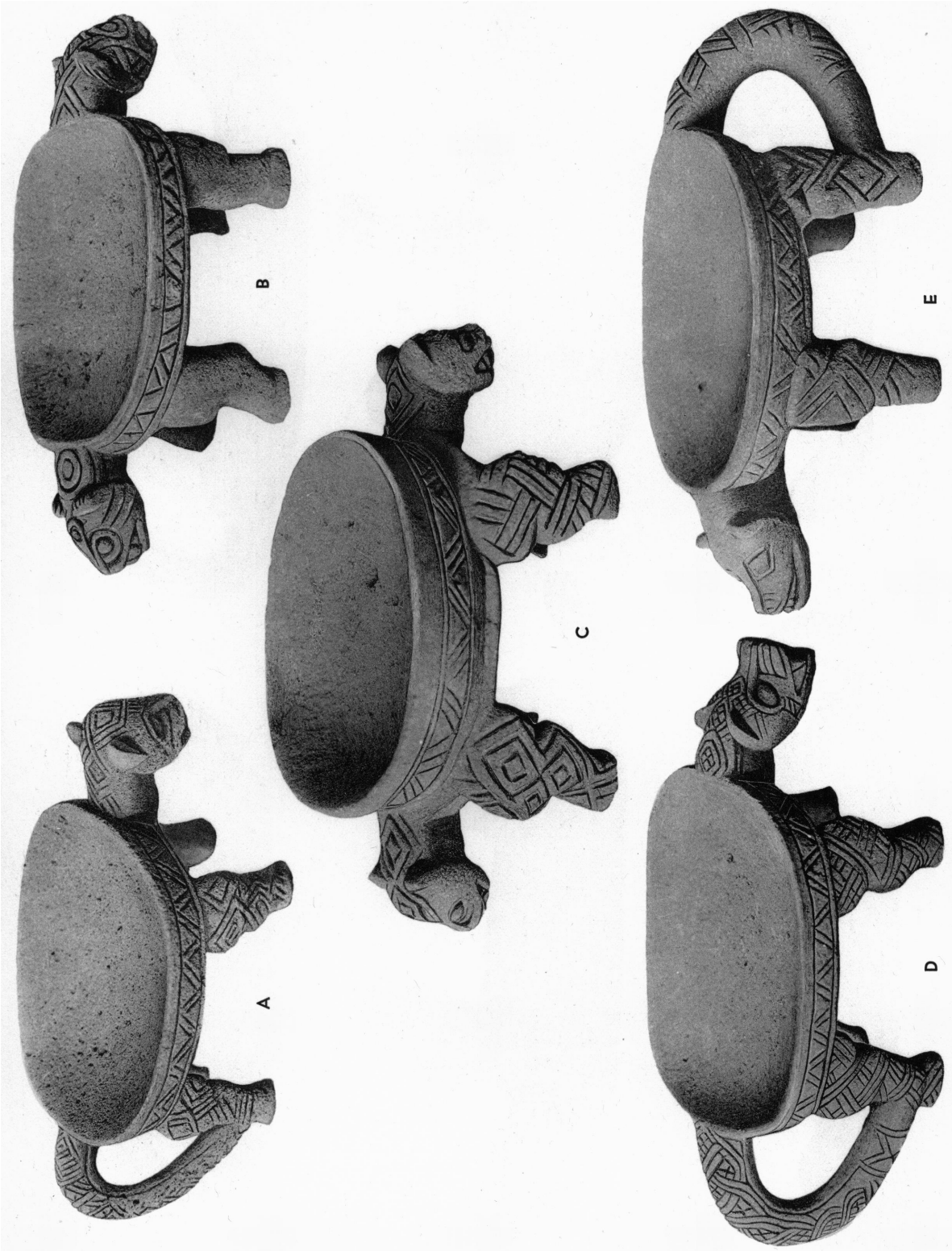
Types of tripod metates, Mercedes



Variations in quadruped metates, Mercedes



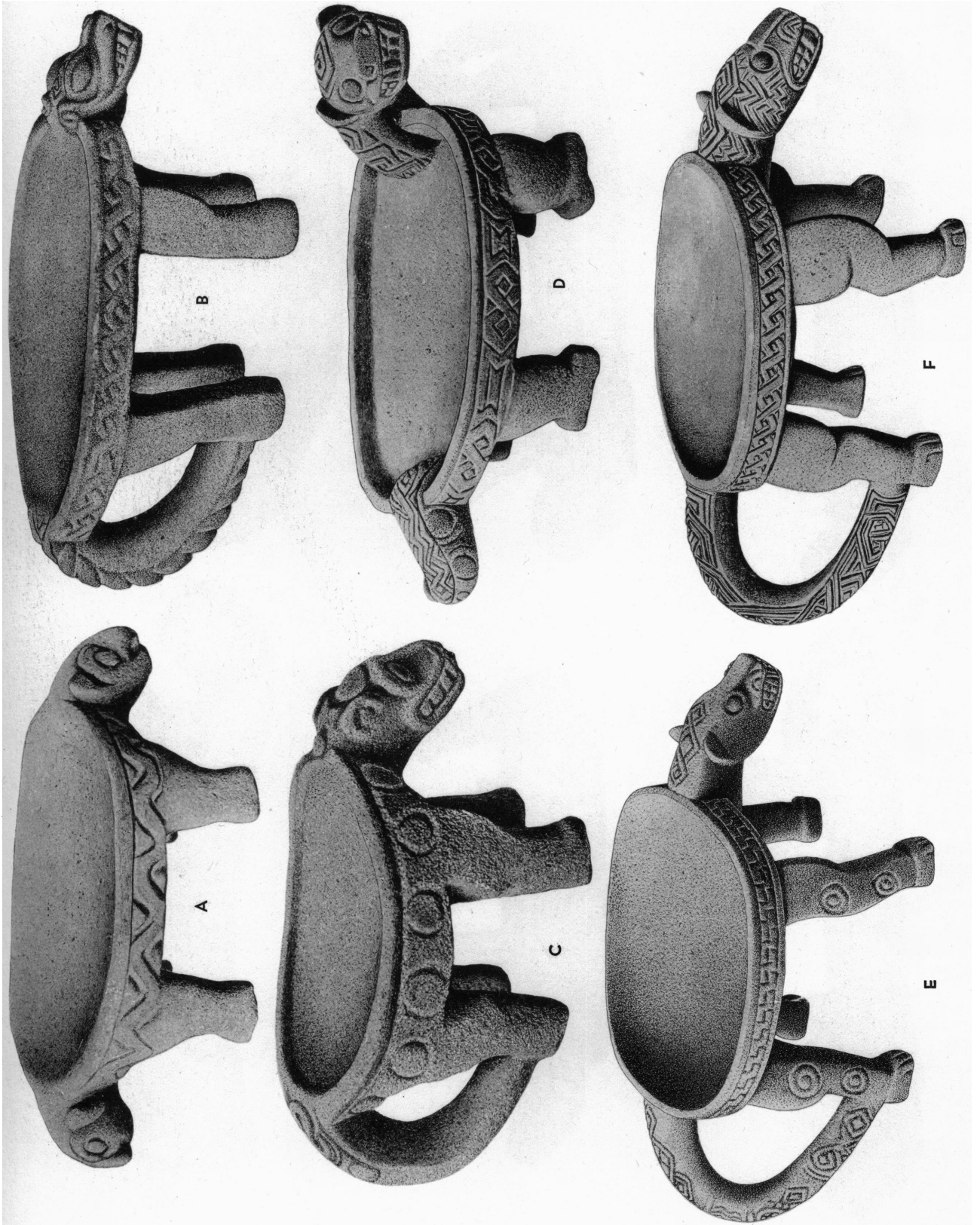
Jaguar metates of light gray felsite, Group 1; Provenience uncertain



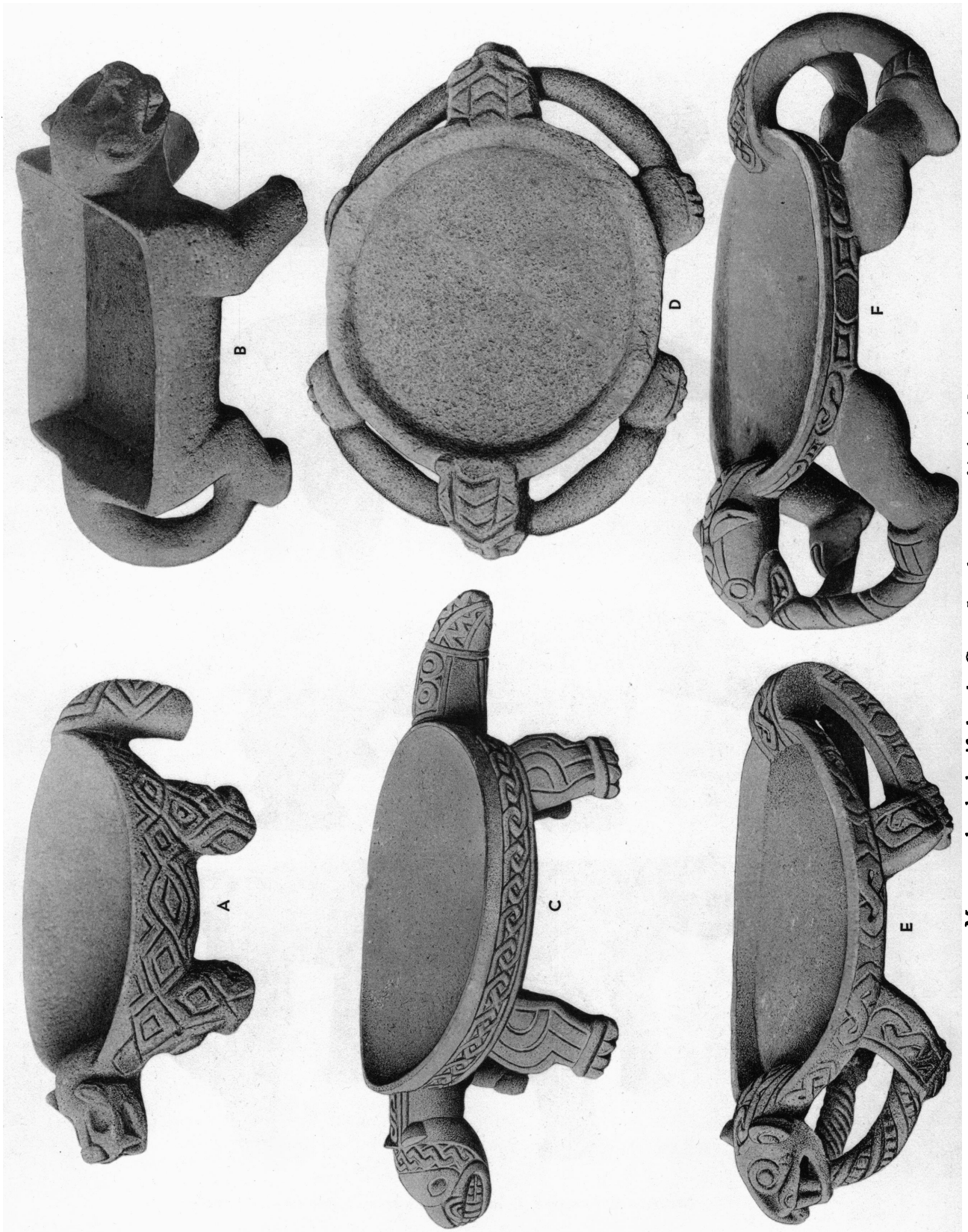
Jaguar and double-headed bowls or mortars of reddish vesicular lava, Group 2, Mercedes



Jaguar metates and bowls of gray vesicular lava, Groups 3 and 4, Mercedes



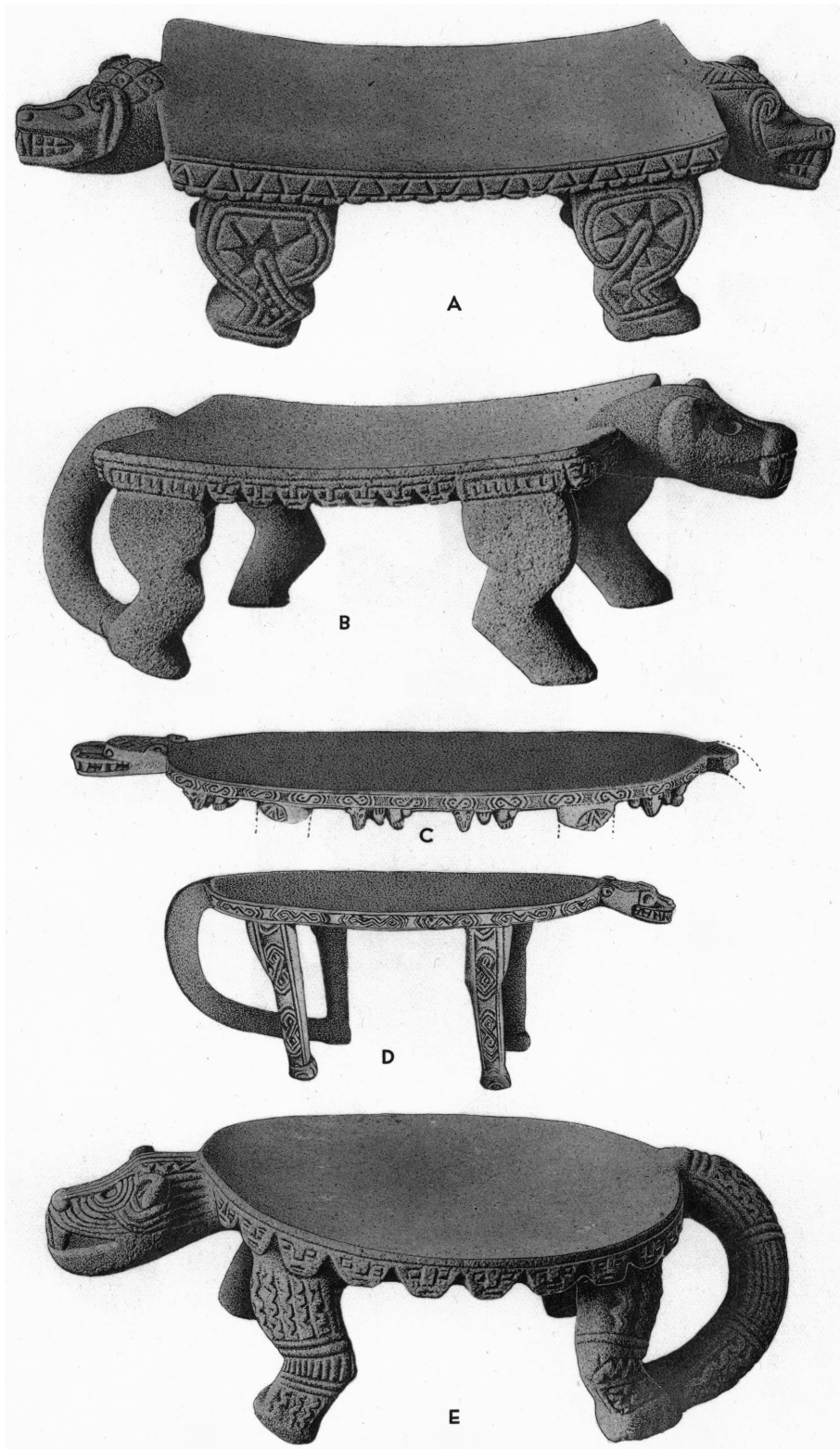
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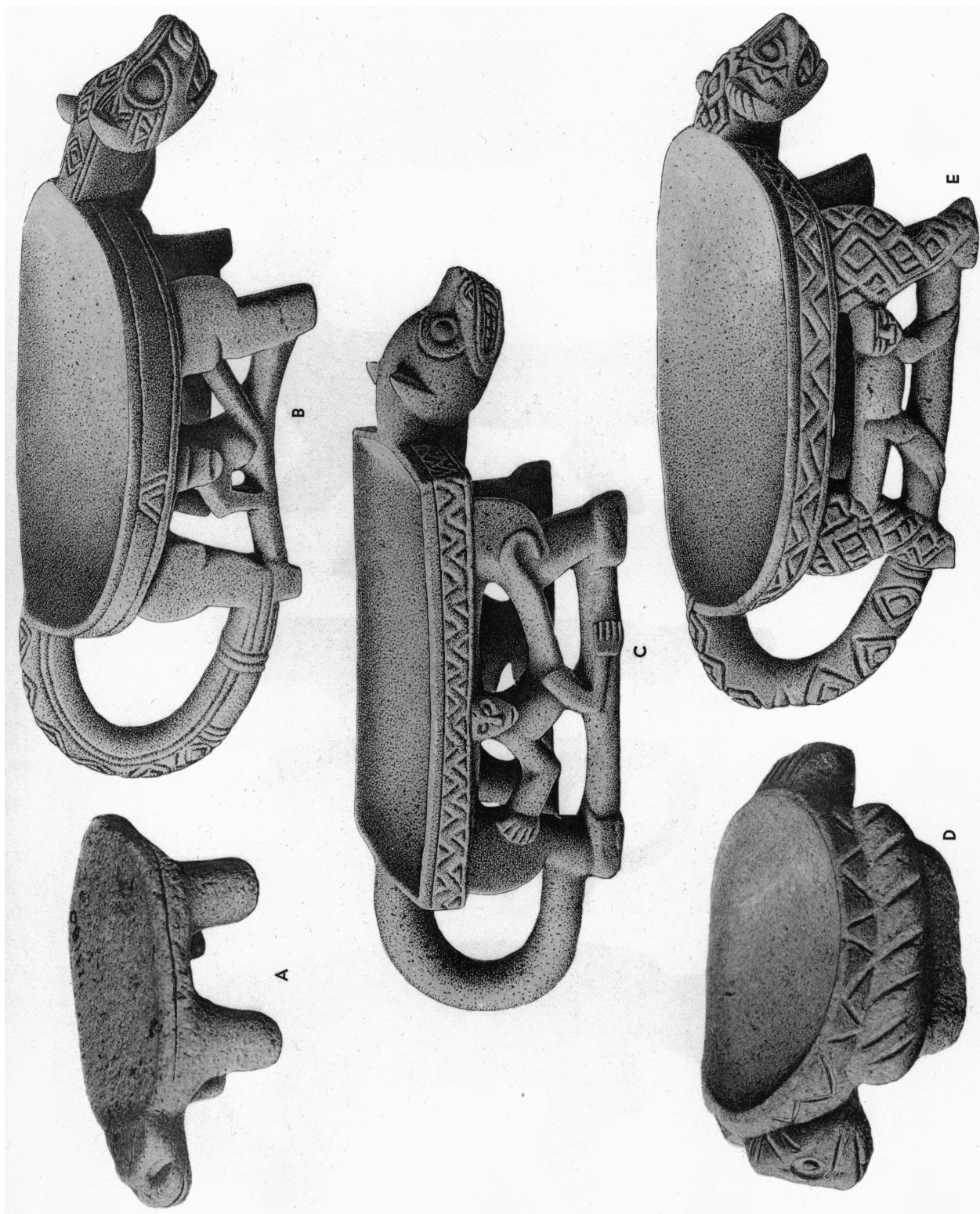
Metates or bowls classified under Group 5, and a zoomorphic bowl, Mercedes



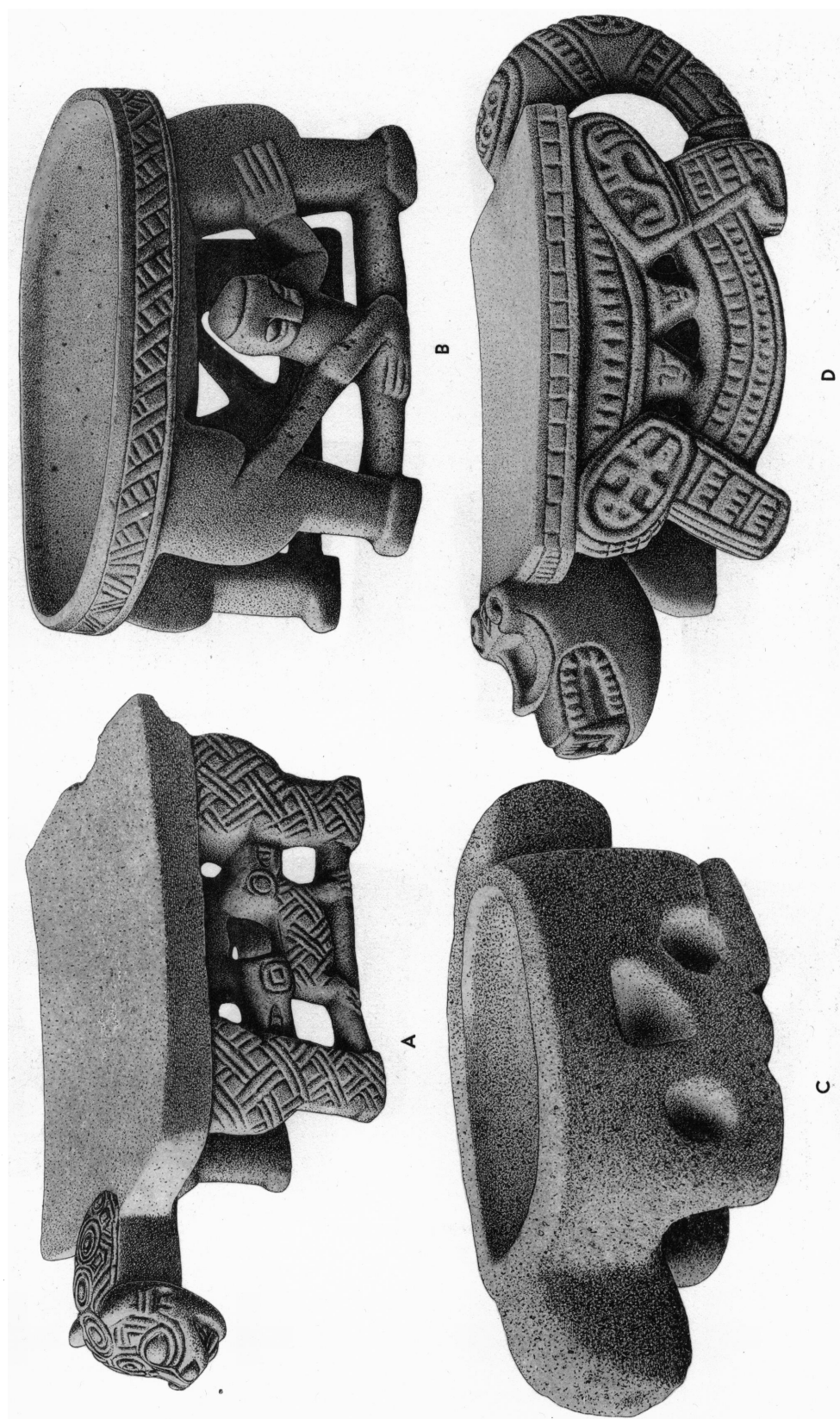
Metates of Groups 5, 6, and 7, and a zoomorphic bowl, Mercedes



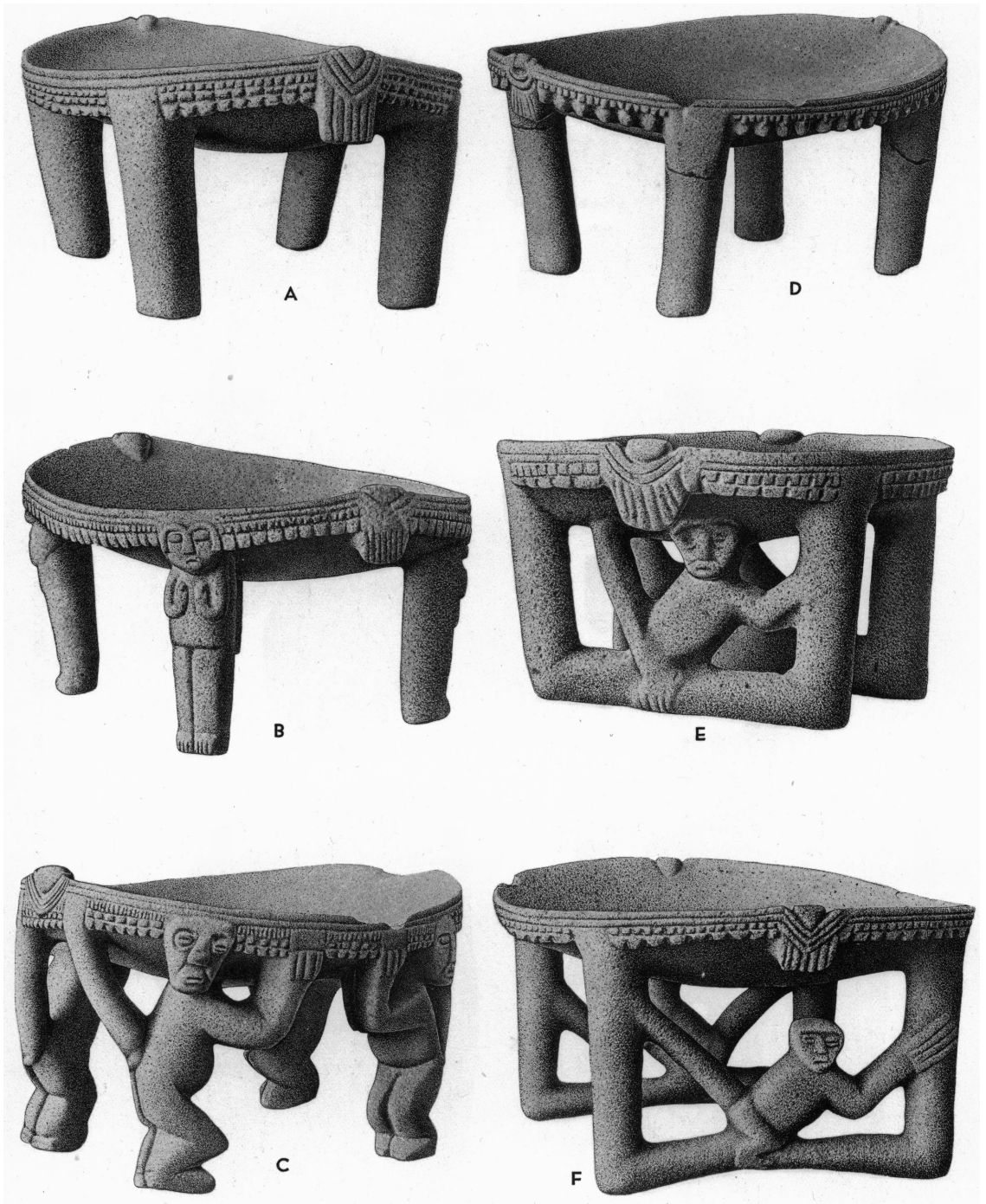
Great zoomorphic metates and those classified with Group 7, Mercedes



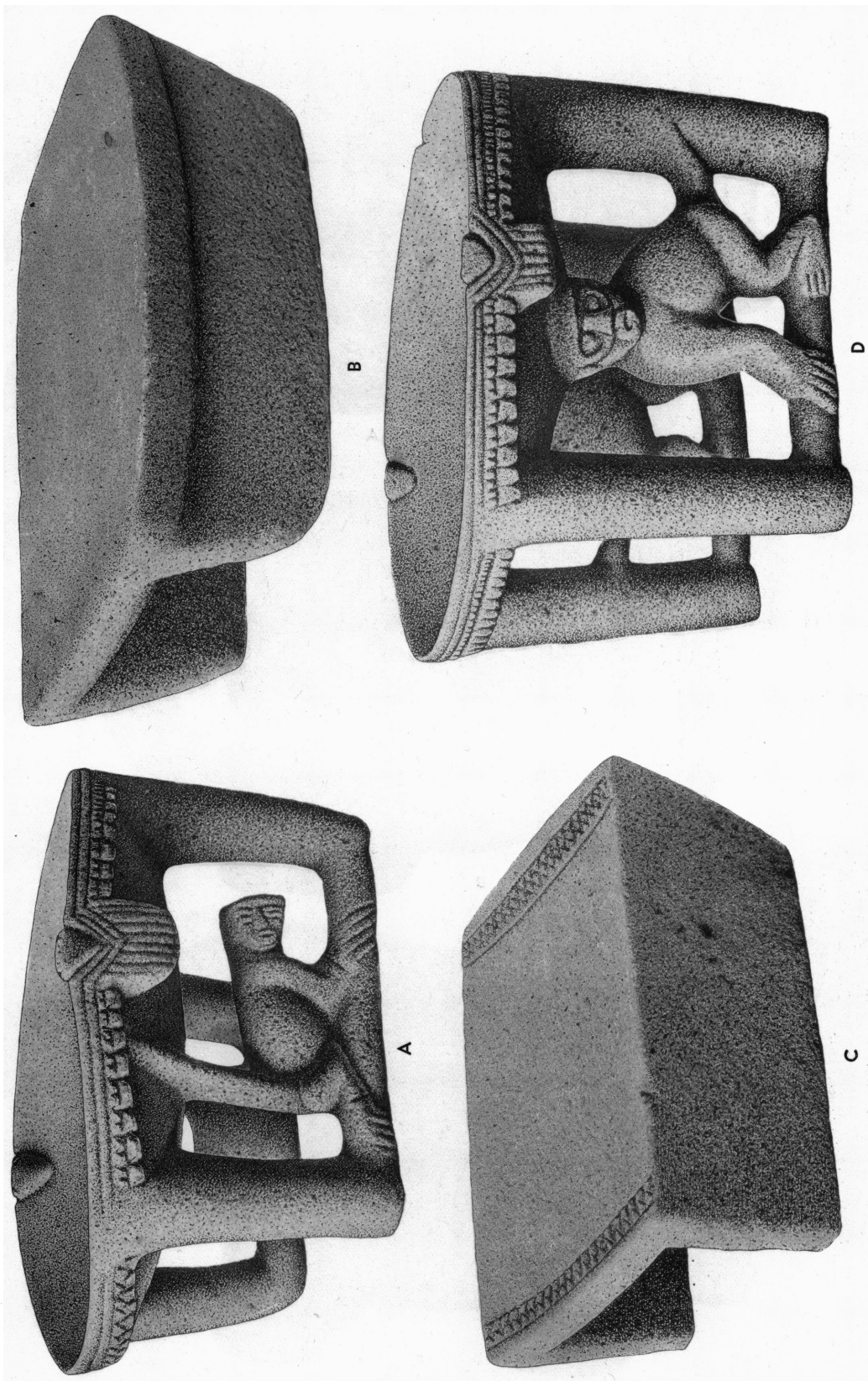
Miniature zoomorphic moccasins and moccasins with human figures. Moccasins



Variants from metate types, Mercedes



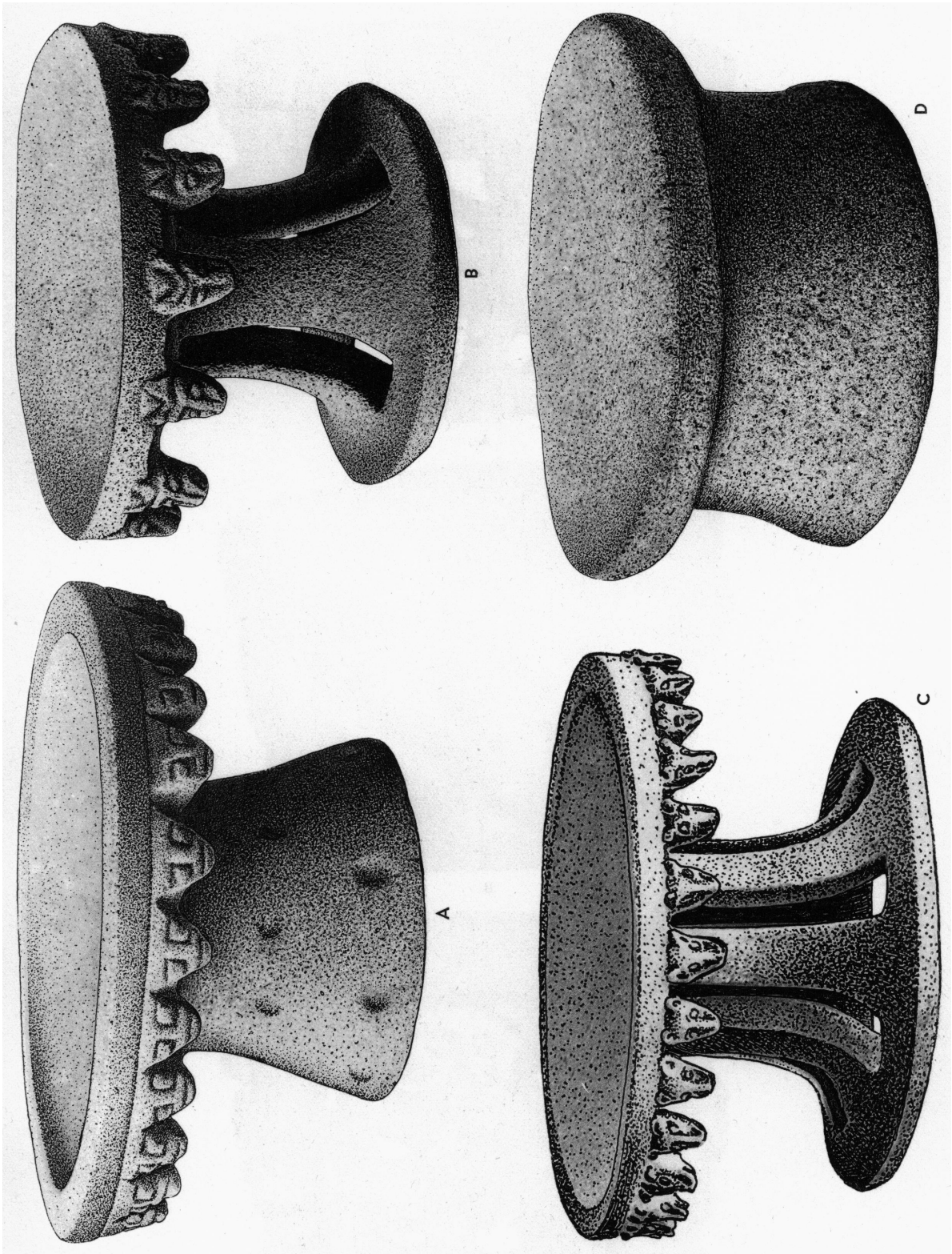
Oval seats, Mercedes



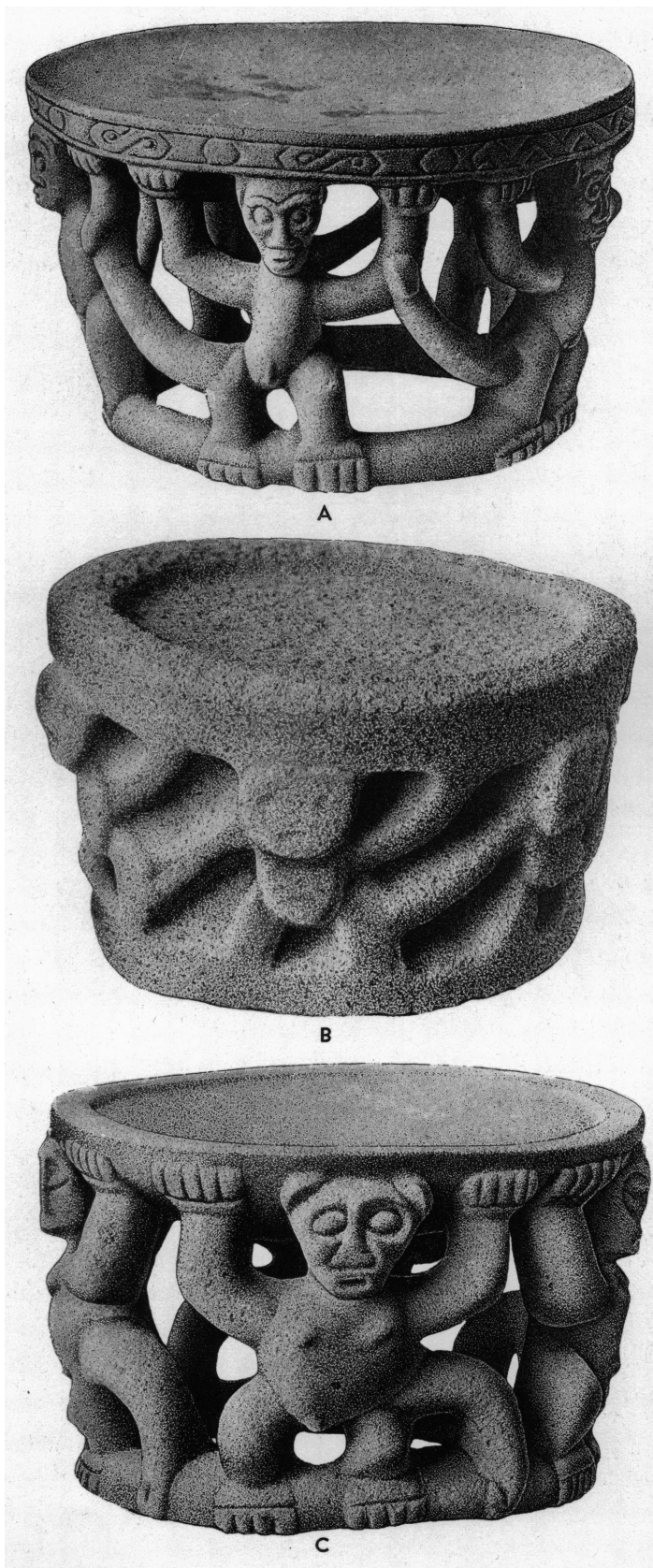
Rectangular and oval seats or stools, Mercedes



Rectangular bowls resting on jaguars, Mercedes



Vase stands and an altar, Mercedes



Atlantean stands, Mercedes



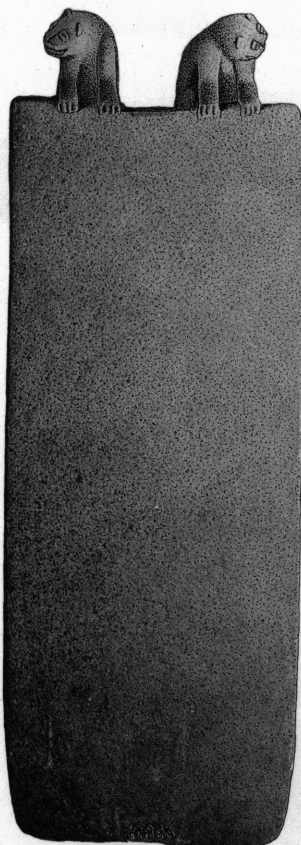
Atlantean bowls, a stone pedestal, and pot-rest rings, Mercedes



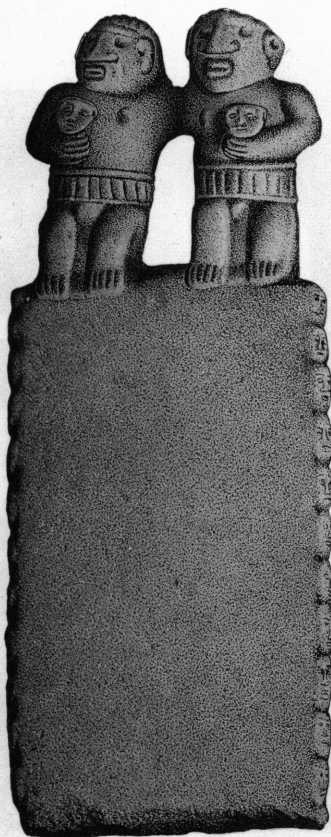
A



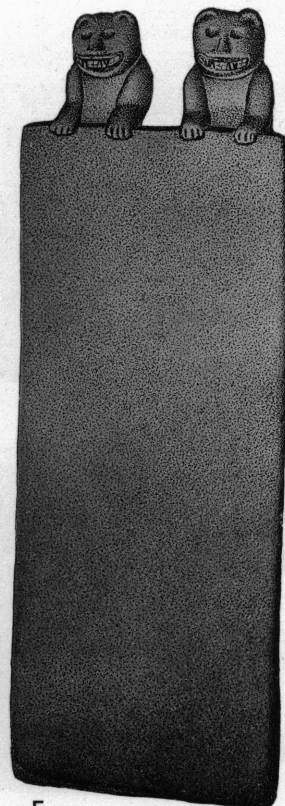
B



C



D



E

Sacrificial stones or altars, Mercedes



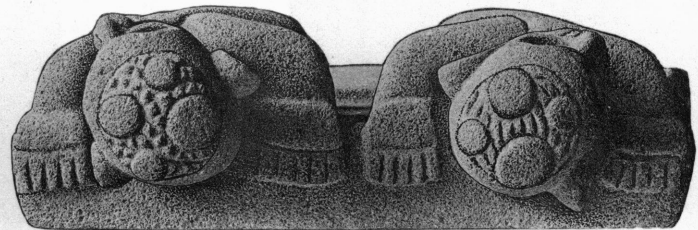
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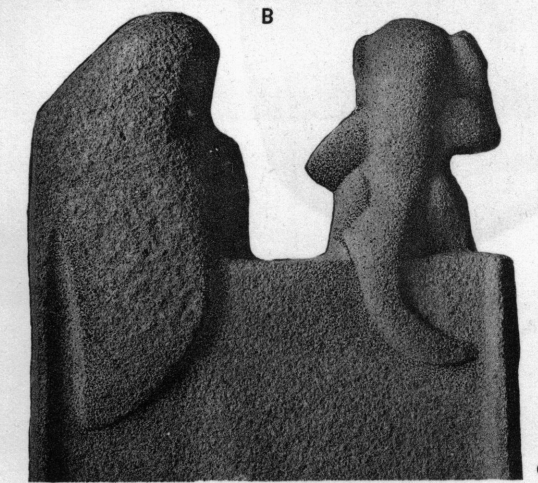
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B



E

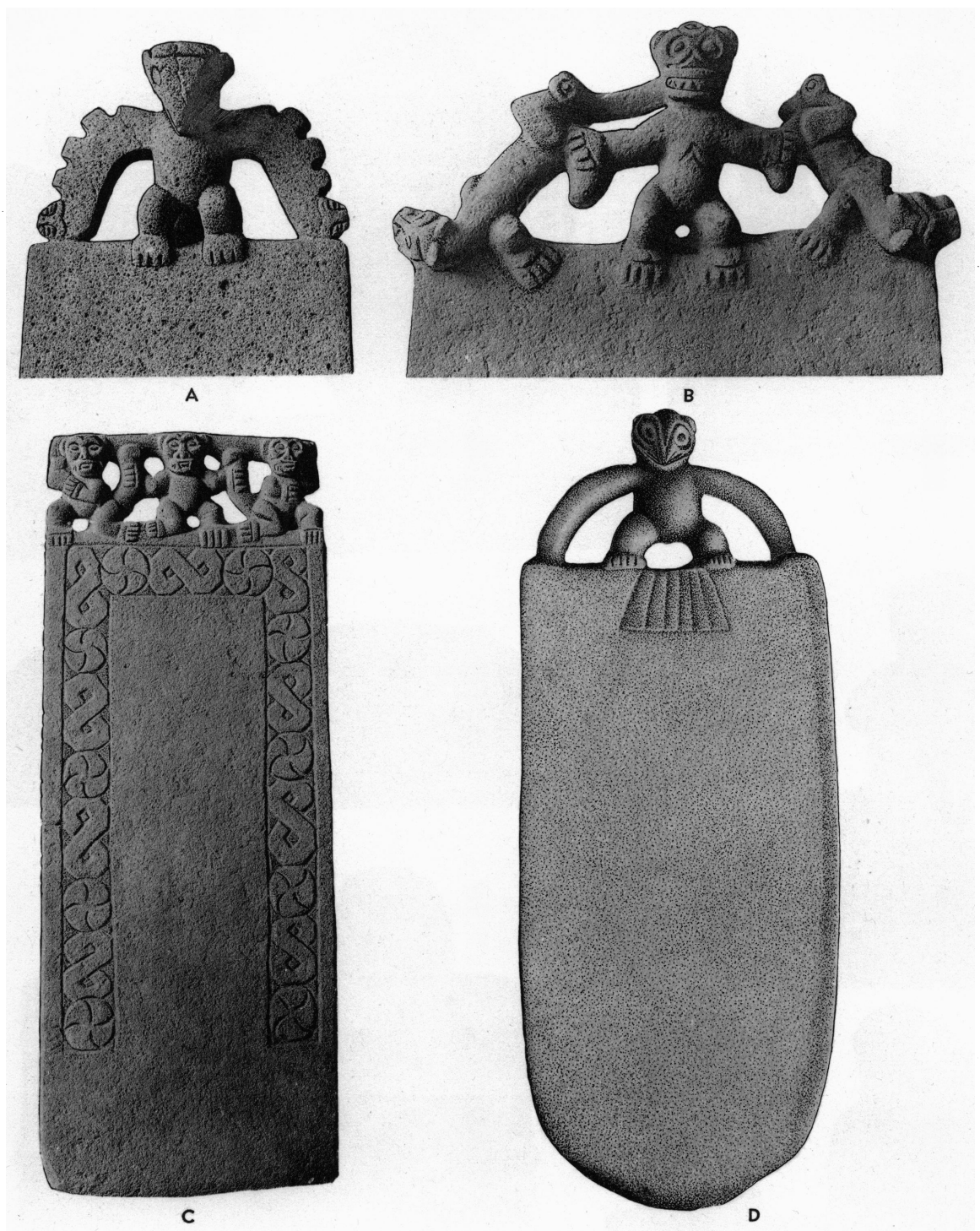


C

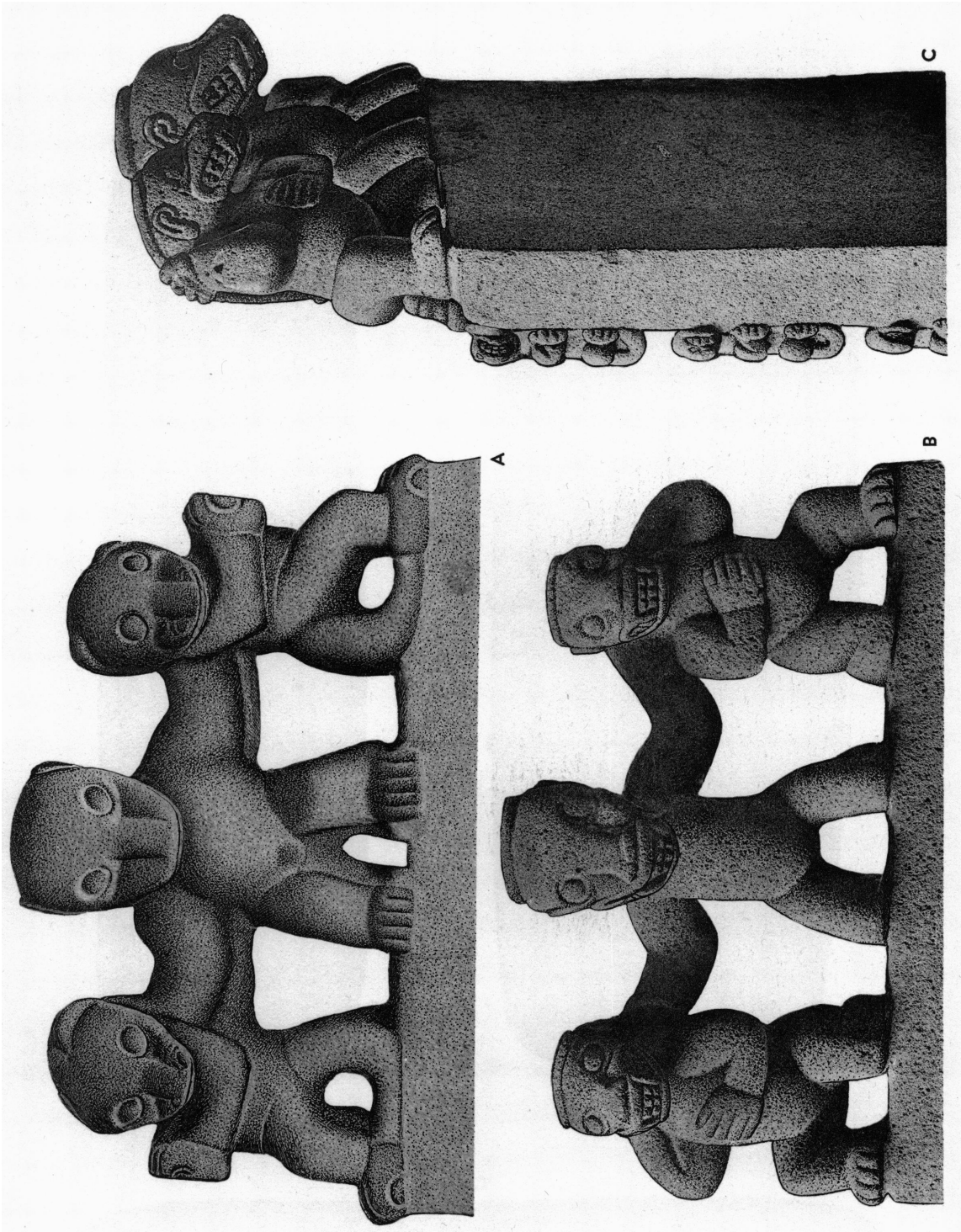


F

Sculptured figures surmounting altars, Mercedes



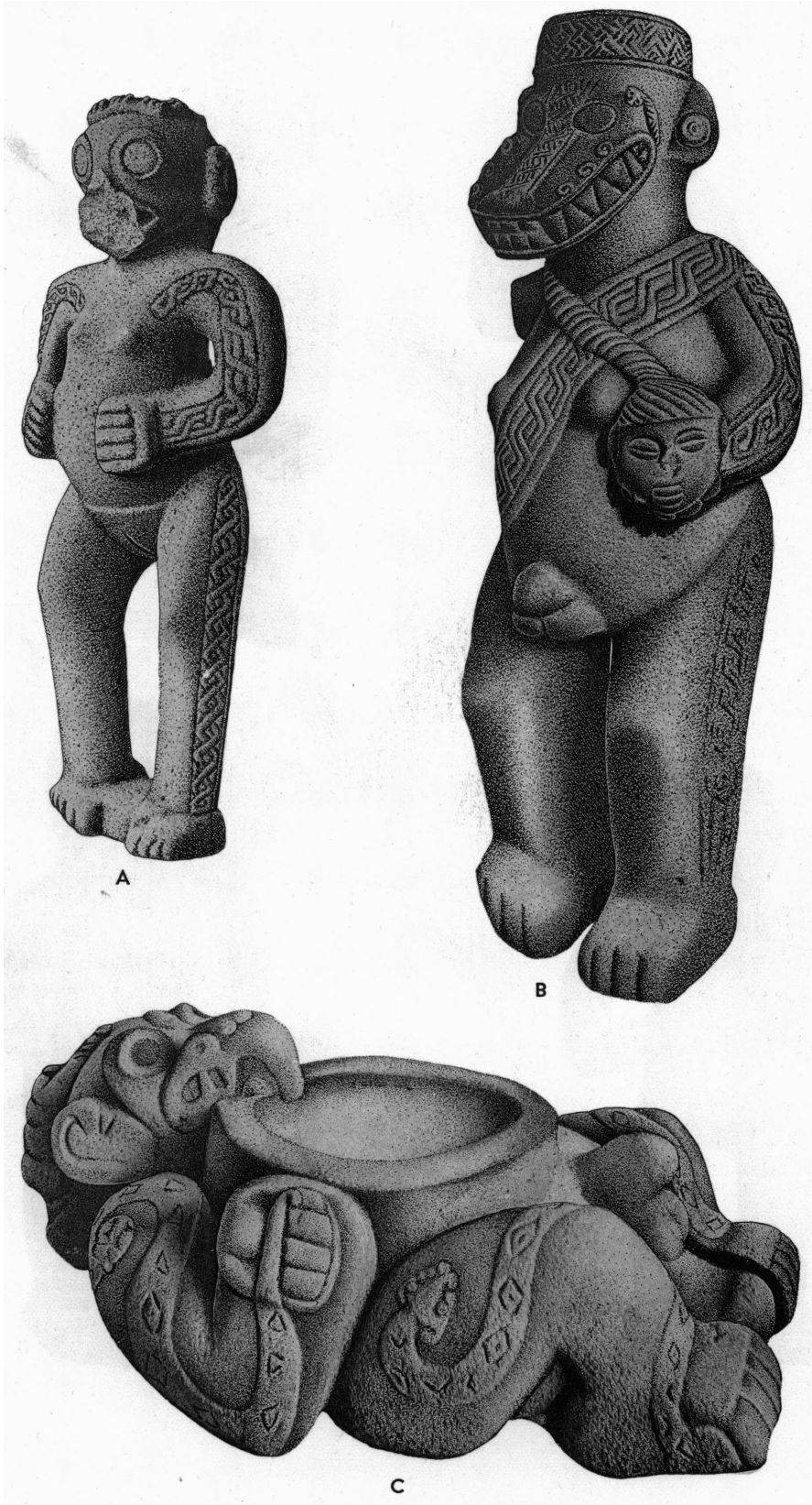
Altar forms and sculptural details, Mercedes



Anthropomorphic figures on large altars, Mercedes



Variant forms of altars, Mercedes



Massive stone sculpture, Mercedes



Hermaphrodite and female figures, Mercedes



Typical group of female figures, Mercedes



Female and hermaphrodite figures, Mercedes



Variant forms of female figures, Mercedes



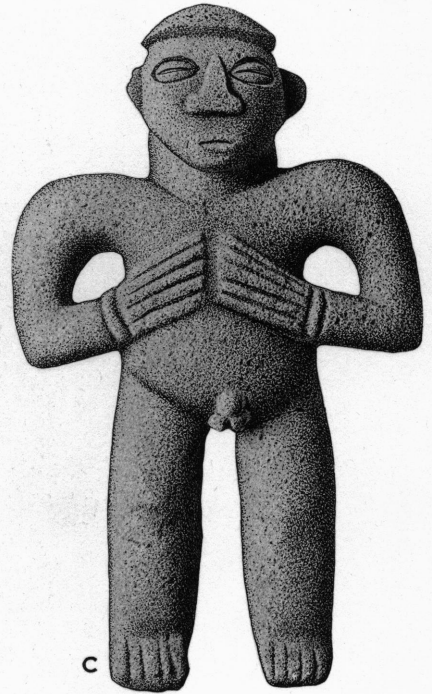
Variations in standing male figures carrying severed human heads, Mercedes



A



B



C



D



E



F

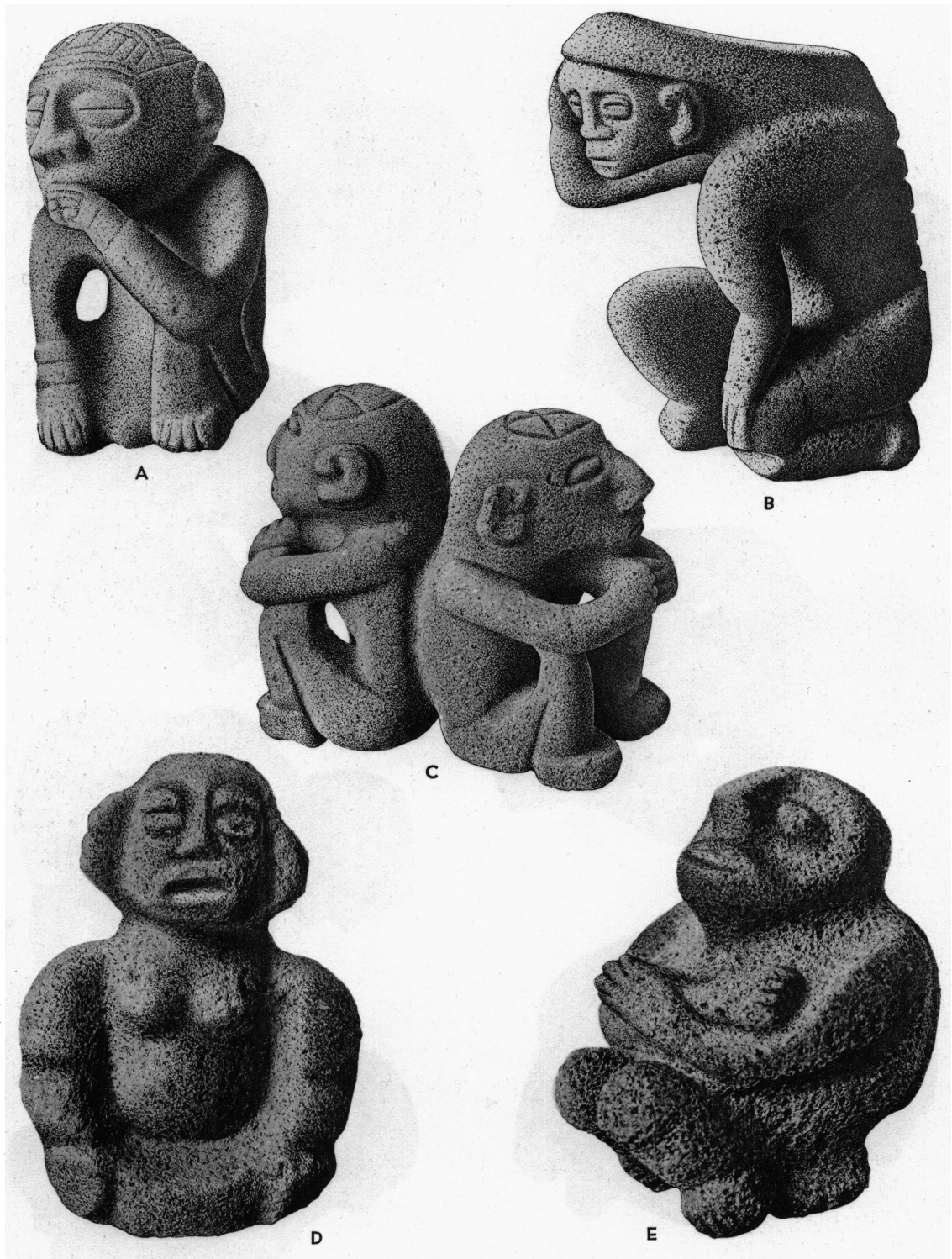
Male warrior figures and a captive, Mercedes



Sexless figures, Mercedes



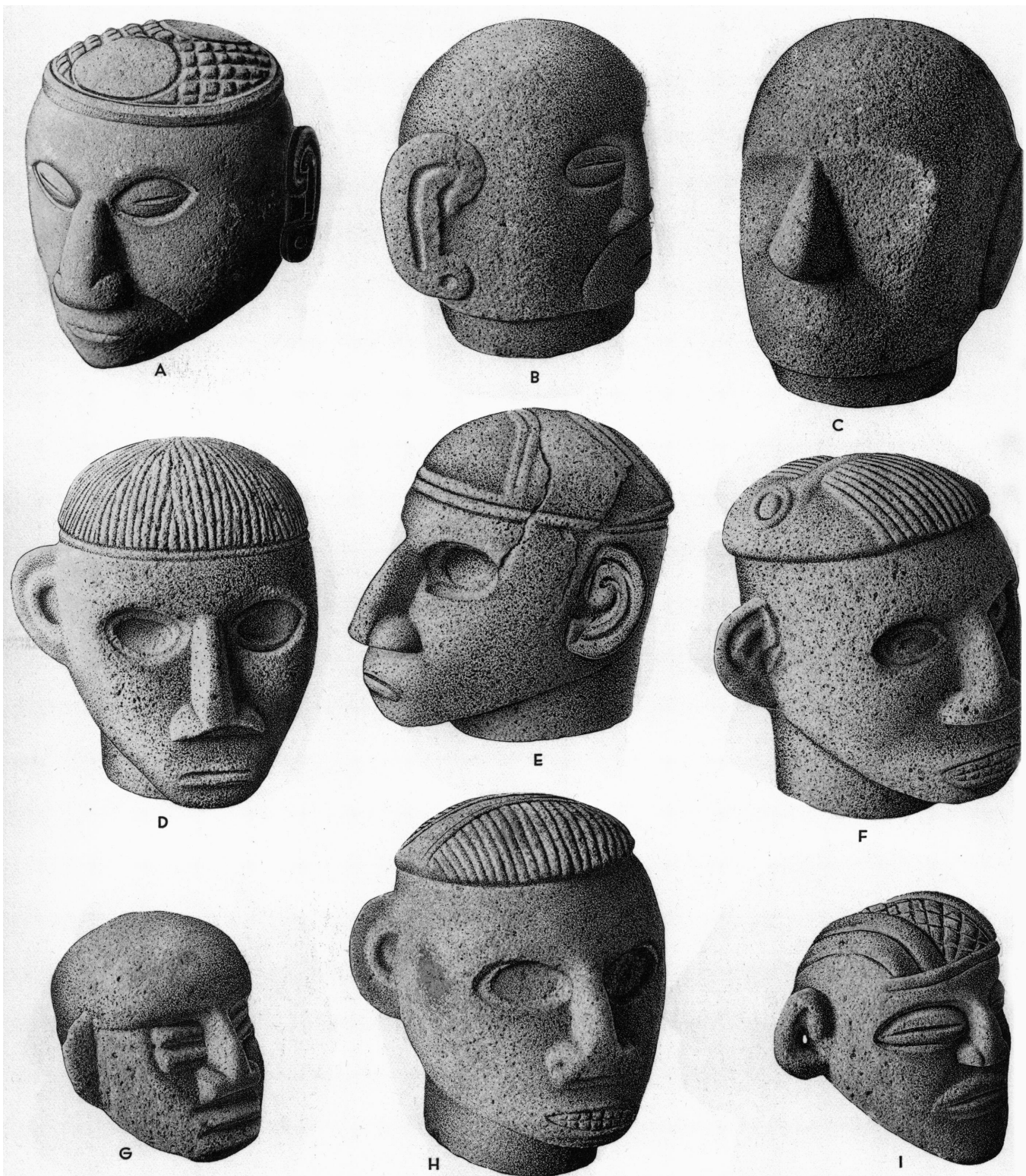
Seated human or anthropomorphic figures, Mercedes



Variations in style of seated human and anthropomorphic figures, Mercedes



Independent stone human heads showing variation in treatment, Mercedes



Samples from subtypes of independent human heads, Mercedes



A



B



C



D



E

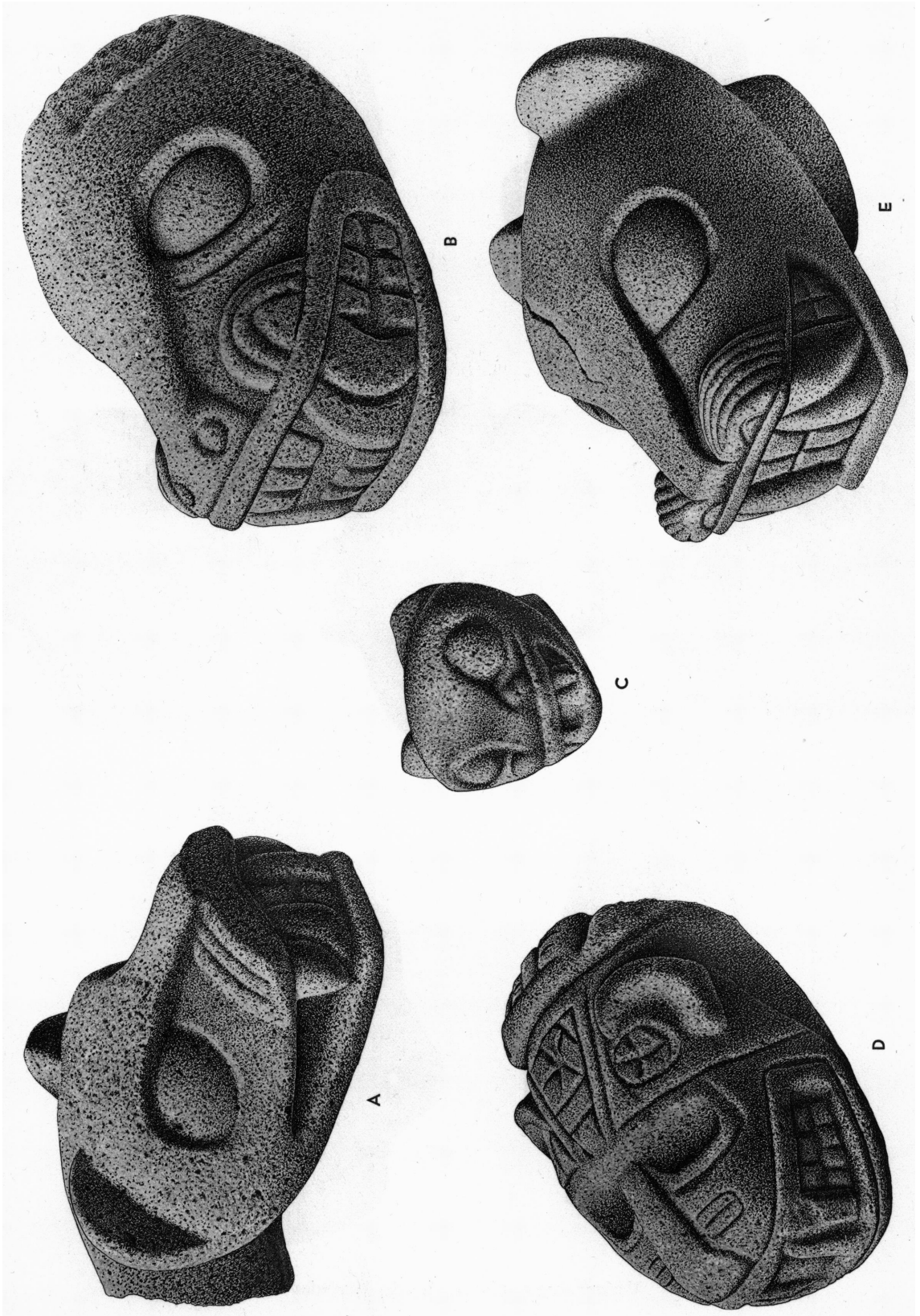


F



G

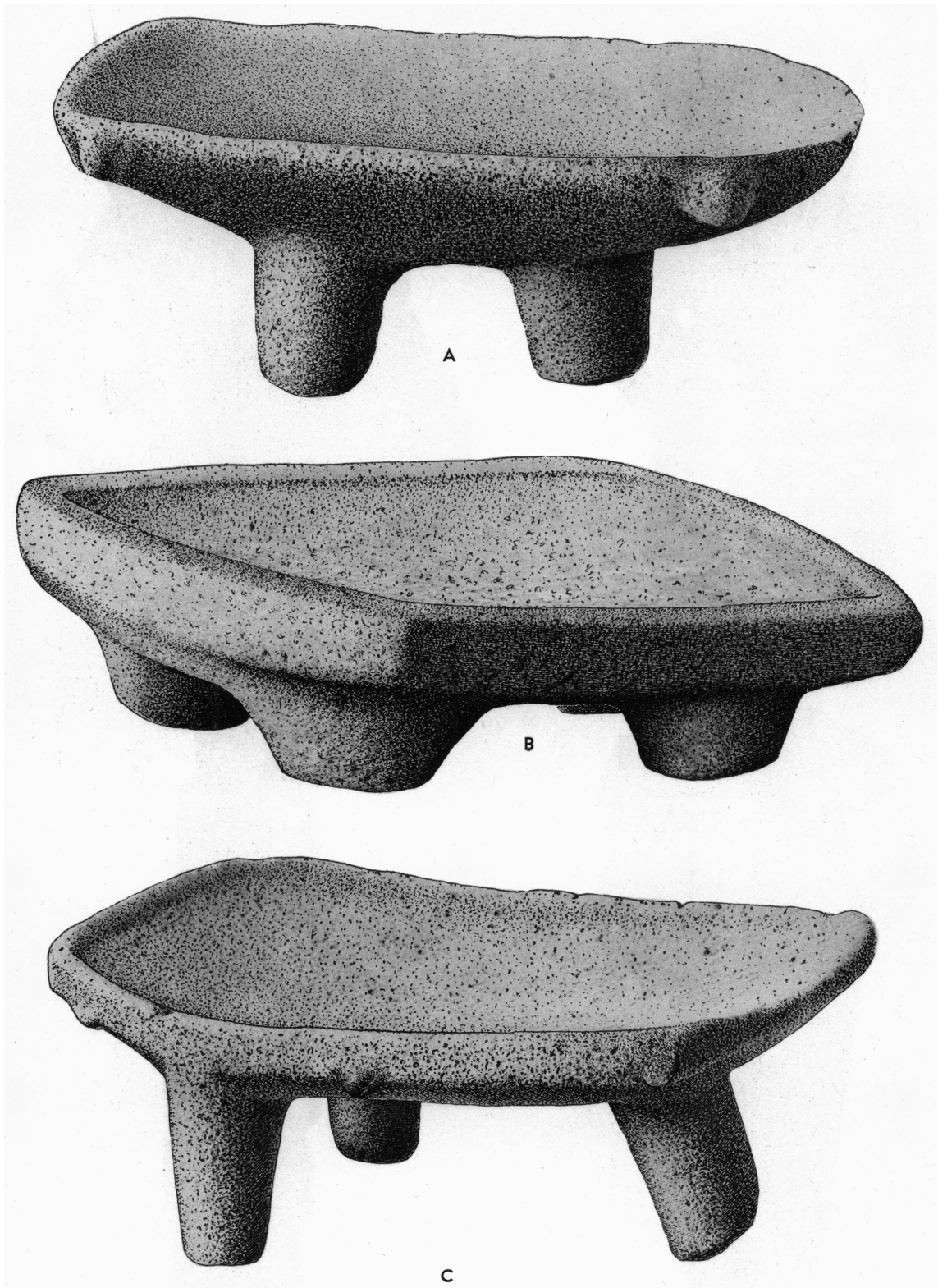
Variant forms of human heads, Mercedes



Independent jaguar heads and heads broken from metates, Mercedes



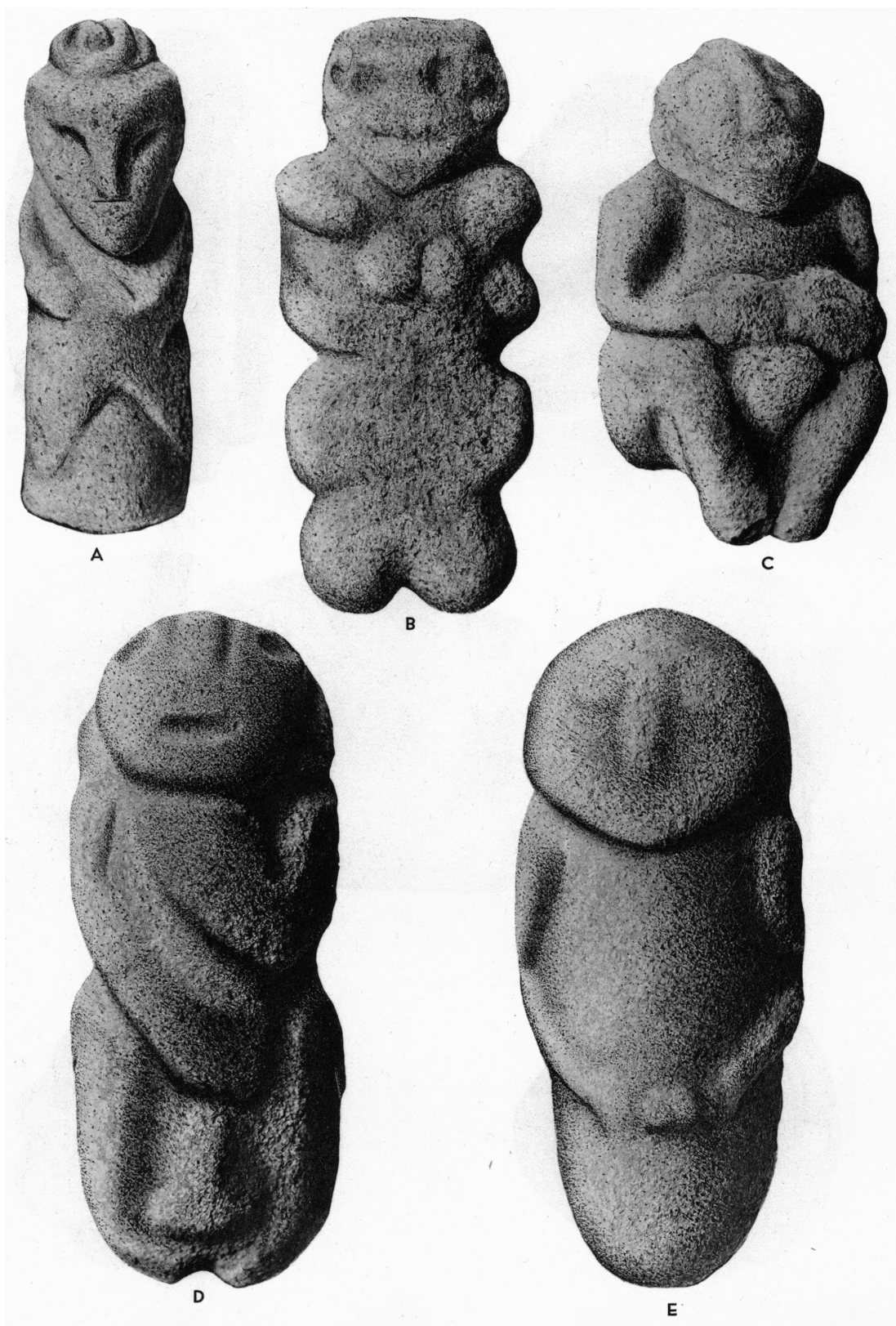
Miscellany of unusual forms in stone, Mercedes



Tripod and quadriped metates, central highland sites



Sculpted stone objects, Cartago



Quasi-cylindrical carved figures, Palmar



Various representations of the human figure, Group A, Palmar



Flat naturalistic sandstone figures, Group B, Palmar



Highly developed or aberrant styles of figures, Groups B and C, Palmar



Variations in style of figures, Palmar



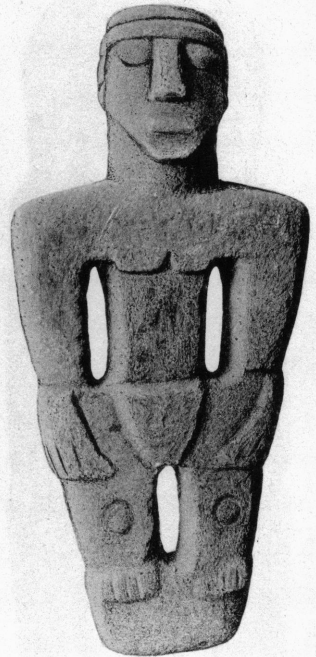
Stylized human figures, Groups C and D, Palmar



A



B



C



D



E

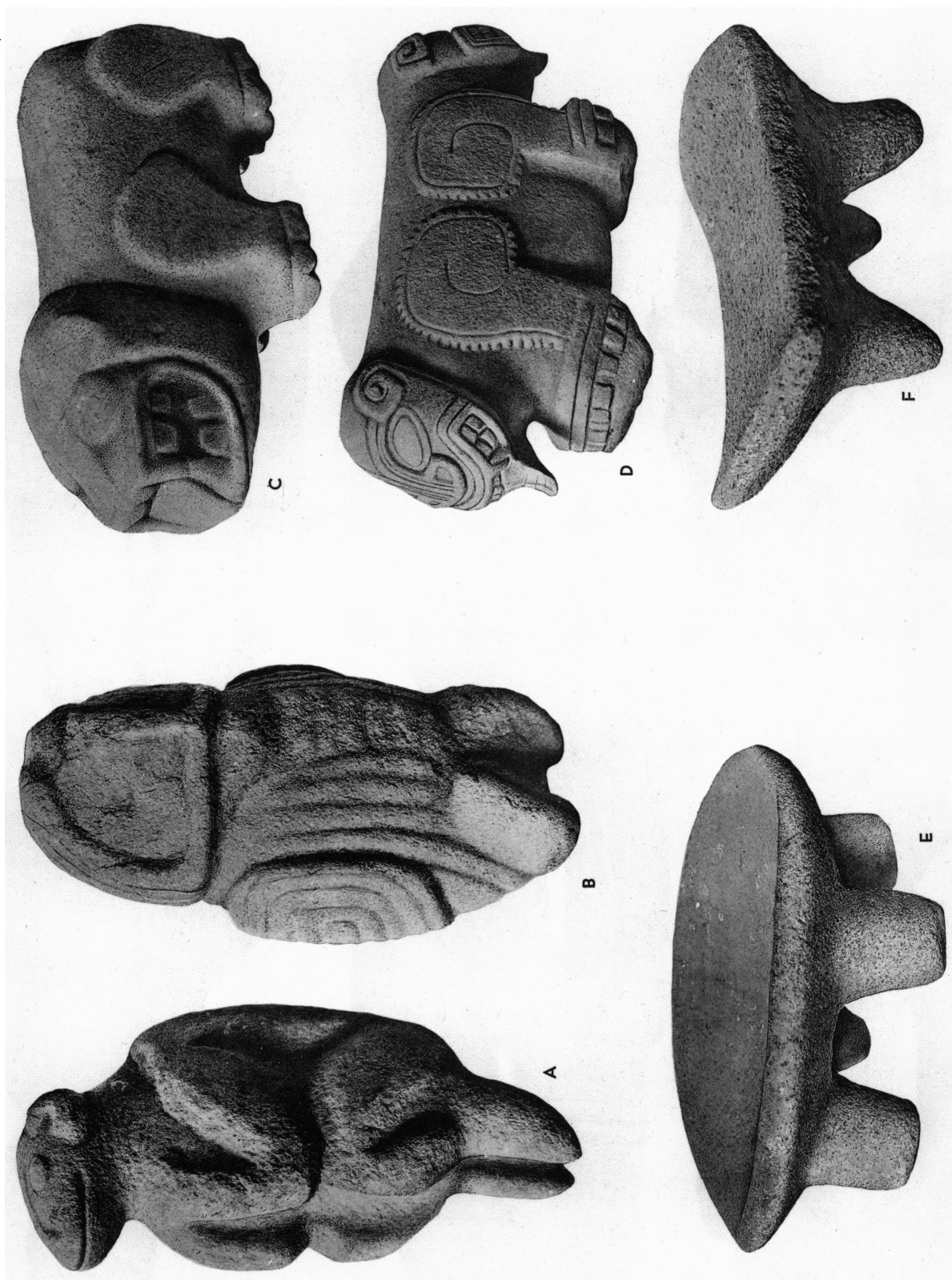


F

Variations in style of Group D figures, Palmar



Exceptional and variant figures of Group D style, and an animal head, Palmar



Animal sculptures and metates, Palmar



Stone sculptures, Lagarto

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