
CERTAIN ANTIQUITIES OF EASTERN MEXICO

BY

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PREFACE

The explorations and studies embodied in the present paper were undertaken by Doctor Fewkes, Ethnologist in the Bureau of American Ethnology, at the instance of the Secretary of the Smithsonian Institution, and funds for the field work were furnished by the Institution. The particular field of operations was chosen with the view of determining, if possible, by means of a reconnoissance of the eastern states of Mexico, whether or not any definite connection or relationship existed between the ancient peoples north of the Rio Grande and within the area of the United States and those to the south in Mexico, especially the semicivilized tribes of middle Mexico and Yucatan. The present study must be regarded as preliminary only, the field work not yet having progressed sufficiently to furnish data for definitive results; but it is, nevertheless, a very important contribution to our knowledge of the ancient culture of the Gulf states of Mexico, and it is hoped that the researches thus initiated may be continued and completed in the near future.

W. H. HOLMES, *Chief*.

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INTRODUCTION

The geographical position of the Gulf states of Mexico gives them a special significance in comparative studies of the prehistoric culture of the mound builders of the lower Mississippi valley and that of the Maya and other tribes of the far south. Notwithstanding this fact very little has been contributed in recent years^a to our knowledge of the archeology of this interesting region, and comparatively little is known of the culture of the prehistoric races that inhabited it. With hopes of increasing this knowledge the author was directed in the winter of 1905 to visit portions of these states for field work under the auspices of the Smithsonian Institution. Some of the general results of this visit are published in the following pages.

When Hernando Cortés disembarked his little army of invasion in what is now the state of Vera Cruz he found it inhabited by aborigines of comparatively high culture. The inhabitants called themselves Totonac, and their territory was known as Totonacapan. The conqueror was not long in discovering that the Totonac were subjects of Moctezuma, a great ruler in the mountains to whom they unwillingly paid tribute, and that they chafed under his yoke. Shortly after landing Cortés visited their settlements at Quiauiatlan and Cempoalan, near the former of which he laid the foundation of a city that he called Villa Rica de la Vera Cruz, the Rich Town of the True Cross. He was well received by the inhabitants of these cities, making friends with those above mentioned and thirty other dependent pueblos whose aid greatly facilitated his march to the interior of Mexico. But this friendship of the natives of Cempoalan and their settlements for Cortés was not shared by all the Indians of the Mexican Gulf coast. In the valleys of the Panuco and Tamesi rivers, that is, in what is now northern Vera Cruz and southern Tamaulipas, dwelt the so-called Huastec, a people linguistically allied to the Maya and culturally similar to the Totonac. They had populous towns, having reached a high degree of culture, and they had never been conquered by the Aztec. At first they resisted the Spaniards, but subsequently were subdued by Cortés and their main city, called Chila, situated on the Panuco river about 15 miles from its mouth, and certain other settlements on

^a A valuable summary of what is known of the ruins in these states may be found in Bancroft, *The Native Races*, IV (Antiquities), San Francisco, 1882. Mr Hugo Fink, in *Smithsonian Report for 1870*, p. 373-375, refers to the abundance of antiquities in Vera Cruz.

lagoons of the Tamesi near the present pueblo, Altamira, were destroyed. The survivors of these villages who escaped slavery or massacre fled to the mountains, where their descendants, bereft of ancestral arts, lost much of their culture and settled in new localities.

Let us begin our account with the Totonac ruin, Cempoalan, and follow with a brief description of prehistoric earth mounds near Xico,¹⁰ a Nahuatl pueblo not far from Jalapa, closing with a brief mention of that near Antigua, the modern name of the second Villa Rica de la Vera Cruz founded by Cortés.

¹⁰A contracted form of *Xicochimilco*; a better known pueblo of the name Xico is situated on an island of Lake Chalco near Mexico City.

RUINS OF CEMPOALAN

The earliest historical references to Cempoalan occur in the accounts of the Conquest by Bernal Diaz del Castillo,^a Francisco Lopez de Gómara,^b and other contemporaries. At the time of the Conquest Cempoalan was so striking a metropolis that it excited the admiration of the Europeans, and from its many temples ("towers") and large buildings was called Sevilla. Its streets and plazas are said to have swarmed with people, one author estimating the population at 30,000 souls: Whether this statement was exaggerated or not we may never know, but the size and number of the temples prove that the city had a considerable population. After the Conquest Cempoalan rapidly declined in power and its population so dwindled that in 1580, according to Patiño,^c it had shrunk to 30 inhabited houses; it is stated that in the year 1600 only one or two Cempoalaños lived on the old site, the most of the survivors having been moved to the jurisdiction of Jalapa, where they were distributed in new "congregations" by the then Viceroy of Mexico, the Count of Monterey. The adjacent forests and an exuberant tropical vegetation rapidly grew over the deserted buildings of the once populous city, so that in a few generations its site was practically forgotten by students.

Regarding the position of the ruins, Bancroft writes as follows:^d

About the location of Cempoalan, a famous city in the time of the Conquest, there has been much discussion. Lorenzana says that the place "still retains the same name; it is situated 4 leagues from Vera Cruz and the extent of its ruins indicates its former greatness." Rivera tells us, however, that "to-day not even the ruins of this capital of the Totonac power remain, although some human bones have been dug up about its site."

All the old authors agree that the people who inhabited Cempoalan belonged to the Totonac stock. This identification gives the study of this ruin both an archeologic and ethnologic importance. A student of the antiquities of Cempoalan need not doubt the kinship of its inhabitants; but regarding the affinity of the inhabitants of many other Vera

^aHistoria Verdadera de la Conquista de la Nueva-España, Mexico, 1632.

^bCronica de la Nueva-España. In chapter xxxxi of this work the author describes a plaza of Cempoalan with rooms on one side and towers on the other, the walls of the latter shining in the sun like silver.

^cMammel Rivera, Historia Antigua y Moderna de Jalapa y de las Revoluciones del Estado de Vera Cruz, Jalapa, 1869. The author had an opportunity to examine this work in Jalapa and from it obtained the above statement ascribed to Patiño, whose writings were not seen. According to Rivera, Alonso Patiño presented a "plano" of Cempoalan in 1580 to Martin Enriquez, but much to his regret the author has not been able to see this plan.

^dBancroft, The Native Races, iv (Antiquities), 436, San Francisco, 1882.

Cruz ruins there is not the same certainty. Some are Nahuatl, many are Totonac, and still others were once inhabited by people of unknown stock.

Although lost and forgotten by the outside world, the name of the Totonac metropolis clung to a geographical locality near the left bank of the Actopan river, where certain mounds and ruined pyramids are still known to the people of the neighborhood as the remains of ancient Cempoalan. In modern times the attention of archeologists was first called to this site by Sra Estefania Salas, a lady of Totonac extraction still living in Jalapa, who was then a zealous collector of land shells. In 1883 Dr H. Strebel, led by information furnished by Sra Estefania and others, published an illustrated account of six of the temples of Cempoalan^a that represented for several years all that was known of the ruins.^b

Descriptions of objects from Cempoalan appeared also shortly after in Strebel's work, *Alt-Mexico*,^c which has long been the authority on the antiquities of Vera Cruz. Strebel apparently had not visited Cempoalan when his articles were written, and he makes no attempt to locate the geographical or relative positions of the buildings he describes. In 1891, eight years after the publication of Strebel's work, in commemoration of the fourth centenary of the discovery of America by Columbus the Mexican Government made a survey of Cempoalan and neighboring ruins, under direction of the well-known Mexicanist, Sr Paso y Troncoso. At that time the dense, almost impenetrable jungle covering the mounds was thoroughly cleared away and the walls of several large buildings, including those described by Strebel, were laid open to view. The whole ruin was then surveyed by an engineer, Pedro Pablo Romero, and a model prepared of the central buildings adjoining a court identified as the Plaza Mayor. In the course of the work here and in the adjoining Totonac region more than two hundred photographs were taken and much valuable material was collected. The models and plans were exhibited in the Columbian Exposition at Madrid in 1892, where they attracted considerable attention, and an account of the material as well as of the different temples was published in a catalogue^d of the exhibits that appeared at that time. The above-mentioned model and plans, with crayon copies of some of the photographs enlarged by Sr José M. Velasco, are now on exhibition in the Museo Nacional in Mexico city, and the collection of photographs preserved in the library of the same institution is open to inspection. With the exception of a visit of Señor Batres, official

^a As so often happens in Mexico, the same name is applied to several places. The Cempoalan near Paso del Ovejas from its position can not be the historic city conspicuous in the conquest of Mexico.

^b Die Ruinen von Cempoalan in Staate Vera Cruz (Mexico) and Mitteilungen über die Totonaken der Jetztzeit. *Abhandlungen des Naturwissenschaftlichen Vereins zu Hamburg*, VII, Teil 7, 1883.

^c *Alt-Mexico*, *Archaeologischer Beiträge zur Kulturgeschichte seiner Bewohner*, Hamburg 1885.

^d *Catálogo de la Sección de Mexico en la Exposición Histórico-Americana de Madrid, 1892*, tomos, 1-11, 1892-3.

inspector of archeological monuments and one or two others, the ruins of Cempoalan passed the next decade without being disturbed or even visited, and a new jungle spread itself over the stately pyramids. The author made two excursions to Cempoalan in February, 1905, remaining there a week on his second visit. The limitation of time prevented extended work at the ruins, but photographs of the main buildings were made and data regarding them collected. Even this limited work was attended with some difficulty, since the clearings made by Troncoso in 1891 had already disappeared, the trees and underbrush having grown to so great an extent as to obscure the buildings, making it difficult to secure satisfactory photographs. Although much of this vegetable growth was cut away by the owner, the jungle is still dense over the greater part of the ruins.^a

A visit to the ruin Cempoalan can be readily made from Jalapa or Vera Cruz in a single day. It lies not far from the left bank of the Chalchalicas or Actopan river, a short distance from the coast and two hours' ride on horseback from a station on the railroad between Jalapa and Vera Cruz, called San Francisco. The roads (plate xciv) from this station to the ruins are fairly good, passing through a comparatively level country, lined in part with groves of tropical trees to which cling beautiful air plants, and in the branches of which live many parrots and other brilliantly colored birds. The shortest road passes through hamlets called Gloria and Bobo, and near the latter is a ford of the Rio Actopan. Although the road from San Francisco to Bobo at first is uninteresting, distant mountains are always visible, and as the traveler approaches the river trees are more numerous and the country becomes more attractive.

On the right side of this road before fording the Actopan^b there are several artificial mounds belonging to the Cempoalan group, the first being passed a mile from what was once the central plaza of the city. After fording the river the traveler crosses several irrigating ditches and the cultivated fields increase in number, showing evidences that much of the plain on the left bank of the river is fertile and once may have been extensively farmed.^c

^a My investigations in the state of Vera Cruz were greatly facilitated by Governor Dehesa, who not only gave me permission to study his valuable collection, but also directed the owner of the hacienda, Agostadero, and the alcalde of San Carlos, to aid me in every way. I take this opportunity to express my gratitude to Governor Dehesa for this and many other kindnesses. Don Firmin Zarete, owner of the property on which Cempoalan stands, Sr Alejandro Vin, alcalde of San Carlos, and Mr Gaw, of Jalapa, also rendered valuable assistance, for which I wish to thank them. I was accompanied to Cempoalan and Xicochimalco by Señor Ximenes, photographer of the governor of Vera Cruz.

^b Gómara says the river crossed by Cortés was about a mile from the court of Cempoalan, which is approximately the distance of the Bobo ford (Paso del Bobo). He also mentions the irrigated gardens (Huertas de regado), which were evidently north of the Actopan, through which the road passes. From Gómara's account it appears that Cempoalan was not a compact city with buildings crowded together, but composed of many clusters of buildings, each surrounded by gardens, and groves of trees so tall that the buildings were not visible from a distance.

^c *Actopan*, according to Alonso de Molina, means *land, rich and fertile*. Its Aztec rebus is a maize plant growing out of an irregular circle filled with black dots. Note, however, the difference in spelling the name of the river, *Actopan* and *Abopan*.

The visitor may obtain shelter and food near the ruins at the hospitable hacienda, Agostadero, owned by Don Firmen Zarete. This settlement consists of a collection of primitive cabins of the simplest construction characteristic of the Tierra Caliente, clustering about the house of the owner. Evidences of the older population crop out everywhere in this region, and well-defined rows of rubblestones mark the remains of foundation walls of old temples that have been appropriated for the same purpose in modern cabins (plate xcv). It would appear that practically the majority of the houses of Agostadero are built on walls of the older settlement, and that the present inhabitants cultivate the same fields as their prehistoric predecessors. There are indications that these fields are still irrigated by water drawn from the Rio Actopan, as in prehistoric times.

The ruins of Cempoalan are quite extensive, covering a large extent of territory, but, as a majority of the mounds are inaccessible except by cutting one's way through the underbrush with a machete, the locations of their sites can be only surmised. Mounds belonging to this metropolis were found extending over a territory a mile square, but the main buildings are crowded into a limited area. Wherever one turns in this neighborhood, if vegetation permits he encounters evidences of former human occupation. Not only mounds and pyramids rise on all sides but also plastered walls, and fragments of concreted road-beds lined with rows of stones set in cement (not unlike curbs) are seen on all sides. It does not take long to discover that Cempoalan was constructed almost entirely of plaster and rubblestones;^a none of its walls were made of adobe or of cut stones.

CONSTRUCTION OF BUILDINGS

So far as can be determined, the four buildings of old Cenípooalan now standing are pyramids, the bases of former temples. They are constructed of a concrete core made of water-worn stones laid in lines one above another and faced with concrete. Wherever this superficial covering has fallen, especially on the stairways, rows of stones are clearly seen. The surfaces of these buildings were originally highly polished, so smoothly that it was supposed by one of the soldiers of Cortez that the walls were covered with plates of silver. These walls were decorated with yellow and red paintings, traces of which are still visible, especially in places not exposed to the weather. Two typical forms of buildings are represented at Cempoalan, one circular, the other rectangular. Both types have stairways with massive balustrades on one side. Examples of the circular type are not as well preserved as those of the rectangular, but their form is similar to that of the temple now in ruins at Calera near Puente Nacional.^b

^aIn this respect unlike the *Totonac* ruin Tajin, near Papantla.

^bSee Bancroft, *The Native Races*, iv ('Antiquities'), San Francisco, 1882.

The rectangular type (plate XCIV) may be still further classified into two groups, one of which (plates XCIX, CI) has two stories, forming a basal and a second terrace on the latter of which stood the temple. The other group (plates XCVII, XCVIII) has more than two stories or terraces, diminishing gradually in size from base to apex. The top or upper platform of the latter group is reached by a continuous stairway^a on one side, but in the former there are two flights of stairs, one above the other, the lower mounting to a landing or the platform of the basal story, from which the second flight of stairs takes its rise.

As a rule the foundations of these Cempoalan pyramids are concealed by a luxuriant growth of vegetation, but it is apparent from the clearings of the foundations made here and there that all were built on slightly raised artificial bases, somewhat larger than those of the pyramids. In some instances small buildings or annexes of the temple were erected on the same foundation platforms as the pyramids.

NOMENCLATURE AND POSITION OF BUILDINGS

One observes the first group of temple mounds of Cempoalan on the left-hand side of the road from Agostadero to San Isidro, just after leaving the hacienda. The largest belongs to the round type and lies in a cultivated field much overgrown with bushes and vines. Venturing into this field, which is full of troublesome insects, the observer discovers that near these two mounds are others forming a group. One of the largest of these two mounds (plate XCVI) was called by Troncoso Templo del Aire ("Temple of the Air"^b), and like all round temples is supposed to have been dedicated to Quetzalcoatl, Plumed Serpent, or the God of the Air. The many smaller mounds are crowded together, indicating houses once possibly inhabited by priests. On the right of the road crop out fragments of walls, some of which, extending into the adjacent forests, are lost in the jungle while others continue parallel with the road for some distance and farther on disappear.

Slabs of plastering or rows of rubble stones extending in all directions indicate the crowded arrangement of houses in this immediate locality, which must have been not far from the center of the city. Just beyond the second of the two mounds identified as temples of the Plumed Serpent, there enters from the left the road to San Isidro, a little-traveled pathway (plate XCIV) that follows the barbed-wire fence of the field in which lie the circular ruins. Making one's way with some difficulty through a dense forest along this pathway a short quarter of

^a These stairways are not uniform in their orientation; that of building A faces west, that of B, south, while those of C and D face east.

^b Gómara (Cronica, p. 83), in speaking of the temples of the City of Mexico, says: "Entre ellos (teocalli) havia uno redondo dedicado al Dios del Aire, dicho Quetzalcoatl; porque así como el Aire anda al rededor del Cielo, así hacen el Templo redondo." There are many other references to the round temples of the Air god, Quetzalcoatl.

a mile north of the Templo del Aire, one suddenly sees rising before him, in fact, blocking the way, a pair of massive pyramids (plates *xcvii*, *xcviii*) that evidently formed parts of two sides of an inclosed court. An observer facing the larger of these, with the smaller on the left hand, probably stands in the great court of Cempoalan, where, perhaps, Cortés marched his soldiers on his memorable visit to this city almost four centuries ago.

The larger of the two massive pyramids (plate *xcvii*) is locally known as Templo del Pozo ("Temple of the Fountain"), or Chinimeos ("Chimneys"); the other is nameless. Peering into the jungle that surrounds these buildings, we get glimpses of other mounds hidden for the greater part in the dense forest.

Passing onward between the two great pyramids (*A*, *B*) already mentioned, leaving the larger on the right, following a fallen wall one descends by a few artificial steps (plate *xciv*) to a plastered pathway paralleling to the eastward a barbed-wire fence. This trail brings one in a short time to one of the best preserved buildings (plate *xcix*) in Cempoalan, locally called Las Caritas ("Small Heads"), from the many small pottery heads that have been found at its base, apparently having fallen out of the walls.

A fourth pyramid (plate *c*), sometimes called Casa de Moctezuma, lies in the forest about due east from that last mentioned and is approached by a circuitous trail through the woods. This structure is likewise the pyramidal base of a temple but is less shut in by the forests than those already considered.

In an open field north of the temple Las Caritas, and to the left as one passes to it from the main plaza, there will be noticed a large structure (plate *cm*) overgrown with shrubbery, from which project smooth polished faces of cement walls. This is one of a group of mounds designated by Troncoso, Sistema de los Paredones, and is figured in the accompanying illustration. The several buildings above referred to are designated by the letters *A*, *B*, *C*, *D*, *E*. The name Templo del Aire is retained for the round ruin.

BUILDING A

This building (plate *xcvii*) is one of the large pyramids in the main court and, judging from its present size and annexes, must have been one of the most important structures in Cempoalan. Its ruins are still impressive and, considering the material used in construction, in a fair state of preservation. The pyramid is simple^a and has several adjacent minor buildings evidently belonging to it, forming a cluster. The front of the pyramid is indicated by a stairway, before which is a second building, longer than broad, the roof of which was supported by

^a In the author's description the term "temple" is applied to the room on the upper terrace, and "pyramid" to the solid terraced base upon which this sanctuary stood.

columns, two of which are still visible at the base of the pyramid. This building was possibly an antechamber or gateway, a waiting room for those who took part in the ceremonies in the temple on the pyramid. A third structure on the same base as the others is a roofless inclosure, situated in the rear side of the pyramid and extending the whole width of the basal platform.^a

All these buildings stood on a common platform that was slightly raised above the surface of the court or plaza. The steps by which one mounted to the platform are still visible.

The accompanying illustration (plate *xcvii*) shows this pyramid as seen by one facing the stairway, which is continuous from the base to the apex. At the foot of the stairs are seen the broken remains of hollow, chimney-like plaster columns that once supported a roof, formerly decorated on their flat sides with stucco figures. Adjoining them are fragments of the foundations of old walls of the room. Three of the four pillars appear in the illustration, the missing one having been broken off at its base and covered with rank vegetation and other débris. The round pedestal of solid concrete seen a little to the right in the foreground of the plate resembles a pillar, but is in reality an altar, the remains of which stood in front of the pyramid. An examination of the structure of the rear and sides of the pyramid shows that it had six terraces, the size of which gradually diminishes from the base to apex, the upright walls being inclined slightly inward from the perpendicular. The plaster covering the surface of the lowest story is somewhat more broken than that of the upper, revealing the rows of rubble stones laid in the concrete which forms the interior. On the left face of the pyramid, about midway from each corner, a row of pits, one in the surface of each terrace, forms a continuous series of foot holes, by means of which one could ascend to the top of the pyramid without making use of the main stair, a feature not found in the other Cempoalan temples.

The stairway is continuous from base to top and has a massive balustrade on each side, following the angle of inclination of the steps except at the top, where it ends in a cubical block, the sides of which are practically perpendicular. This structure, like all other parts of the pyramid, is made of plaster applied to a core of water-worn stones laid in concrete.

On ascending to the spacious top or upper platform of the pyramid, remnants of the temple walls are found somewhat back from the landing of the stairs. These walls, now fallen or broken, once formed three sides of a chamber, the fourth side being occupied by a doorway. It would appear that formerly there were two idols in this temple, the pedestal on which one of these stood being still visible to

^a Possibly the bodies of those sacrificed in the temple were thrown down the pyramid into this inclosure.

the left of the middle line. On the lateral margins of the platform of the upper terrace there are still found remnants of a row of terraced battlements (figure 44), that were absent from the rear margin. A wall a few inches higher than the plastered surface of the terrace margin served as a base on which these blocks stood.

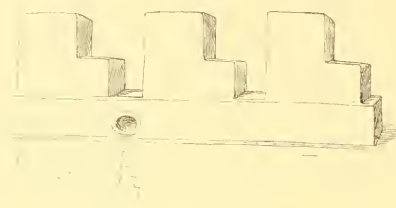


FIG. 44. Battlements of building A, Cempoalan

This base was perforated^a at intervals on the floor level by round orifices to allow the escape of rain or other water that fell on the platform. In front of the basal platform, supporting the pyramid and its annexes, there are remains of smaller structures, among which may be

mentioned a pile of stones constituting the remains of a circular pedestal.

In the forest opposite the stairway is a small pyramid not more than 4 feet high, with upper parts of a stairway and terraced sides, their bases now half hidden by vegetation.

BUILDING B

No two of the pyramids of Cempoalan have exactly the same form notwithstanding their general similarity. The pyramid (plate xcvi) near that just described has a larger number of terraces than any other and no indication of a special stairway. It is probable that the terraces on the south side, that toward the great court (Plaza Mayor), served for the purpose. Apparently the temple which stood on the platform of this pyramid was many-chambered, containing several idols. Nothing now remains of this building but traces of the foundations, the walls having long ago fallen. The floor of the platform of the pyramid was smoothly plastered, and there was formerly a marginal row of terraced battlements on two sides.^b

BUILDING C

The temple of this building (plate xcix) is fairly well preserved and its pyramidal base is almost entire. From remains of structures around the latter, it would appear that the whole building was formerly inclosed by a wall whose ridges of stone and disintegrated mortar still remain to mark its former position. Facing the well-preserved stairway, it will be noticed that this part of the structure is divided

^a These holes are figured in pictures of temples in Aztec codices, when they are sometimes supposed to represent rafters.

^b When the author first visited this structure it was almost concealed by the dense growth of vegetation, which was partially removed before the photograph was taken.

into two parts, one above the other, the lower extending from the ground to a landing on the margin of the basal terrace, the upper from the terrace to the platform of the second story, the edge of which is indicated by the seated figure. The relation of basal and second terraces is best seen from a rear corner-view given in the accompanying illustration (plate c). On the rear side of the second terrace, directly opposite the stairway, one may see a square shallow recess in the wall the purport of which is unknown. The relative size of the pyramid is evident from the two figures standing on the ridge between the base of the temple proper and the edge of the second terrace, where there is barely standing room for a man.

The walls of the temple proper are almost continuous with the margin of the platform of the second story, imparting to that part of the pyramid, when seen from one corner, the appearance of a third story. The walls back of the standing figures form sides of a room open on the side toward the stairway.^a

An examination of the outer surface of the walls forming this chamber, which is the temple, shows an overhanging cornice, and a slightly raised horizontal band extending around the building midway between cornice and base. Below this band the surface wall is plane continuously around the three sides, but between it and the cornice there are sunken panels separated by vertical bands, the surface of which is flush with the lower surface of the wall. There are two sunken panels in each lateral wall and three in the rear, all together forming a frieze the surface of which is rough, indicating that foreign bodies, as rows of stones, clay heads, or possibly human skulls, were formerly attached to these panels. The smooth surface below the horizontal band still exhibits traces of red and yellow pigment, remains of former pictures. Similar panels containing embedded objects are reported from the castillo at Huatusco, and panels of a like kind were architectural features of other Aztec temples, judging from existing pictures of those buildings.^b No temple well enough preserved to show the nature of the ornaments embedded in the frieze or panels over a doorway, now remains in the Valley of Mexico, but in the cornice of the Casa de Tepozteco, at Tepoztlan, there are remains of carvings in volcanic stone, representing human skulls. An aboriginal drawing by Sahagun^c of

^aIn views of a similar pyramid near Huatusco, given by Sartorius, there are representations of niches in the blocks, containing idols.

^bSee Peñafiel, *Nombres Geográficos de Mexico*, Mexico, 1885. On page 57 we find the rebus of Atenanco, a water symbol all flowing from a battlement, *tonanco*, or *tenamiltl*; p. 181, *tenanco* and *tenamtlzico*; p. 197, *tetranco*, in which the same element *tenamiltl*, battlement, appears. These pictures of the battlements *tenamiltl* are good representations of the line of battlements on a Cempoalan temple.

^cDie Ausgrabungen am Orte des Haupt-temples in Mexico. The discussion of the form of the great pyramid of Mexico by Seler brings out a close likeness between it and the Cempoalan pyramids. In speaking of the Mexican Codices, reference is made to those of the Aztec, so-called, but the author believes that the Codex Cortesianus and Troanus, commonly called a Maya Codex, was obtained by Cortés on the coast of Vera Cruz, at or near Cempoalan.

the temples of Huitzilopochtli and Tlaloc on the great pyramid of Mexico represents a panel over the doorway with horizontal rows of white circles on a black ground, and in a somewhat better figure of the same temple there are added to these white-circle representations of human skulls. Although nothing now remains in the panels forming the frieze of the Compadan temple, the many clay heads found at the base of the pyramid, as well as statements of the early visitors, indicate that these panels were ornamented with such heads. The inner surfaces of the temple walls correspond to the outer so far as the panels are concerned, but the surfaces are less worn and show more clearly the remains of superficial paintings.

The floor of the temple, which is likewise the surface of the platform of the pyramid, was formerly smoothly plastered and had a square depression several feet deep in its middle. Evidently this depression, which is still visible, was originally covered by a square stone whose edges rested in a groove.

This ruin, like the others, has been much damaged by the roots of large trees that are tearing the cement apart, but the exposed surfaces are still well preserved—a remarkable fact considering the age of these buildings and the erosive action of the rains to which they have been subjected.

A few feet in front of the lower steps of the stairway is a low, circular pedestal made of concrete covered with plaster, which was probably an altar, and in front of this a rectangular platform marks the position of a basin-like structure, present in front of other pyramids also.

BUILDING D

This building (plate *ci*) belongs to the same type as that last mentioned, and is in about the same state of preservation. Its pyramid is composed of two stories, a basal story somewhat lower than in building *C*, and a second story, well preserved, resting upon it. This temple is smaller than the others, its walls being a little higher than the heads of the persons who stand in the embrasure, formerly a doorway. Breaks in the walls of this temple indicate the position where lintels have been wrenched from their places. One feature of the second story shown in a view from one corner (plate *ci*) is a battlement or row of terraced projections arranged along the margin of its platform. The stairway, with lateral buttresses, is situated on the east side, and is broken into two parts, one above the other, separated by a landing. The lower stairs end on the top of the basal story, from which the second stairway rises to the platform on which stood the walls of the temple or sanctuary."

¹ Compare this building with a sketch of a Yucatan temple in Landa's *Relacion de las Cosas de Yucatan*, sacada de lo escrito el Padre Fray Diego de Landa de la Orden de st. Francisco. See Bosney's *Ensayo sobre la Interpretacion de La Escritura Hieratica de America Central*, translation by Oña y Delgado, Appendix, p. 104, Madrid, 1884.

BUILDING E

This structure (plate CIII) was evidently an important one in Cempoalan, although its pyramidal form is difficult to discover. It lies in an open field, but is more or less covered with bushes and is considerably broken. In the printed plan illustrating the Troncoso exploration, this building and the adjacent mounds are designated Sistema de los Paredones ("System of Walls").

The four buildings described in the preceding pages give a fair idea of the architecture of typical Totonac temples and pyramids, not only in the valley of the Actopan, but also elsewhere on the coast of Vera Cruz. But when Totonac buildings or temples in other parts of this state are considered it will be found that building material or environment has strongly affected their construction. In the plains where Cempoalan is situated there are no quarries from which stones could have been obtained, but instead a multitude of small water-worn boulders; hence the builders made use of the latter in their buildings. In mountainous regions stones were employed and these stones were hewn or cut into shape, as at Papantla. The forms of the Cempoalan temples remind one of Yucatan, Chiapas, and Tabasco and resemble those of the Valley of Mexico, but the building material is different.

MOUNDS NEAR ANTIGUA

In all accounts of the preliminary settlements founded by Cortés in the coast region of the Totonac country, there is found associated with Cempoalan another city called Quianistlan, said to have been situated only a few miles from the Totonac metropolis.⁴ The site of this place has never been satisfactorily studied, although its proximity to the first city founded by Cortés in Mexico is given by several early writers. Bernal Diaz says that Cortés traced the plaza and church. Villa Rica de la Vera Cruz, in the plain a half league from the fortified pueblo called Quianistlan. This city was later removed to another site, also called Vera Cruz, where remains of crumbling walls and the little church mark the oldest settlement of Europeans on the continent of America. Antigua, as its station on the railroad is now called, offers little to interest the traveler. It has an unfinished church and remains of barracks ascribed to General Santa Ana, who owned a hacienda in the neighborhood, but with the exception of these and its old walls,

⁴On Brasseur's map Quianistlan is placed north of Cempoalan, but its exact site is as yet an open question. Cortés founded the city, Villa Rica de la Vera Cruz, about a mile from Quianistlan. Clavijero, as pointed out by Humboldt (*Ensayo Político sobre de la Nueva España*) shows that there were three cities called Vera Cruz founded by Cortés—the present metropolis of that name, Villa Rica de la Vera Cruz, now called Antigua, which was the second of that name, and the first settlement, that near Quianistlan. Gómara speaks of the second as near Chiavitzlan or Aquahuitlan, the Indian settlement. Field work is necessary to determine whether the Villa Rica de la Vera Cruz near Quianistlan was the first or the second Villa Rica, for if the latter, it was south of Cempoalan.

the second Villa Rica de la Vera Cruz is little different from other more modern settlements. In searching for the ruins near the second Vera Cruz, the writer unexpectedly found a group of instructive earth mounds that have never been described by archeologists. These mounds, visible from the train, lie on the opposite bank of the river from the old settlement of the Spaniards, about half a mile from the station, Antigua. They are arranged irregularly about a level space that may have been a plaza and closely resemble some of the earth mounds of the Mississippi valley. The remains of Quiaustlan, which lie near the site of the first Villa Rica founded by Cortés, were not visited by the author.

RUINS OF XICOCIMALCO

The true route of Cortés to Mexico immediately after he left Cempoalan is indicated by Chavero,^a after Orozco y Berra. Gómara says that for the first three days after leaving the Totonac metropolis the army traversed a friendly country and came to Jalapa, where it was well received. This friendly pueblo was not the present city of that name but another called Jalapa Viejo, situated about a mile from the present site. On the fourth day, continues Gómara, the army came to Siuechimatl and thence went on to Theuhixuacan. According to Bernal Diaz the army went from Cempoalan to Jalapa, from which it marched to a settlement called Socochima; he does not mention Gómara's Theuhixuacan. It is evident that the pueblo Socochima of Bernal Diaz is the same as Siuechimatl of Gómara, the difference in spelling Indian names being a very natural one and frequent in other writings.

It is highly desirable in tracing the route of Cortés from Jalapa over the Cofre del Pirote to the plateau, to identify the site of Siuechimatl. Gómara has mentioned several characteristic features of Siuechimatl^b that apply to Xicochimalco, called Xico Viejo, one of the ruins near a modern pueblo of the same name, Xicochimalco. This ruin is about a day's march from Jalapa or four days' from Cempoalan, and is situated in an almost inaccessible place in the mountains, approached by a trail so steep that it might well be called an artificial stairway, a fact mentioned by Gómara and others. At the base of the lofty and precipitous cliff upon which Xico Viejo stands are the cultivated fields in which are walls, fragments of pottery, and other evidences of a past population. One of the early writers asserts that Moctezuma could draw 50,000 warriors from this region. Certainly a handful of men could have prevented a large army from

^a Mexico á través de los Siglos, p. 834.

^b The writer has been aided in identifying Siuechimatl by legends current in the modern town, Xico. As in the study of Hopi archeology, much can be learned regarding the inhabitants of ruins, from migration traditions, so Aztec legends still repeated in Indian pueblos shed much light on many Mexican ruins.

climbing the steep trails and entering Xico Viejo had they wished to do so. The inhabitants were ordered by Moctezuma to receive Cortés in a friendly manner and to furnish the strangers with food.

According to Herrera, Cortés consumed one day in marching from Cempoalan to Jalapa. This feat would have required a forced march, and, considering the size of the army, its impedimenta, and the distance between the two points, would have been almost impossible; moreover the statement of the length of time does not agree with that given by the other authors, Bernal Diaz and Gómara, already quoted. Herrera does not mention the pueblo Xicochimalco, but says that after leaving Jalapa the conquerors went on to another place, where they were well received on account of the fact that both places belonged to the Cempoalan confederacy. The other place (*otro lugar*) mentioned by Herrera was evidently either Xicochimalco or Izhuacan.^a

Many other contemporary references to the route of Cortés between Cempoalan and the pass of the Cofre del Pirote might be quoted and will be considered in a more extended report, but the accounts given by the authors above named are sufficient to establish the site of Siu-chimatl, from which place the trail went over the mountains to the pueblo Theuhixuacan, the old settlement whose descendants now inhabit Izhuacan.^b

There are three towns not far from Jalapa that bear the name Xico or Xicochimalco, two of which are now in ruins. The two ruined settlements are claimed by the present inhabitants of Xico as pueblos of their ancestors, and while legends are very definite concerning one of these they are more vague about the other.^c These may be called the Texolo mounds and Xico Viejo; the former are believed to have been made by a race different from the inhabitants of the latter, who were Aztec.

TEXOLO MOUNDS

The oldest and largest ruin in the neighborhood of Xico, one of the two above mentioned, is called Texolo, but its true name is unknown. This remarkable group of mounds (plates CIV, CV) lies at the base of the volcanic mountain San Marcos (Acatpetl), visible from the plaza of Jalapa. It consists of a series of large mounds, some of which have markedly angular shapes, extending from San Marcos to a short distance from the Xico station on the narrow-gauge railroad from Jalapa

^aSome authors, as Prescott, say that Cortés went from Jalapa to Naolingó, but it is not so stated in Bernal Diaz and Gómara.

^bAn old Xico Indian stated that Xico Viejo was on the highway to Mexico from the coast of the Gulf and that it is commonly believed by his people that this road was that used by the couriers who carried to Moctezuma the news of the arrival of the Spaniards. If this legend is reliable, it has a distinct corroborative bearing on the probable route of Cortés, who naturally would have followed this trail.

^cI am much indebted to Mr William Boone, director of the Jalapa electric light plant, for valuable aid in my studies about Xico.

to Teocelo. The road from this station to the falls, now utilized by the Electric Light Company of Jalapa, passes along one side of a row of these mounds and continues past two other isolated pyramids situated in an adjacent field. A superficial examination revealed that these mounds are constructed of earth, with no indication of cut stones or adobe, or of cement or plaster finish. Their general form is rectangular; they are arranged in two rows inclosing a court now planted with bananas and coffee. In superficial appearance they are identical with the mounds at Antigua and with those also at many other places in the states of Vera Cruz and Tamaulipas.

The kinship of the former inhabitants of this region is problematical, for there is no historical reference to them, and the objects found in this vicinity have no resemblance to those characteristic of Nahuatl or Totonac archeology. The physical features of their site differ from those of Sicuchimatl as described by historians, which according to all early writers stood on a hill inaccessible or nearly so to a visitor. The legends of the people of the inhabited or modern pueblo Xico, who are Aztec, claim that the mounds of Texolo were built by their ancestors, which may be true for certain families, but the objects found near them are not Aztec. These objects are different also from those of the Totonac, but are more closely allied to them than to those from the ruin Xico Viejo, where the Xico people lived at the time of the Conquest.

XICO VIEJO

The ruin identified by the author as the Sicuchimatl of Gómara is now called Xico Viejo. It is reached from modern Xico by a horseback ride of an hour and a half over a rough road, in some places across steep barrancas almost impassable except on foot. The last half mile of this road is practically impassable for horses and must be made on foot, justifying the statements of Gómara regarding the difficulties the horsemen of Cortés encountered in reaching the pueblo. The best preserved structure at Xico Viejo is a temple pyramid (plate CIX, *a*) with a platform on one side, evidently faced with hewn stones. At the base of this pyramid several stone blocks, parts of a battlement like that on Cempoalan pyramids, were observed, and two of these are introduced in the illustration of the idol (plate CVI). In the open space at one side of the pyramid are remains of other fallen walls of buildings, before which stood at least one, possibly two, large idols, one of which will presently be described. There are many fallen walls of buildings some distance from the pyramid, on the slope of the hill (plate CIX, *b*) upon which the pueblo was situated, and the plain below is thickly strewn with walls referred to the ancient inhabitants.

The stone idol (plate CVI) still standing in the open court near the central pyramid attracts one's attention as by far the most interesting

object at Xico Viejo. When the idol was visited it had bananas upon it; these were offerings lately placed there, which would indicate that belief in the power of the idol is not wholly extinct in that neighborhood. This idol is a plinth of hard black rock about 4 feet high with a human head cut on one end. This head (figures 45, 46) has elaborately carved ear pendants and a peculiar nasal ornament, the latter being found likewise in an idol of the Plumed Snake found near Jalapa Viejo. On the back of the head there is a rabbit's head under a circle (*ce tochtli*, one rabbit), possibly the date of the foundation of the town.

The inhabitants of modern Xico have a legend that the pueblo, the ruins of which they call Xico Viejo, was founded by the immediate predecessor of Moctezuma I.

A second plinth, almost identical with the other in form and size, lies on the ground near the idol, but this stone shows no evidence of having been carved on its end, although such carving may exist on the under side, the object being too heavy to be turned over.

STONE IDOLS NEAR XICO

There are in the neighborhood of Xico several stones with carved idols upon them that may be mentioned in this connection. Among these are two that bear upon their surfaces figures of animals cut in high relief, evidently revered by the ancient inhabitants of that region. One of these (figures 47, 48) is sculptured on a boulder in the middle of a cornfield near the railroad, a few hundred feet beyond the station at Xico. It represents an animal with human head, the limbs extended as if grasping the rock on which it is cut. (Plate cviii.)

The other stone (plate cvii) is found on a hillside near the station Fuente, a short distance from Xico. The figure on this rock is a gigantic serpent represented as crawling out of a spring. This figure

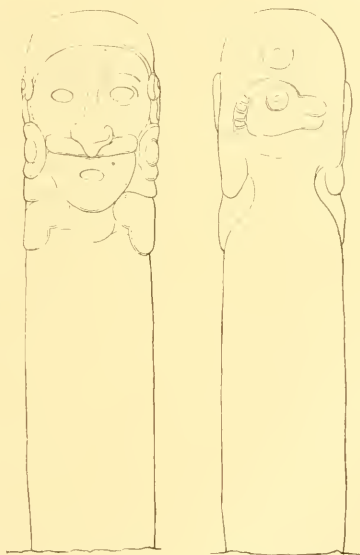


FIG. 45. Stone idol at Xico Viejo. (Front view.)

FIG. 46. Stone idol at Xico Viejo. (Back view.)

sculptured in relief is about 20 feet in length, the upper part of the body being horizontal, the lower vertical and zigzag in form. The image is cut on the perpendicular face of a rock that has at its base a spring, the tail of the serpent being hidden in this spring.^a It would naturally be supposed that this image was formerly worshiped as a water god.



FIG. 47. Stone idol at Texolo. (Side view.)



FIG. 48. Stone idol at Texolo. (Back view.)

MODERN XICOCHIMALCO

The present pueblo Xicochimalco was founded after the Conquest by descendants of the people of Xico Viejo. Most of its population are Indians and speak the Aztec, or Mexican, language. Their feast day occurs on July 22, when they have a dramatization of the Conquest with personations of Malinche, Cortés, Moctezuma, Moors, and Spaniards.^b

The conclusions regarding the two ruins near Xico are that the mounds at Texolo are much the older^c and were constructed by a highly cultured people, superior to the Aztec, to whom they contributed both blood and culture. The second ruin, now called Xico Viejo, was a flourishing Aztec pueblo or garrison town, recently settled when Cortés passed through the country. The present Xico, containing descendants from both the previous settlements, was founded later than the Conquest by descendants of those who inhabited Xico Viejo; its inhabitants now speak Nahuatl and claim both Texolo and Xico Viejo as ancestral settlements, but racially they are closer to the people of the latter than to those of the former. The bearings of artifacts from the Texolo mounds on these conclusions will be considered later.

^a Probably the stone serpent mentioned by Rivera (Historia de Jalapa) as near Jalapa. For a figure of a goddess of water forming a fountain, see Nebel's picture of an image from Tusapan.

^b The neighboring pueblo, Teocelo ("divine tiger"), where there is a large Indian population, likewise represents in the fiesta of its patron saint, Negros, Tocotines, Santiagos, and Moros, but the celebration occurs on August 15.

^c The inhabitants of Texolo may have been contemporary with those of San Juan Teotihuacan and their epoch may have antedated the rise and extension of the Aztec confederacy. Their intermediate descendants may have been Totonac or some related people.

PAPANTLA

An examination of other pyramids in Vera Cruz ascribed to the ancient Totonac shows a general similarity to the mounds referred to in the preceding pages. Some of these, of which Papantla is probably the best known, are faced with dressed stone. The pyramid El Castillo, at Huatusco, and those at Tusapan and Mizantla have the same general form as those at Cempoalan, but the material used in their construction is different. One of the best preserved Nahuatl pyramids in this country is situated at Teayo, not far from Tuxpan, and will be considered presently.^a

The pyramid called El Tajin, "the Lightning" (plate cx), situated in Vera Cruz near Papantla, is one of the most striking as well as exceptional ruins in the ancient Totonac territory. From what remains of this magnificent monument we may conclude that in its prime it was not inferior in architecture to the most stately structures of Central America to which it is closely related. The pyramid has this exceptional architectural feature: While solid throughout there are arranged in series around the four faces, with the exception of the space occupied by the stairway, numerous niches in which formerly stood idols or possibly other objects. The temple proper crowned the platform or uppermost of the six terraces. The exceptional feature in El Tajin is the seven rows of niches, one above the other, the homologues of which exist in no other pyramid in Mexico, either Maya or Nahuatl.

The modern pueblo Papantla, situated in the midst of the vanilla zone of Vera Cruz, is a community of Totonac Indians among whom survive many ancient customs. One of the most interesting of these is the game of the flyers (*voladores*), which was once widely distributed in Mexico. In this play men disguised as birds mount to the tops of upright poles and, attaching themselves to ropes, jump into space, seeming to fly through the air. It would appear that this game has preserved in Papantla some of its ancient vigor and that the performance here retains much that is more or less ceremonial. An old woman, the so-called *bruja* (witch), makes offerings of copal, aguadiente, and a fowl, which are placed in the hole when the pole is put in position, and various minor rites are performed during the several days the ceremony continues. The volador festival has degenerated into a play in modern times and in most Mexican pueblos has come to be a secular occasion. It is comparable with the Sun dance, one of the most serious ceremonies of our Plains Indians.

^aThe pyramids of the Sun and Moon, at San Juan Teotihuacan, not far from Mexico City, are of earth, not differing, except in size, from many earth mounds of Vera Cruz.

CASTILLO DE TEAYO

This pyramid lies not far from Tuxpán, and is one of the best examples in Vera Cruz of the pyramidal mound with cut stone surface and continuous stairway. This pyramid (plate CXL) is situated in the plaza of the pueblo of the same name and is a much-prized monument; as shown in the accompanying plate the structure above the temple is modern. The image or idol that once stood on the summit of the temple is now in the Dehesa collection at Jalapa. According to Doctor Selser,^a all the carved stone images found near Teayo indicate that its culture was Nahuatl and not Totonac, or that Teayo was an Aztec garrison town. The style of cutting and symbolism of the stone idols found in this neighborhood by Doctor Maler leaves no doubt that Selser is right in calling this an Aztec building. Teayo was probably a Nahuatl garrison town in the Totonac territory.

OBJECTS FROM CEMPOALAN AND XICO

The general appearance of the mounds of Cempoalan, Xico, and one or two other Totonac ruins has been indicated in the preceding pages. This brief notice is next supplemented with a few observations on archeological specimens found in the neighborhood of some of these ruins. Notwithstanding the wealth of ancient Totonac material in collections, these objects have been superficially treated by students, and practically nothing has been written in English on this subject. The localities from which many of these objects have been obtained are not known, so that we are not able to refer them to the Totonac rather than to other cultures. This is particularly unfortunate, especially as the state of Vera Cruz was once inhabited by distinct peoples,^b whose culture varied considerably.

In his comprehensive work, *Alt Mexico*, Dr H. Strebel has figured and described a number of stone and clay artifacts that well illustrate the art products of the Totonac. This work is an authority on the subject but is in German and has never been translated; moreover, many important types of stone objects are not mentioned in this valuable memoir. A consideration of some of the more striking specimens observed in the course of studies at Cempoalan and Jalapa might enlarge our knowledge of the culture of this region and properly form a portion of the general account of the author's visit to Vera Cruz. As there is no collection of Totonac prehistoric objects in the world that can compare with that of Gov. Teodoro Dehesa at Jalapa, the author has given

^aSince writing this paragraph the author has read Doctor Selser's comprehensive account of the ruins of Teayo, published in the proceedings of the Stuttgart meeting of the Americanists.

^bAlthough some of the Vera Cruz pueblos were Nahuatl and others Totonac, the expert can readily distinguish objects characteristic of these cultures.

considerable attention to a study of this collection by permission of the governor, who has allowed him to photograph and publish figures of objects therein. Sra Estefania Salas of Jalapa has several very instructive specimens from Otates^a and elsewhere, which supplement those above mentioned. These likewise were examined, together with a few additional objects in other collections. Several fine ceramic specimens illustrating Totonac culture were presented to the author by Sr Alejandro Viu, alcalde of San Carlos. They were found at Barra Chachalicas, near the mouth of the Actopan river and therefore not far from Cempoalan. As their general character is Totonac, they may be regarded as well illustrating the general feature of the ceramic art of Cempoalan. Not being permitted to remove these specimens from the Republic, the author has been obliged to rely on the accompanying plates made from photographs of them while in Mexico.

CLASSIFICATION

The objects considered in the following pages are of clay or stone. They differ in form and include besides vases, jars, and various forms of ceramic ware, idols, weapons, and problematical objects, as stone yokes, paddle stones, padlock stones, and animal effigies. The majority of the ceramic objects are clay heads, some of which are of a very remarkable form.

Several aboriginal stone objects from the vicinity of Xico are characteristic of that region and markedly different from those found in Aztec or Totonac ruins.

Some of the more striking types are:

(1) Stone rings, or collars, (2) closed rings or yokes, (3) open yokes, (4) curved stones, (5) paddle-shaped stones, (6) human heads and birds with notched bases, (7) stone feathers, (8) padlock-shaped stones, (9) stone weapons.

STONE RING

Among the more unusual objects found in this region is the stone ring of the Dehesa collection, the general form of which recalls that of the stone collars of Porto Rico. None of these Mexican stone yokes, however, have the characteristic panels, projections, and protuberances on the surface that are universally represented in some form or other on Porto Rican stone collars. Many archeologists in commenting on Mexican stone yokes have referred to their likeness to Porto Rican collars, but have recognized in most instances that this resemblance is of the most general nature. The nearest approach to the Antillean stone collar that was seen by the author is the ring in

^aA pueblo about 25 miles east of Jalapa.

the Dehesa collection mentioned above and represented in accompanying figure 49. This object has an oval form and bears at one pole an indentation or notch on the outer margin. The exterior surface is not decorated with figures but is ridged, imparting an angular form

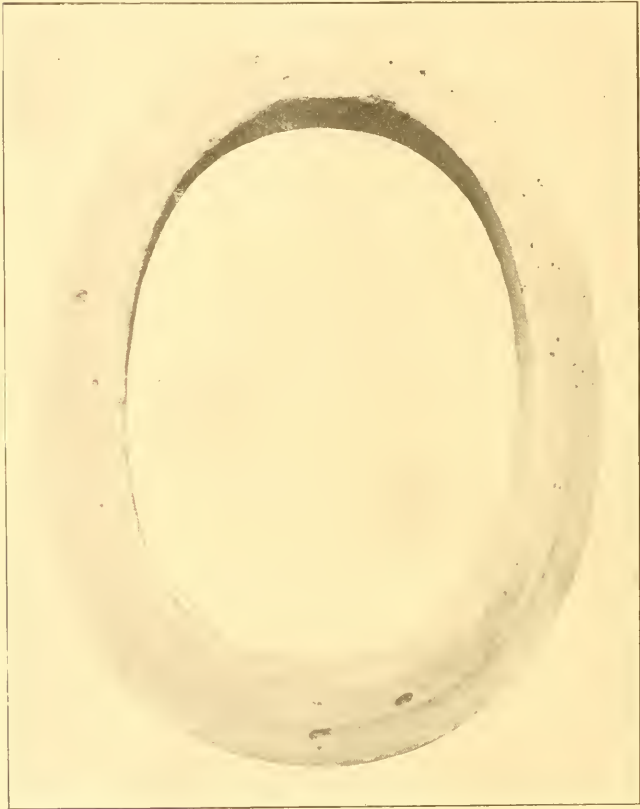


FIG. 49. Stonering. (Dehesa collection.)

to a cross section. The notch at the upper pole suggests the connecting bar that unites the two arms of certain yokes, forming the closed variety, which will be considered presently. Another specimen now at the hacienda San Bruno, near Jalapa, shows a transition form

between this stone ring and the closed yoke. Its surface is not decorated and a cross section shows angles identical with those of the stone ring of the Dehesa collection above described. From a stone ring of this kind the passage to a closed yoke is easy, and from the last mentioned one readily passes to the yoke proper. It would seem that these three types are morphologically the same—a fact which would imply identity in use.

CLOSED STONE YOKES

A closed yoke is simply a yoke with the ends of the arms united. While some of the closed yokes from eastern Mexico have a smooth or undecorated surface, a larger number of this type are ornamented with elaborate incised geometrical designs, sometimes with elaborate figures. The morphological resemblance between the closed and the open yokes is so great that we may regard them as practically identical in function.

OPEN STONE YOKES^a

The geographical distribution of Mexican stone yokes leads to the belief that they belonged to the ancient Totonac. Although a few of these remarkable objects have been found in adjoining states (Puebla, Chiapas, and Tlascala), the majority originally came from the state of Vera Cruz. Stones of this type thus appear to have been made by an aboriginal people of this region, and not by the Nahuatl, who reduced the former to vassalage when they extended their domain from the valley of Mexico to the Gulf. These objects are generally referred to the Totonac culture and it is thought they were adopted from the Totonac by neighboring tribes. Although these yokes have a common form, they differ one from the other in size and superficial sculpturing, the latter feature affording the best basis for a tentative classification. In order to comprehend the differences in the symbolic reliefs on these stone yokes, it is convenient to place them in the same position for observation. The vertical or arched position in which they are generally represented reveals comparatively little of their superficial decoration. Whatever appears is confined mostly to the outer curve of the arch. In this way one fails to see the sides and any decorations, when present (figure 50) on the ends of the arms.

The ornamented regions are more clearly seen by placing the yoke in a horizontal position—that which Strebel urges it had when in use. In such a position the curve of the arch lies at the left of the observer, and the undecorated edge, which is rougher and narrower than the other, serves as a base upon which the yoke naturally rests. Strebel and later Holmes have pointed out that this rather than the upright is a natural arrangement and that, when a yoke is so placed,

^aProfessor Holmes (*Field Columbian Museum Publications*, 1, no. 1, 310-315), describes at length the symbolism of one of these closed yokes, from a specimen in the Field Columbian Museum.

heads cut in relief on the sides and ends of the arms will be seen in natural positions. As a rule, when yokes are placed otherwise than horizontal, the majority of the heads cut on the sides of the arms are reversed or thrown into unnatural positions, although there are some specimens, as in plate cxv, where an upright position of the yoke is necessary to give normal positions to the figures cut upon the arms. Having placed the yoke horizontal, with the curved part of the arch at the left, the two arms of the yoke may be distinguished as proximal and distal, the curved or arched end may be designated the anterior, and the free arms the posterior; the base is the lower side or margin upon which the yoke rests.



FIG. 50. End view of arms of stone yokes. Museo Nacional, Mexico.

An examination of decorated stone yokes leads the author to classify them in two large groups each with subordinate divisions, some of which have their surfaces decorated with geometrical figures, others with representations of heads or limbs of men or animals. Many highly decorated yokes are covered with a much conventionalized tracery of geometrical designs, oftentimes so elaborate and intricate that they conceal or obscure the figures, if any, which are cut on the yoke. This is especially true of arms or that part representing the body, and in some specimens this ornamentation extends over the legs, head, and even the protruded tongue. As a rule, geometrical figures when complicated are deeply incised, forming rectangles and curved ornamental designs, some of which remind one of representatives of feathers on stone images of the Plumed Serpent. It is to be noticed also that

similar geometrical traceries occur likewise on the problematical paddle-shaped stones, indicating an intimate cultural resemblance.

A scientific classification may be built on the number of heads of human beings or animals cut on the external surfaces of the yokes and on the general identification of these figures. Thus we recognize a first group that contains those in which the yoke represents one human being or animal, the head being cut on the arch and the limbs and body on the arms, while the second group contains those yokes with heads of two or more human beings or animals represented on the sides and arch of the yoke. The first group is subdivided into two classes, in the first of which human faces are represented; in the second some animal, as a frog or reptile, is cut in relief on the stone. The head or face of the first subdivision has many human features, and the likeness extends to representations of appendages, which take the forms of arms and legs, hands, and human feet rather than claws or hoofs. In the second division of the first type the evident intention was to represent head and legs of some bizarre animal rather than those of man; the figure represented is commonly called a frog. The head is not that of a human being, although unlike an animal's, and the limbs are not arms and legs with human hands and feet, but animal appendages with claws, hoofs, or similar digits. At times these appendages become so conventionalized that their resemblances to legs is almost wholly lost and can be detected only by comparative studies.

The superficial sculpturing of the first type indicates that one being was represented on each yoke, or that all the ornamentation together forms the head and various organs of one animal. This is not true of the second type, where two or more heads, legs, and bodies of as many individuals are cut on the same yoke. In this type the several heads represented are sometimes identical, but more often diverse, so that while the face of a grotesque animal may appear on the arch, representations of skulls and human faces occur on the arms.

The accompanying plate, (plate CXII, *a*, *b*, *c*), chosen to represent a decorated yoke of the first type, is one of the best specimens in the Dehesa collection. As indicated by the human face, it belongs to the first subdivision of the first group, in which a human head is cut in relief on the curved end, the legs and arms being clearly seen on the proximal and distal arms of the yoke. A side view (plate CXII, *b*), reveals an elaborate system of geometrical designs, indicating the body with legs and arms in relief, the same ornamentation being found over the whole surface of the yoke. The superficial ornamentation is intended to represent a figure with a human head, the body lying prone on its breast like an animal.

In the specimen figured on plate CXII, is an example of the first type of stone yoke, but one in which the superficial sculptured designs cover the body, tongue, and legs to such an extent that the joints

of the legs and the feet are much obscured, and the hands wholly lost. In plate CXIII, *a*, is represented another specimen, also from the Dehesa collection, belonging to the first type. There is a remarkable similarity between this specimen and the last-preceding one, both of which represent human beings with sandaled feet, wearing bracelets and anklets.

Of the same general character is the ornamentation of a yoke (figured in plate CXIV) owned by the Sonora News Company, of Mexico City. One of the significant variations in detail between this and the last mentioned is the structure of the upper lip, which is here split into three parts—a not uncommon feature in these heads. While the face in plate CXV, *a*, is unlike that represented in plates CXIII and CXIV, the upper lip is split as in the latter specimen. The second subdivision of the type of stone yokes representing animals is fairly well represented in all collections and has been figured by Strebel, Chavero, Holmes, and several other authors. In most instances, as pointed out by them, the figures represent frogs, but sometimes the character of the feet seems to indicate clawed or hooved animals, suggesting lizards, panthers, or tapirs. A beautiful specimen of a decorated yoke of this kind is exhibited in the Museo Nacional of Mexico City.



FIG. 51. Side view of stone yoke, second group. (Dehesa collection.)

A unique yoke in the Dehesa collection differs from others in the presence of rows of holes on the lips or about the mouth, suggesting that teeth were once inserted on the edge of the oral opening. This yoke, shown in accompanying plate (CXIII, *c, d*), has the limbs carved on the sides, but their appendages are so conventionalized that it is impossible to tell what animal the maker intended to represent. From the circular disks on the head and from the general shape it is not improbable that it was a frog. The relatively enormous tongue protruding from the large mouth imparts a grotesque feature to the whole object, which, in several particulars, is one of the best specimens of yoke ever found.

Yokes of the second group are reducible to two kinds: (1) those having a single head, four limbs, and a body represented on each yoke, and (2) those with several, generally three, heads cut in relief on each yoke, one on the arched end and one on each arm of the yoke. In this type appendages and bodies may or may not be represented and there may

be additional incised or relief medallions of heads on the ends of the arms. There is an excellent specimen of a stone yoke with a face on the curved outer surface and heads of different kinds on the two arms, in the Dehesa collection, shown from the side in figure 51. An examination of the structure of the arch shows that the head resembles that of a frog as identified in other specimens. There are two round disks on each side of the upper part of the head above the mouth, possibly representing ear-drums, a common feature in Mexican stone images of frogs, and there is a total absence of human features in nose and chin. Viewed from the convex side of the arch, this yoke shows but a slight difference from those of the second subdivision of the first type, but on examination of its sides or arms (figures 51, 52), this too is wholly lost. In place of appendages on the arms, as in yokes of the first type, it has representations of other heads and those of different shape from that of a frog. On one arm there are cut a skull and a conventionalized skeleton with upraised arms, and with ribs, legs, and feet. On the other arm we find a head of a human being, resembling sculpturing on the convex side of the arch of yokes of the first subdivision. The remarkable and unique figure of a human skeleton lies on one side when the yoke is in a horizontal position so that the yoke must be placed vertical



FIG. 52. Side view of stone yoke, second group. (Dehesa collection.)

to bring this figure into a natural attitude. It will be noticed that a human face is represented in a depressed area or recess on the upper side of the arch. Similar representations of death heads or skulls are not uncommon decorations on stone yokes; so far as it goes, this fact suggests the sanguinary rites of human sacrifice which are known to have been practised among the Totonac as well as among the Aztec.

Another stone yoke also on exhibition in the Museo Nacional, belongs to the second type and has a skull or death's-head cut on the arch and other heads on each arm.

CURVED STONES

Among other problematical objects from the Totomac region—almost unknown elsewhere—may be mentioned curved stones, bearing some likeness in form to sections of the yokes from which, however, they differ in size, shape, and superficial decoration. One of the best of these, already referred to and shown in figure 53, exhibited in the Museo Nacional of Mexico, has a figure of a human being engraved in its outer or convex surface, with legs extending over one end of the object, the feet showing on the under or concave surface of the stone. Commonly these curved stones have smooth surfaces and simple forms, as shown in the figures, sometimes resembling flatirons (plate cxx, *b*) with curved surfaces and destitute of handles. The remarkable object from the Museo Nacional of Mexico shown in figures



FIG. 53. Convex side of curved stone. (Museo Nacional, Mexico.)

53 and 54, does not fall into either of the types of stone yokes illustrated in the preceding pages, but is a unique representation of a type of curved stones. The design on the surface extends across and around one end and the inner surface. It represents a human being with the face in profile and the arms extended, and the legs, body, and feet in low relief. The use of these problematical stones, like that of the yokes and rings, is unknown, but, like the latter, they occur in greatest abundance in the Gulf states of Mexico.

A true yoke in the same collection as the next preceding object likewise has a head with outstretched forearms recalled that on the curved stone.

Another of the stone yokes in the Museo Nacional, Mexico, has three skulls cut in high relief, one on the anterior end and one on each of the arms.

THEORIES OF THE USE OF STONE YOKEs

These problematical objects have been variously interpreted by different writers, but the theories thus far presented, like those suggested for the Porto Rican collars, are not conclusive. They are commonly called sacrificial stones, and in an early catalogue of the Museo Nacional of Mexico are referred to as "yokes or collars that served in human sacrifice by placing them under the back of the victim to make the chest protrude, and thus facilitate the extraction of the heart, or by applying them upon the necks of victims to produce asphyxia, or at least to obtain immobility. These yokes are found in Mexico, Tlaxcala, Orizaba, and Chiapas." A large array of authors might be quoted as interpreting the Mexican yokes in this way. Mr Francis Parry abandons the name "Stone Yoke," substituting that of "Sacred Maya Stone,"^a and considers them as connected with germination or phallic ceremonies.

At a meeting of the Sociedad de Geografía y Estadística of Mexico, held in February, 1891, there was an animated discussion of the use of these yokes, revealing a difference of opinion regarding their function. A committee was appointed to investigate the subject, but as yet no report has been published by it.

Regarding the use of the sculptured yokes, Professor Holmes writes:^b

Considering the number of these objects and their importance as works of art, it is certainly remarkable that nothing is known of their use, and that they do not appear to be represented in any of the ancient manuscripts or in any of the thousands of subjects engraved or sculptured on stone or painted on or modeled in clay. That they were sacred and symbolic and had some important office to fill in gaming or divination, in rites or ceremonies, requires no proof beyond that furnished by our knowledge of the culture of the people to whom they belonged. Numerous definite uses have been assigned to them, but I can see no sufficient reason for adopting any one of these rather than another, and it is quite probable that the real use has not yet been guessed, save perhaps in the most general way.

Attempts that have been made to decipher the meaning of the stone yokes by comparing them with figures in Mexican and Maya codices have not been wholly successful, although shedding some light on the subject.



FIG. 54. Concave side of curved stone. (Museo Nacional, Mexico.)

^a The Sacred Maya Stone of Mexico and its Symbolism, London, 1893.

^b Archeological Studies among the Ancient Cities of Mexico. *Field Columbian Museum, Anthropological Series*, v, no. 1, p. 319.

Investigations in this line were early suggested by Strebel, but not carried out. The rebus or place name, for instance Nautzinlan, consists of a yoke-formed figure placed above the legs and abdomen of a human being and is interpreted by Peñafiel as "a place of fruitfulness." The figure of the yoke, according to this author, "is a kind of receptacle full of black spots, a symbol of maternity, reproduction or fecundity." In the Codex Vaticanus, a profile figure resembling a yoke has been thought to symbolize the Earth god or the Death god or goddess. In other words, the scant pictographic material available supports the theory that the Mexican stone yokes are associated with germination rites. Mrs Nuttall^a and Doctor Rust^b suggest that the curved stones used by the California Indians in certain puberty rites may have some relation to the stone yokes of the Mexicans. This would fall in line with the hypothesis that the latter were connected with rites of germination or with gods presiding over germination, which interpretation the author regards as not far from the truth.

It is evident that these yokes should not be interpreted as implements used to hold down victims for sacrifice, and the representations of supernatural beings upon them are not necessarily connected with human sacrifices. Very small forms of these yokes, as that shown in plate cxx, *a*, could not have been so used; they may have been a fetish, and possibly used as a personal charm. The majority of sculptured figures on these yokes may be reduced to symbolic representations of the Sky or Sun god. The death's-heads may be interpreted as symbols of the god of the underworld or abode of the spirits of ancestors, while the birds refer to the Sky god, worshiped as father of all life. The death's-head and skeleton so constantly repeated do not refer so much to the victim of the sacrifice as to the ruler of the realm of the dead, the underworld where dwell the ancients and other supernaturals. It is suggested, however, that the figures on the surfaces of these yokes represent in some specimens beings that are not identical. Thus on the arch of one yoke we have a frog's head, a skeleton on one arm, and a human face on the other. Some yokes have reptiles and others birds cut upon them. Strebel has identified the majority of the second subdivision of the first group as frog forms; this identification may be good so far as it goes, but it is not unlikely that these frogs symbolize other conceptions, as the Sun or the Moon god. In other words, the so-called frog yoke may be a representation of the sun in his function of rain-bringer. There are several marked resemblances between figures identified as sun gods graven on stone slabs from Santa Lucia Cosamawhupa, and figures on the stone yokes here considered. This

^a Old and New World Civilization, *Memoirs of the Peabody Museum*, II, 1901.

^b *American Anthropologist*, n. s., VIII, January-March, 1906.

^c A crescentic figure is repeatedly found in Mexican painting as a symbol of supernatural beings connected with growth or germination. It sometimes replaces sun symbols on shields.

likeness is especially striking in figures of gods and goddesses connected with fecundity or germination. Some of the former are represented as prone on their breasts. A celebrated carved stone from Tuxpan presented by Governor Dehesa to the National Museum of Mexico has head and feet not unlike some of the figures on Mexican yokes. The tongue is represented as protruding as in other pictures and figures of sun gods.^a

PADDLE-SHAPED STONES

Several years ago there was found in a cache near the mounds at Texolo a number of flat, paddle-shaped stones (plate CXVII), made of lava rock, ornamented on the two surfaces with figures and geometrical designs. These valuable stones, now in the collection^b of Governor Dehesa, at Jalapa, give a very high idea of the art of their makers. For some time this collection was unique, but within a few months, as the writer is informed by Mr Boone, director of the Jalapa Electric Light Company, another similar cache has been found in the same locality. It may reasonably be inferred that these objects are typical of the cultures of those who built the Texolo mounds and possibly characteristic of the ancient people of the state of Vera Cruz, but it is not evident that these people were necessarily of Totomac stock, although thus far they have been so considered. These objects are generally enlarged at one end, which is angular, with transverse groove that is always present and may have been fitted to an angular base. Many forms of stone birds with well-made heads and bodies, with wings extended, are found in the collection of Governor Dehesa, and there are likewise images like human heads with helmets. All of these are finely carved and the majority have characteristic notches at their bases, by which they may be supposed to have been supported on a bar or basal pedestal. The base is generally angular, the object broadening and becoming thinner at the opposite end. One face is generally slightly convex, the other flat or concave. In a few instances the margins are perforated with rows of holes.

The function of these paddle-shaped stones is problematical, but the indications are strong that when in use they were placed in a vertical position so that both faces were visible. It would appear also from their numbers that many were used at the same time; possibly they may have formed parts of altars. It is of course also possible that they were simply ornamental and furnished architectural features or permanent attachments to buildings.

^aThis figure, which has claws of the same kind as those on some of the stone yokes, and whose crouching attitude suggests yokes of the first group, is identified by Doctor Selser as a turtle-god. It may be the summer solstice sun symbolized by a turtle.

^bThese objects were sold to Governor Dehesa by Don José Piroz, of Contepec, who bought them from a farmer living at Xico or in that neighborhood.

One of the most instructive of these paddle-shaped stones is shown in plate CXVIII, *a*. This specimen, which has a rare decoration, represents an alligator or lizard whose back is cut on the convex, the belly (figure 55) on the opposite or flat side, the mouth being open and the tail forming a graceful curve, so that if this specimen were placed vertical the head would be at the base and the animal would be in an unnatural posture.



FIG. 55. Paddle-shaped stone representing lizard. (Dehesa collection.) (Reverse of *a*, plate CXVIII.)

The design on plate CXVI represents a human figure bearing a staff in the hand. As with other human forms on these stones, the eyes are closed as if the person represented were dead or asleep. This figure, like others, wears crests of feathers, which in this specimen appear to be very large. One of the best made as well as the most instructive designs on figure 57 shows a dancing figure holding aloft an ear of corn, in one hand, raised above the head. Plate CXVIII, *b*, represents several birds' heads more or less obscured or concealed by the elaborate tracery of geometrical figures, feathers, and other ornaments. A whole bird, with extended wings, appears in figure 59.

There are many similar specimens, possibly having the same use, somewhat different in form from the paddle-shaped stones above mentioned. Some of these, as those figured (plate CXIX), are fanlike, with ridges on each side radiating from a common base. Others appear more like headdresses, the radiating feathers being cut from stone. It would appear that all these different objects were connected in some way, but how we can not yet answer satisfactorily.

PADLOCK STONES

The problematical objects from the Totonac region include certain stones recalling in shape common padlocks, circular in form, with flat surfaces and margins, each with a triangular opening excentrically placed. These stones may be conventional forms of Huastec idols. In their less conventionalized form these problematical objects recall



FIG. 56. Reverse of paddle-shaped stone.

FIG. 57. Paddle-shaped stone with dancing figure; reverse of a, plate cxvi. (Dehesa collection.)

FIG. 58. Reverse of a, plate cxvii.

stone idols, resembling an aged man leaning on a staff, as shown in figure 69, an idol believed to be characteristically Huastec in origin and limited to the Huastec territory in its distribution, although sometimes found in regions adjoining that in which this culture flourished in ancient times.

STONE HEADS

Among many evidences of a high ability in artistic expression attained by the ancient people of eastern Mexico may be mentioned the carved stone heads, specimens of which are represented in plates *cxx* and *cxxi*. These objects



FIG. 9. Bird-shaped stone with notched base. (Dehesa collection.)

are made of lava rock, and all have notches at the necks corresponding in a general way to those at the bases of the paddle-shaped stones. In some cases, as in that figured (plate *cxx*, *e*), a human face is sculptured within a helmet representing a second head. Another on the same plate (*g*) has a median crest, which is a feature in many of these stone heads.

One of the most instructive of the many specimens presented by Governor Dehesa is the flat, oval-shaped stone (plate *cxx*, *j*) said to have come from near Cempoalan. This object was evidently once attached to some foreign body, but for what purpose is not clear from either size or shape. The holes for attachment are seen on each side of the forehead.

The stone ring (plate *cxx*, *e*), with a handle on one side and evidences of another on the opposite margin, from the Dehesa collection, is, so far as known, a stone object of unique form, from this

region. It must be regarded, however, as belonging to the same culture as the rings, yokes, and paddle-shaped stones. Plate *cxxi*, *a*, illustrating one of the best-made stone heads in the Dehesa collection, repre-

sents a laughing face, with mouth wide open, tongue evident, but no teeth, suggesting an old man. This head has a median crest extending from the bridge of the nose backward to the top of the head; the nose and cheeks have many wrinkles. Plate CXXI. *b*, also representing a much-wrinkled face, has the median crest passing from the nose over the head; the eyes are closed and the features those of an old man. In *c* and *d* are figured extraordinary examples of rock sculpture, the specimens here represented being in Governor Dehesa's collection at Jalapa. The exceptional feature of this specimen is the long nose, suggesting the trunk of a tapir, but the features are human rather than animal. Like other heads, this specimen has the notched base so common in carved objects from the Totonac territory. The two small heads (*e* and *f*), belong to the same type as the preceding (*c* and *d*), being found in the same collection. Specimen *g* bears a remote likeness to the head of a clown priest or mud head of the New Mexican pueblos. Clowns accompanied the masked dancers in Central American ceremonies, and it is not unlikely that this stone head was intended to represent one of these performers.

Other heads here represented may belong to the same category as the laughing face above mentioned. Specimen *h* is one of the most unusual forms of these stone heads with the notch at the neck. This specimen, which is in the Dehesa collection, is made of lava stone of the same kind as the paddle-shaped objects. The face is artistically carved and apparently the nose was continued into a curved extension, reminding one of the long-nosed god of the codices. The unusual feature of this stone head, in addition to its flattening, is the headdress, probably of feathers, arising from a crown.

In *i* is represented a notched stone of bird form. Several similar specimens are figured by Strebel in his work on the antiquities of the state of Vera Cruz,^a referred to in previous pages.

One of the best of these bird-shaped stones is shown in figure 59. This, like the specimen last described, has a notched base, expanded wings, and tail. Its use must have been somewhat like that of the paddle-shaped stones as it has a similar base and the same general form.



FIG. 60. Sling stones. (Dehesa collection.)

^aAlt Mexico.

SLING STONES

The spherical objects shown in figures 60 and 61, a number of which are to be seen in the Dehesa collection, are weapons. Those shown in the illustrations are either smooth or covered with protuberances, spherical or more or less conical. Several have the shapes of stoppers for bottles or flasks. The Indians call them *chimalles*, a general name for shields or weapons.

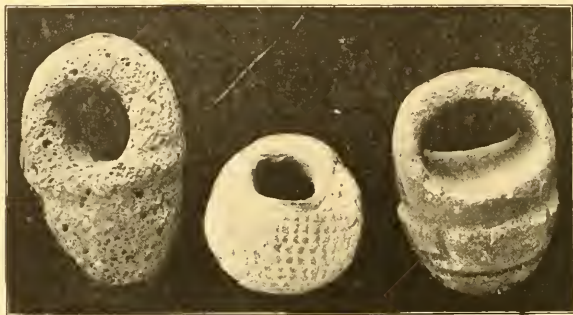


FIG. 61. Sling stones. (Dehesa collection.)

STONE IDOLS

The ruins about Jalapa have yielded many stone idols, generally made of lava, some of which show signs of Nahuatl, others of Totonac culture. There are several of these in the Dehesa collection and others also in private possession. A stone idol in the patios of the Hacienda Bruno, Jalapa Viejo, represents a fine stone image of Quetzalcoatl (figure 62), with body coiled and head upright, the yawning mouth revealing a human face behind trenchant teeth. On the head of this idol a cluster of feathers is carved in low relief. These arise from a ring and extend down the back. The mouth has protruding fangs, or a long tongue hanging from the front of the jaw just below the chin of the inclosed human face.



FIG. 62. Snake idol from Jalapa Viejo.

There is a large stone idol in one of the houses facing the church at Xico that is somewhat different from any Aztec or Totonac image yet figured. Although the owner of this image has daubed it with bright paint, which gives it a very

modern appearance, there is no doubt of its antiquity. It is a colossal stone head and has limbs carved on the back. Feathers are represented on top of the head. Just below a characteristic breast ornament one may see a shallow depression corresponding in place to that receptacle for offerings which is found in Chac Mol and some other idols. This huge head, which is 3 feet high and very heavy, has been for many years in the possession of the family now owning it. In the same collection is also another image of colossal size, which is made of a soft brown stone. This idol is rudely sculptured without legs, the arms being brought to the breast. The symbolism is insufficient to determine what supernatural or other being was intended to be represented by this massive figure. In the Dehesa collection there is a stone idol (figure 63), possibly representing a maize goddess, having a crown of radiating feathers and a visor-like projection above the face. She wears the ceremonial garment tied by a cord and carries in her extended right hand two ears of maize or Indian corn; the left arm is broken.^a

Another idol (figure 64) in the Dehesa collection is not as well made as the preceding and is more massive in form. Arms and legs are not represented and the body below the waist is enlarged into a pedestal on which the figure stands. The characteristic feature of this idol is the elaborate headdress, which has the form of the cloud tablets that characterize the Goddess of Rain. Figure 64 possibly represents the



FIG. 63. Maize goddess. (Dehesa collection.)

^a The two stone images, representing a youth with a ball in each hand and a woman with similar objects, which were formerly owned in Xico by Sra Maria de la Luz Gomez, are not regarded as genuine antiquities, although they are said to have been found at Texolo and are not unlike the ball-player idol in the Museo Nacional. Their form, however, shows Spanish influence.

characteristic Totonac goddess Toci, Our Grandmother, one of the most prominent supernatural beings of the Gulf Coast people of ancient Mexico.

CLAY OBJECTS FROM BARRA CHACHALICAS

The Barra Chachalicas, situated at the mouth of the Actopan river, only a few miles from Cempoalan, has yielded many archeological specimens.

The clay objects found in this locality are practically identical with those from Cempoalan, and from them we can obtain a fair idea of the general character of Totonac ceramic ware in this vicinity.

A pottery specimen (plate CXXIII, *a, b*), from the Barra Chachalicas, presented by Señor Viu, is made of fine brownish clay, with a smooth surface, painted red. It has the form of a human being wearing a Totonac dress, and apparently represents a woman. On one shoulder there is an orifice through which one may blow, making a whistling sound. In fact, this image is a whistle in the form of a human being.

A number of clay heads, large and small, were found at the same place as the preceding



FIG. 64. Rain goddess. (Dehesa collection.)

effigies and images. These are identical with the heads from Cempoalan, Otates, and other Totonac ruins. Similar clay images once adorned the panels of the Cempoalan temples, especially that called Caritas ("Small Heads") for this reason. One of the most striking objects made of burnt clay, from this locality, is the effigy (plate CXXIII, *c*) of a human being, the head and body

being present, but no arms or legs. Seen from one side this effigy shows distinct Indian features in the face, two prominent teeth in the upper jaw, an ear plug, and a head covering not unlike a Turk's cap. Around the neck is a cord and a belt girds the loins. Apparently there never were legs, but the trunk is broken off in such a way as to suggest that the image formerly stood on a pedestal. The Turk's fez reminds one of the so-called Huastec cap. This specimen was presented by Señor Vin, alcalde of San Carlos.

An instructive fragment of pottery from Barra Chachalicas is the head shown in plate CXXIV, *g*, one of the best of these clay images. From the lobes of the ears of this specimen hang ear plugs, and there are two prominent teeth in the upper jaw, a marked feature of several



FIG. 65. Bowl from Cempoalan.

clay images from this region. This specimen is made of coarse red-colored clay, and is unpainted. These Totonac clay heads show high artistic ability and an artistic power not inferior to that of any of the Central American people. All the specimens that exhibit signs of having been painted generally show traces of red, yellow, or black pigments.

Another pottery head (plate CXXIV, *g*, *h*) from Barra Chachalicas is made of red ware, smooth, and painted with red pigment, especially on the cheeks and forehead. In this specimen there is a row of triangular projections, colored red, some of which are broken, overhanging the forehead. This specimen has a necklace and a representation of a gorget and ear plug. The left side of the head is more or less broken.

There are many very good pieces of pottery and several clay effigies in the Dehesa collection, some Nahuatl, the majority Totonac. Some of

the most instructive are shown in plate CXXII and figure 66. Of bowls in this collection in form of death's heads, that on this plate (*d*) is especially fine, but there are many others which merit notice. (Plate CXXII, *e*, and figure 65.)

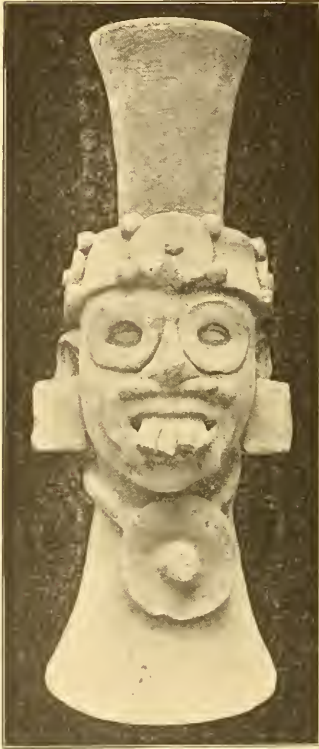


FIG. 66. Clay image. (Dehesa collection.)

on plate CXXVI, are a classic pitcher (*a*), several amphores (*e*, *d*), clay heads (*f*, *g*, *h*), and food bowls with legs (*b*, *c*). One of these (*i*) is a clay image or effigy, duplicated also in *k*. The two figures *l*, *m*, are clay ladles.

It is probable that the majority of clay objects in the Dehesa collection came from near Cempoalan, and hence illustrate the same early culture.^a

Some of the more striking forms of pottery in Sra Estefania's collection from Otates are figured in plates CXXV and CXXVI. On plate CXXIV, *a*, is represented a figure with well-made head and body, but no lower limbs; this is undoubtedly Totonac. The object has a nose ornament, the shape of which recalls that of the stone image from Xico Viejo, already described.

One of the most instructive figures on the Otates pottery is that of a monkey apparent on the interior of a bowl (pl. CXXV, *e*). Another important decoration is found on the outside of a bowl (*f*), where a death's-head similar to that found in the codices appears. The ornamentation of the majority of flat bowls from Otates is as a rule on the exterior, and consists of spiral figures, as shown on plate CXXV. Other clay objects from the neighborhood of Jalapa, as those

^aIt is to be regretted that the author has not been able to determine the localities where many of the specimens of the Dehesa collection were found; still it is not difficult to distinguish objects of Nahuatl from those of Totonac origin.

MOUNDS NEAR TAMPICO

GENERAL REMARKS

Among the many forms of earth mounds in the United States ascribed to the aborigines there are two types that are radically different in their mode of origin. One of these is formed by destruction of former houses, the upper walls of which have fallen into the rooms, filling them with débris. When an archeologist makes excavations in a mound of this type, he lays bare the walls of former rooms and their foundations, finding an accumulation of fallen roofs, overturned walls, and chambers filled with débris of buildings and with drifted sand. Mounds of this type have resulted from destruction and were not constructed in their present form by human hands. The structure of the second type shows no indications of house walls in their interior. Mounds of this type were originally constructed solid throughout; they were built for foundations, and upon them once stood buildings, or superstructures, that have now disappeared, leaving their remains strewn over the surface of a mound-shaped foundation.

These two sharply defined types of mounds in the United States occur also in Mexico, where their distribution is instructive. The Mexican Republic is preeminently the home of the second of the above-mentioned types, although in certain regions the first is very abundant. While there are many well-known mounds in Mexico constructed wholly of earth, without cut stone and with a superstructure of perishable material, many others are faced with cement or have their surfaces formed of carved stones laid in courses, some of which, as the pyramid El Tajin near Papantla, are most imposing and show architectural development. In these cases the superstructures likewise were built of stone, so that the walls remain in place, affording a good idea of the relationship of the mound to the building upon it.

There is scanty evidence that sacred buildings or domiciles were ever erected in the northern pueblo region of the United States, on artificial mounds, although there are many instances of the use of natural elevations for that purpose. The mounds in this region are all of the first type; on the other hand, no mounds are known in the Mississippi valley which belong to this type. It is therefore evident that this feature presents a fundamental difference between the mounds of the Rocky Mountain region and those of the central plains of North America. As we go south in the pueblo area the evidences of the existence of the second type are practically very few and not so decisive in character. Bandelier claims that he has found "artificial mounds resting on artificial terraces" at Tempe and Casa Grande and

elsewhere in the Gila ruins. He writes: "It will be remembered that the artificial platform already appears on Tonto creek and perhaps on the Upper Gila also; at Tempe it assumes a greater degree of perfection, as does the mound. The latter resembles the rectangular truncated pyramids of Mexico, with the difference that it is wholly of earth and that its height is inconsiderable." In the few ruins examined by the author in the upper Gila valley, near Solomonville, he has not been able to detect the second type; Casas Grandes in Chihuahua is apparently of the first type, but the so-called "vigie" lookout in the mountains above the latter ruin, judging from the figures given by M. E. Guillemin, is a true terraced pyramidal base of a superstructure.

The region of the ruins of the second type in the central part of Mexico begins at the Casa del Edificios near Quemada, about 30 miles north of the city of Zacatecas. If we follow the parallel of this ruin eastward to the Gulf of Mexico, it will be noticed that south of it there are ruins of both types, but that this region is essentially one of solid pyramidal mounds built as foundations for superstructures, a type rarely represented in the mountainous regions north of this line to Utah and southern Colorado.

The climatic and physiographical conditions of these regions of the United States in which these two types occur are radically different. The first type is confined to an area distinctly arid and mountainous; the second belongs to a well-watered, generally level plain. This same connection between climatic conditions and physiographical contours applies also, but less closely, to the distribution of these types in northern Mexico. In its distribution north and south the first type follows the central plateau region while the second type is more pronounced and extends farther north on the lowlands along the coast of the Mexican gulf.

From Vera Cruz to the mouth of the Panuco river and beyond, the country is thickly strewn with mounds of the second type, some of which, as that at Papantla, rank among the finest in Mexico.

While it is known that these mounds belong to the same type as some of those in the Mississippi valley, the nature of the mounds (if any exist) between the Panuco and Louisiana remains unknown. It is evident that what is now most needed to determine the southern limits of pueblo and mound builders' culture is more facts regarding the antiquities of northern and eastern Mexico. It has long been known that there are extensive earth mounds in Tamaulipas and Vera Cruz, but we have only limited knowledge of their character, and the archeology of Texas is practically unknown. The author's studies of the mounds in the vicinity of Tampico, which is situated in this little known

region, were made for the purpose of adding new facts bearing on a possible connection^a between the temple mounds of Vera Cruz and those mounds of the Mississippi valley that served as foundations for superstructures, religious or secular. The limited space allotted to this article allows only a very general consideration of the subject. In studying the Mexican earth mounds of the second type we find a good example of the conditioning of aboriginal buildings by the material available. Many of the Vera Cruz and Tamaulipas mounds are made of earth alone. Especially is this true in places where stone for the builder was not at hand. The mounds at Cempoalan were constructed of river-worn rubble stones laid in cement or lime because the plain of the Actopan furnished no better building material. At El Tajin, near Papantla, the surfaces of the mounds were faced with cut stones, as shown in the plate. These differences in building material are not evidences of differences in culture.

In comparisons of the Mexican mounds with those of the Mississippi basin the objection has been raised that the former are made of carved stones, while the latter are simple earth mounds. While there is no doubt that in stone working the Mexicans reached a higher degree of excellence than any other people in North America, we must not lose sight of the fact that there are multitudes of mounds in Vera Cruz and Tamaulipas similar to those of the Mississippi valley and, like them, wholly destitute of a superficial covering of carved or worked stone. The mounds we are considering are not the work of a race that had vanished before the advent of the Europeans. They were probably made by the Huastec and were in use when the Spaniards discovered the country. At the beginning of the sixteenth century there was a thriving settlement of Indians at Chila and others on or near the banks of the lagoons north of where Tampico now stands. Still other settlements existed along the Panuco and Tamesi rivers and their tributaries.

The inhabitants of these places were hostile to Europeans and vigorously attacked the Spaniards on their first appearance, forcing them to sail away without making a permanent landing. Later expeditions were more fortunate; the Indian villages were destroyed and their inhabitants dispersed or killed. Many were taken to distant lands, as the West Indies, for slaves; others fled to the mountains, where their descendants still live.

Apparently the ships of Grijalva did not enter the Panuco river in 1518, but, meeting the Huastec near Tuxpan, were driven out to sea and proceeded northward, sighting land again at Cabo Rojo. The

^aThis thesis is an old one and has been ably discussed by several authors, all of whom have recognized the necessity for additional facts regarding the archeology of Tamaulipas and Texas for satisfactory proof of a cultural resemblance of the mound builders and the peoples of eastern Mexico.

next year D. Francisco de Garay sent an expedition to the Panuco province under command of Alonso Alvarez de Peneda, which entered the mouth of the river, but was attacked and driven back, as was likewise Ruiz de Asis, who had brought reinforcements to Peneda.

These early failures of the Spaniards to obtain a foothold in the Panuco territory led no less a person than Hernando Cortés to organize an expedition much larger than any previously attempted, said to number 40,000 Mexicans and Tlaxcaltec in addition to Spaniards. En route this army encountered at Coxcatlan 60,000 warriors, whom they defeated. After this defeat Cortés proposed peace with the natives, which was refused, and he then pushed on to occupy their city, Chila, on the Panuco river, 5 leagues from the sea. This aboriginal city he found abandoned by its inhabitants, who had fled to the settlements on the Champayan lagoon. After waiting fifteen days at Chila, Cortés made his way by means of balsas and canoes to this lagoon town, which was completely destroyed. The various events that followed this summary proceeding concern the historian rather than the archeologist, but the outcome of them was that the sedentary people of the neighborhood were driven to the mountains or sold into slavery. Thus arose a lively industry in this region, for Tampico at one time sent many slaves to the West Indies. Such Indians as were left were gathered into missions, but their distinctive culture was practically destroyed, and their former temples were neglected and fell into ruins. We owe the little that is known of the antiquities of the neighborhood of Tampico to Messrs Vetch, Lyon, Norman, and especially to ex-Governor Prieto and Doctor Selser,^a who have published instructive facts regarding the character of the mounds, their distribution, and contents. The writings of two of these authors supplement each other, Governor Prieto's^b account dealing more especially with the ruins north of Tampico, on or near the Champayan lagoon, including those at the San Francisco ranch and the Sierra de Palma, while Doctor Selser considers those to the south of the Panuco river, at Topila, Palachó, and elsewhere in the Huastec country. The ruins in the Tampico region are pyramidal mounds, evidently constructed as solid foundations to support superstructures. These mounds show no signs of having been formed of debris gathered about preexisting houses. They are ordinarily built of earth and in some cases are faced with cut stone, having one or more stairways of the latter material. Apparently the superstructure was generally built of perishable material, but sometimes of stone or cement. Some of these mounds are practically the same as the so-called "temple mounds" of the lower Mississippi valley. In

^aDie Alter Ansiedlungen in Gebiet der Huastecan. Gesammelte Abhandlungen, band I.

^bHistoria, Geografía y Estadística del Estado de Tamaulipas, Mexico, 1873.

addition to these mounds of the second type there are in the vicinity of Tampico many shell heaps, some of immense size. The nature of the coast line and the many lagoons in the neighborhood offered rare opportunities for a fisherman's life, and from Tampico northward we find many mounds of the character just described. The aborigines who left deposits of shell there were not necessarily a distinct race, but led a specialized life as a result of their environment.

SHELL HEAPS

One of the best collections of mounds near Tampico is situated about a mile from the city, near the ranch directed by Mr Külke. It is readily reached after a short walk from the terminus of the tramway, the cars of which start from the bridge near the railroad station of Tampico. A few hundred feet beyond Mr Külke's house the fields are covered with a thick forest growth, a portion of which has recently been cut down to enlarge the area under cultivation. In removing this growth the workmen brought to light a cluster of mounds, some of which are of comparatively large size. In following the road from Mr Külke's house to these mounds one sees many evidences in the plowed lands of small shell heaps, some of which were formerly much larger. These were situated on a high bluff overlooking the neighboring lagoon, on the banks and islands of which there are much more extensive deposits. Their position is indicated by shells strewed on the ground. The cluster of large mounds lately brought to light by clearing the forests stands on the same bluff, a few feet beyond which one may have a fine view of the neighboring lagoon and the city of Tampico. The general arrangement of these mounds is such that they inclose a level space that formerly may have been a plaza. There are eight mounds in the cluster, five of which are on the arc of a circle and form one side of the supposed closed area. Two other mounds, not of the series inclosing the space, stand nearer the road than the cluster just mentioned. About sixty paces nearer the road is a circular depression like a reservoir. There is little difference in the general form or size of these mounds. Two are large and flat-topped and two are much elongated. Their interior structure is revealed by limited excavations made in one of the largest by some local antiquarian or treasure seeker who discovered many shells in this mound and fragments of a hard rock like coquina limestone. The greater number of the mounds are constructed entirely of earth and are covered with vegetation. The accompanying map shows roughly the arrangement of the mounds and their relative distances from one another.

RUINS NEAR ALTAMIRA

The ruins on the banks of the Champayan and other lagoons north of Tampico, probably the remains of the settlements visited by Cortés, have been described and figured by Prieto.^a Among these may be mentioned the mounds at the San Francisco ranch and the pyramid at La Palma. Easy trips may be made to the former from a railroad station (Cervantes); for La Palma one must alight from the train at Estero; the ruin near Aldama may be visited from the station, Gonzales. There is a fine collection of pottery and other antiquities from the San Francisco mounds, in Altamira, at the house of Señor Don Antonio Parras, owner of the ranch. Efforts to visit the ancient city Chila were not successful, although enough was learned of its situation to impress the author with the desirability of future exploration. Those who said that they had been at the ruin claimed that it lies in a thick forest and that the hill where it is situated is visible from Tamos. A peon who has been there informed the author that it would be necessary to cut a pathway through the jungle for a considerable distance but that once there, the visit would be rewarded by views of plastered walls, many mounds, and other evidences of former inhabitants. The most convenient station on the railroad from which to visit Chila is Ochoa, about halfway between Tamos and Chila. Possibly this is the ruin on the Cerro de Chila mentioned by Doctor Seler, but his account is not complete enough to identify Old Chila. The author is under the impression that no archeologist has yet visited Chila, the city that figures so prominently in the early campaigns into the Huastec country by Cortés and his lieutenants. The most northern ruin of which the author received information, but did not visit, is a mound said to be covered with carved stones, situated near Aldama (formerly called Presas), about 10 leagues from the station Gonzales on the Victoria and Tampico railroad. According to information received this ruin has faced stones, and was probably not unlike the temple mound at Palma. Either this or one of neighboring ruins may be that mentioned by Prieto as situated about a league north of Chocey. He says that it is near the banks of an arroyo which passes the Tancuayave ranch and uniting with other arroyos from Aldama, later flows into the lagoon San Andrés. Northward from the ruin near Aldama stretches to the Rio Grande a vast territory the archeology of which is wholly unknown. What mounds may be here hidden can be ascertained only by later studies and field work.^b

^a *Historia Geográfica y Estadística del Estado de Tamaulipas*, p. 43-57, Mexico, 1873.

^b Wild or partially savage tribes were encountered in this region by Escandron and others. Many names have been applied to these tribes, but as yet no one has been able satisfactorily to determine their synonyms. See Orozco y Berra and various other authors.

RUINS NEAR CHAMPAYAN LAGOON

Seven leagues north of Altamira, in the jurisdiction of that city, a small range of mountains extends in a general north and south direction, ending in the neighborhood of the Champayan lagoon. Considerable ruins, called *moradores*, are reported in this locality. These consist of artificial mounds arranged in straight lines, and are said to be covered with rectangular blocks of stone showing artificial working, indicating the remains of a large settlement. Prieto, who has described these mounds, has also given in his article representations of several characteristic objects of stone and clay from the same locality.

The mounds of Topila and Palachó lie south of Panuco near the right bank of the river. These ruins are so extensive that there is no doubt the settlements were large and important. Seler, whose brief account is about all that has been published concerning them, speaks of a quadrangular plaza with a temple mound on one side and smaller pyramids on the other. He is led to believe that there were passageways at opposite ends of this plaza arranged so as to lead into a ball court.

He speaks also of stones found at the corners of the pyramids in Palachó, and describes and figures worked plinths from both these ruins. In examining the representation of these latter, one is struck with their resemblance to so-called pillar stones of the ball courts of the prehistoric Porto Ricans, to which reference is made in preceding pages. The carving upon the stylated stones from the mainland is much finer and the symbolism upon the insular specimens quite different, but the possibility that both stood near similar ball courts gives them additional interest from a comparative point of view.

ARCHEOLOGICAL OBJECTS

The archeological specimens found on or near the mounds next claim our attention. These are highly characteristic and naturally closely connected with those from the Totonac. The most striking are peculiar stone idols and characteristic pottery, some of the former standing in the streets or public places, where they have been set up for preservation. There are several stone idols in Tampico, these having been brought to the city from different localities in the neighborhood. Two of these are figured by Doctor Seler,^a but as the present author's photograph of the second one illustrates a few additional points, there is here (figure 67) published a new figure of this interesting idol. The locality in which this object was found is given by Doctor Seler as "Cerro

^aGesammelte Abhandlungen, band 1, 20, 21.

de Topila," a Huastec ruin that has yielded other remarkable idols. The idol now under consideration is fastened to the wall of a passageway, and stands on a modern pedestal in the open patio of a building opposite the Hotel Comercio, in Tampico. This idol is carved out of a monolith, and like the majority of Huastec idols is mounted on a



FIG. 67. Serpent-god idol.

pedestal. It represents a well-developed female figure, with hands brought forward, as is usually the case in this rude art. The most striking feature of this object is a head, or small face, represented inside the open mouth of a monster the lower jaw of which hangs down on the breast, while the upper is raised almost vertically. Eight small holes, placed in pairs about the margin of the jaws, served for the insertion of teeth. The eyes are conspicuous, just above the angles of the jaws; a radiating fan-shaped appendage on the back of the head represents feathers. The idol is intended to be an image of a woman wearing the head of some supernatural reptilian monster.

STONE IDOLS AT ALTAMIRA

The present town Altamira, on the bank of a lagoon a few miles north of Tampico, was founded by Escandron on the 2d of May, 1749. For many years after its foundation it grew rapidly, becoming a very important place at the close

of the eighteenth and the beginning of the nineteenth century. A mission church for the Anacana Indians was early built at this place. Since the foundation of the present Tampico, in 1823, Altamira has lost its commercial preeminence and declined in prosperity. Old Tampico, or Tampico Viejo, which is older than Altamira, has

suffered a similar decline. On his visit to Altamira to investigate its antiquities the most instructive archeological objects seen by the author were two large stone idols that stand on the street corners, one of which (figure 68), owned by Señor Justo García Enriquez, is characteristic. Endeavors to trace this idol to its prehistoric home or aboriginal owners were not successful, nor could it be discovered how long the stone had stood in its present situation, but there is hardly a doubt that it once belonged to some of the aborigines that inhabited the banks of the adjacent lagoon. It is made of light brown stone and stands erect, the top of the head being about three feet above the ground. Although the surface is rough and more or less battered, the characteristic symbolic features of a Huastec god have not wholly disappeared. The carving is confined to the front side, the back having been left rough and slightly rounded and marked with parallel lines. Head and body are well represented, but the legs are not now visible; possibly they were broken off or are buried below the surface of the ground. The idol wears a cap-shaped projection, which Doctor Selser has shown to be characteristic of Huastec idols, out from which hood-like covering peers the face, reminding one of a helmet, or of a mask representing the head of some animal, possibly a serpent.

The ear ornaments consist of two parts—a round disk at the lobe of the ear and a curved pendant recalling a carpenter's square. There is a representation of a rectangular raised object over the breast, above the hands. The depression at the umbilicus is concave, surrounded by

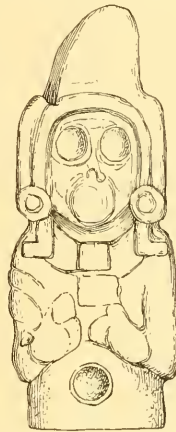


FIG. 68. Stone idol at Altamira.

a rim, reminding one of similar concavities in many Mexican images. Comparing this idol with others from Tanquin or Tuxpan, figured by Doctor Selser, resemblances in certain details are found, for like them it has a conical appendage to the head and representations of a plate-like ornament of peculiar shape on the breast. In the Tanquin specimen figured by Selser the corresponding ornament is large, forming a kind of plastron covering breast and abdomen, while in the Tuxpan representation the plate is circular and perforated. In speaking of other Huastec idols, which the Altamira specimen closely resembles, Doctor Selser says: "Einerseits des Ohrschmucks wegen der an den des Mexicanischen Windgottes (Quetzalcoatl) und der Pulquegötter erinnert, dann aber auch des merkwürdigen Gegenstandes halber den die Figur vor der Brusthangen hat." The same author calls attention

likewise to the resemblance of the ear ornaments of Huastec idols to a turtle-like relief figure from (Tepeziutla) near Tuxpan, to which reference has already been made. In the figure of this turtle-shaped idol, by Chavero,^a the ears have hook-shaped pendants resembling the "epcoli" of the god Quetzalcoatl. It would appear that the resemblances between the Altamira idol and those mentioned above are close enough to warrant identifying them as the same god; if the latter represent Quetzalcoatl the former is the same god.



FIG. 69. God with staff. (Pressley collection.)

TAMPICO STONE IDOLS

While in Tampico the author saw for the first time a stone idol (figure 69) of a strange type, different from any known to him, although suggesting others of aberrant form. On his return to Washington specimens of the same type were found in the Smithsonian collection. Although these stone images are undoubtedly Huastec, so far as the literature of the Panuco ruins is known the type is undescribed. In general form this image resembles a man walking with a cane, or an animal like a bear standing on its hind legs, grasping a staff with the anterior extremities. The attitude is a stooping one, and the whole figure, which is large, is made of one stone. The base is a pedestal continued below the feet, as if for attachment to or

insertion in earth or masonry, to impart a firm support. As has been shown in descriptions of other stone idols, this basal pediment occurs in other Huastec specimens. Cut in low relief on the back is an elevation indicating a garment; a ferrule about the waist represents a belt.

HUASTEC POTTERY

The ancient people living on the banks of the Panuco and Tamesí rivers were good potters, and their ceramic work is excellent. Fragments of bowls, vases, or jars occur in almost all the mounds indicating the ancient habitations, and may be seen in several places where sections

^a México á Través de los Siglos.

of the river bank have been washed out by freshets. Although not common, whole pieces of pottery are found in several collections. These have a distinct character which is readily recognized. As a rule, effigy and relief designs are the most constant forms of ornamentation, although painted specimens are also common. The pottery has a light or reddish-brown or cream color. Modern Panuco ceramic ware closely resembles the ancient in both character and the designs painted or cut upon it. One of the most constant forms of vases is melon-shaped, with a hollow handle considerably separated from the body of the pitcher, which has a wide flaring neck. As objects of this kind sometimes have a handle above the orifice, it is conjectured that the hollow tube on the side, always open at the end, may serve to assist in drinking. As some of these objects recall modern teapots, the so-called handle may have served the same purpose as a spout. Many of these pitcher or teapot vases have their necks or other parts decorated with heads in relief. In certain forms, as that here figured, the meridional elevations are continued into projections about the margin of the base, which is flattened. The meridional lobes so constantly found in Huastec pottery occur on the "white marble vase" of classic form found on the "Isla de Sacrificios"^a near the city of Vera Cruz.

In all localities near the Panuco ruins are found burnt clay images which exist in a variety of forms in several local collections. Most of these are simple heads, possibly broken from the rims of jars or the surfaces of ceramic objects, but others are parts of figurines often found entire. Señor Antonio Parras, owner of the ranch San Francisco, who lives in Altamira, has several specimens of pottery which give a good idea of the ceramic productions of the aborigines of the Champayan Lagoon settlements. These vases (plate CXXIX) have lobed sides without relief decorations, but painted with brown figures much the same in color as some of the ware from pueblo ruins on the Little Colorado river in Arizona. The ornamental patterns on some of these vases are particularly good. Among them is a vase with the surface decorated with spiral ornaments that appear to be representations of human faces. On another figure are painted somewhat similar designs consisting of spirals, and on a third an ornamentation very much simplified, smaller in size, yellow and not brown in color, but with black line decoration. The other two figures represent vases with lobed surfaces which in one are shallow and in the other prominent. Mr G. A. Reichert, superintendent of the Tehuantepec Mutual Planters' Company at Tamos, has a few specimens of pottery found on the Chanca plantation that illustrate the character of clay effigies from that region. Tamos, on the left bank of the Panuco river, about 10

^aSee Branz Mayer, *Mexico as It Was, and as It Is*, p. 96, Philadelphia, 1847.

miles from Tampico, has a few mounds. A characteristic of these few clay objects is the enlargement of the body, which in one specimen has the form of a cup. It suggests the general appearance of some of the figurines from Vera Cruz and the state of Chiapas.

The author's studies in the Tampico region bring out in strong relief the desirability of renewed exploration of the archeology of Tamaulipas. There is no doubt that this state contains many relics of the past in the form of mounds, the sites and character of which are unknown to archeologists. The mounds in the immediate neighborhood of Tampico are shell heaps, pyramidal foundations of temples, and mortuary hillocks, but thus far none have been found with walls in their interior or cropping out on their surfaces. The mounds of Tamaulipas are related in form and apparently in structure to those of Cempoolan, but the building material employed in the two regions is different. Certain of these mounds are similar to the earth mounds at Antigua and Texolo, near Jalapa. As has already been pointed out, they resemble superficially the mounds of Louisiana, but objects found in them are quite different.

The pottery of the Huastec has in general a similarity to some of the Hopi ware, especially that from along the Little Colorado, but the designs upon it are somewhat different and characteristic. The ancient people of the Panuco valley were distinctly potters, as the variety of forms they manufactured makes evident, and their descendants still retain the art. They were given to making images of clay, as well as vases, bowls, jars, and clay heads, and these pottery images and bowls were painted or decorated with reliefs. These productions are found everywhere in the soil, particularly near mounds, which occur in numbers at certain points, especially on banks of rivers and lagoons. Some of the common forms of pottery from the neighborhood of the Champayan lagoon are figured in the accompanying plate (cxxvii). The specimens in the plates named below were found along the Panuco and Tamesi rivers and were probably made by the Huastec. They are owned by Doctor Pressley, the missionary at Tampico, and the author was allowed to photograph his collection. Figure 70 is the largest and one the most bizarre in form. It has an hourglass shape and a vertical hollow handle on one side and a melon-shaped base, the enlargements being continued into lobes as here shown. There was formerly a handle attached to the rim of this vase, but it is now broken off. Plate cxxvii, *a*, represents a melon-shaped vessel with a vertical spout and contracted base. Specimen *c* is an amphora with the face on the side of the neck and a contracted orifice. In specimen *b*, which is also a small melon-shaped vessel like a teapot, there is a handle over the orifice by which it was carried. The majority of clay objects of the Huastec in most collections are

clay figurines, several forms of which are given in the accompanying plates. Many of these are simply heads, others complete figures. One is reminded of the famous Tanagra images (see plate CXXVII, *k*) in some cases. Specimen *d* is a globular dipper with handle; specimens *e* and *f*, *g*, and *h* are fair examples of the Huastec pottery; *i* and *j* are clay objects of unknown use; in *l* is represented a clay image wearing a kilt and breastplate; *m* has the attitude of an East Indian idol which is found also on some of the figures on the temple of Xochicalco, in Morelos. Specimen *n* is a stone paint grinder or



FIG. 70. Melon-shaped vase with handle. (Pressley collection.)

mortar, one of the few known from this region. Some of the best of these Huastec images are those represented in plate CXXVIII, *a-h*. The animal form shown in *k* and the headless image in *i* are artistic clay objects; *j* probably represents a figure smoking, and *l* is a bowl with legs.

It is to be noted that several of the Huastec clay images have notched bases similar to those of the paddle stones and heads from Nico, which would indicate that the objects in both these classes stood on an angular support of some kind.

CONCLUSIONS

The most important conclusion arrived at in these general studies resolves itself into a plea for additional field work. The earth mounds in eastern Mexico are temple foundations, solid throughout, evidently having been constructed in their present form rather than resulting from the decay and falling of the ancient habitations with superadded growths and débris. These mounds belong, in other words, to the second rather than to the first type of earth mounds, and once had superstructures on their tops. The nearest northern analogues of these mounds must be looked for in the Mississippi valley rather than in the pueblo region of North America. On the south they are related to the pyramidal temple mounds of Vera Cruz. Other important relations might be discovered if we knew more of the archeology of the vast region that lies between the mound area of southern Tamaulipas and western Louisiana.

It has been shown by several historians that superstructures once existed on the apices of some of the mounds of the southern Mississippi valley, and it is claimed that they were used as temples by a people identical with modern tribes of Indians at the time of their discovery by Europeans. This claim is supported by historical and archeological investigations which show conclusively the identity in kinship of the mound builders and certain modern tribes where the older culture had survived.

The northern Indian of certain parts of the Mississippi valley bore somewhat the same relation to those who built some of the mounds as the surviving Totonac and Huastec do to their own ancestors who erected the temple mounds of Vera Cruz and Tamaulipas. The buildings above described were undoubtedly in use by Huastec at the close of the fifteenth century, and possibly the same may be said of some of the mounds in Vera Cruz. The change in culture in both instances may have been due to the same cause—the coming of Europeans. The present culture of the survivors of the mound builders of the Mississippi valley and of those of the Tamaulipas mound region is very different from that of their ancestors. While there survives in the Indian Territory and elsewhere certain remnants of the mound-builder culture, before the Europeans came a radical change in culture, largely due to nomadic hostiles, had taken place throughout extensive areas in the United States where mounds or other evidences of sedentary population are found. Apparently northern Tamaulipas was inhabited by wild tribes at the time the Spaniards first sailed along the coast, but whether these tribes were preceded by a people having a mound-building culture is as yet unknown. From the most northern of the known Tamaulipas mounds, or those near Aldama, to the Rio Grande river is a region of great possibilities, but until more of this archeological *terra incognita* shall have been properly studied, there will be but little inducement to new speculation on the relationship of the mounds of Louisiana and those of the eastern part of Mexico.

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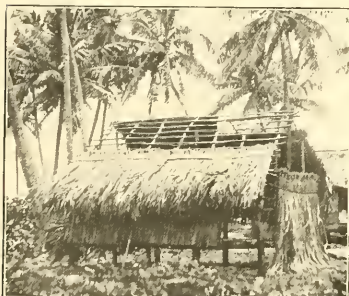
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SKULLS FROM SANTO DOMINGO, SHOWING ARTIFICIALLY FLATTENED FOREHEADS (IMBERT COLLECTION)

*a**b**c**d**e**f*

HOUSES IN PROCESS OF CONSTRUCTION, LUQUILLO

- a* Framework without covering
- b* With straw on sides; roof not covered
- c* With sides covered; roof partially thatched, showing method of fastening thatch
- d, e* Completed Porto Rican houses, with thatched roof and sides
- f* Typical street in Porto Rican village, showing poorer houses



a



b

PORTO RICAN HOUSES

With thatched roofs, and sides covered with palm-leaf sheaths, or *grammas*. One of the houses (a) has a door of *gramma* and an adjacent wall of palm-tree slats



a



c



a'



d



b



e

PORTO RICAN HOUSES

a, a' Fishermen's houses on the dunes at Arecibo
b With walls of split palm trunks; roofs of thatch, near Barceloneta
c, d, e Of the Gibraros in the mountain districts; one of these has both roof and walls of *yuppa*

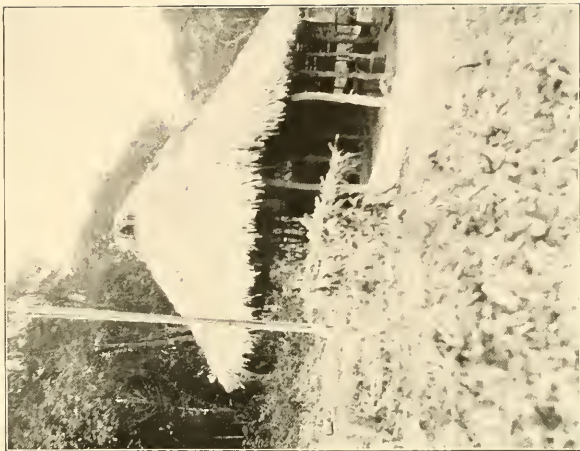


PORTO RICAN HOUSE INHABITED BY NEGROES

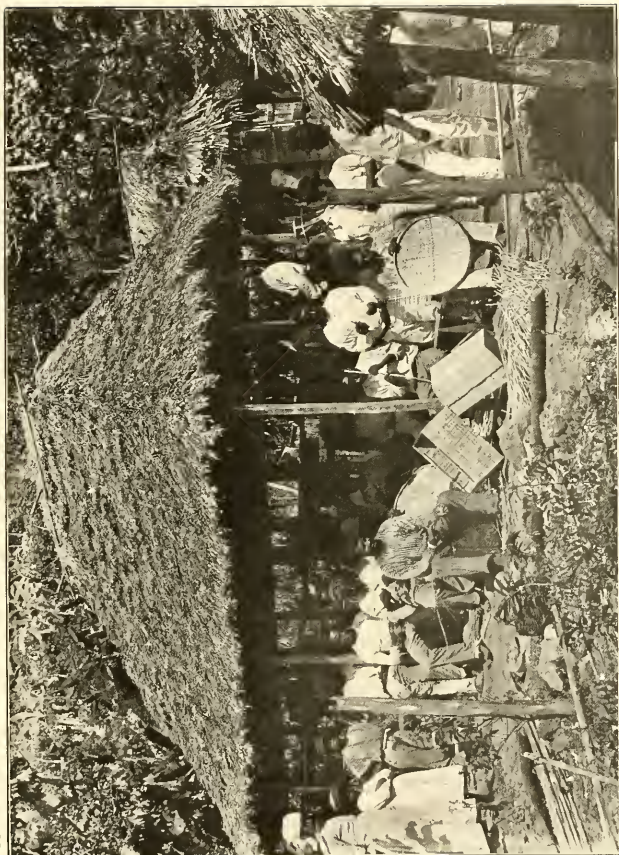


NEGRO HOUSE IN PORTO RICO

With walls constructed of palm leaves and twigs thatched



CARIB HOUSES AT ARIMA, TRINIDAD, BRITISH WEST INDIES



CARIB HOUSE AT ST VINCENT, BRITISH WEST INDIES, WITH GROUP OF CARIB MAKING BASKETS



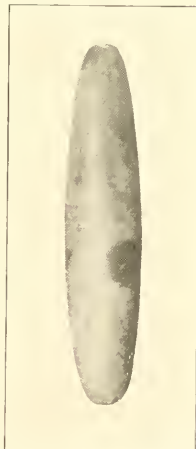
CARIB WAR DANCE (PICARD)



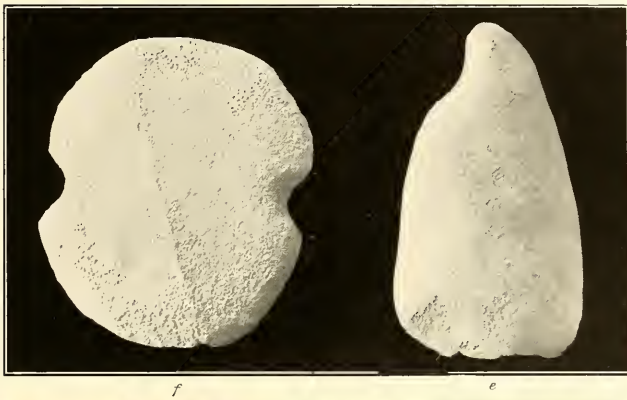
CEREMONIAL DANCE OF THE HAITIANS TO THE EARTH GODDESS (PICARD)



PETALOID STONE IMPLEMENTS AND CHISELS
(One-half natural size)



PETALOID STONE IMPLEMENTS, PORTO RICO
(One-half natural size)



STONE AXES

a, b, c, d Porto Rico. (One-half natural size)
c, f, g, h Santo Domingo (Archbishop Meriño collection). (One-half natural size)



a Length 9 inches

b Length 7 1/2 inches

c Length 9 1/2 inches

MONOLITHIC IMPLEMENTS, SANTO DOMINGO (ARCHBISHOP MERINO COLLECTION)



a



b

CEREMONIAL STONE HATCHETS

a Santo Domingo (Archbishop Meriño collection); length 14 inches
b Cuba (Santiago Museum)



b



a



c



d

PROBLEMATICAL STONE OBJECTS

a Ciales, Porto Rico; length 4½ inches
b (length 4½ inches), *c*, *d* (length 5 inches), Porto Rico (Latimer collection)



a



b



c



d

STONE AXES FROM ST VINCENT, BRITISH WEST INDIES
(One-fourth natural size)



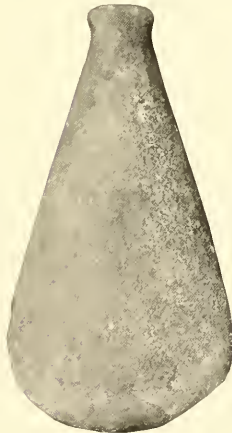
a



b



c



d

STONE AXES FROM ST VINCENT, BRITISH WEST INDIES
(Two-fifths natural size)



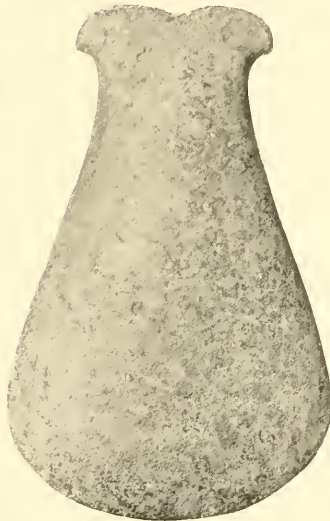
a



b



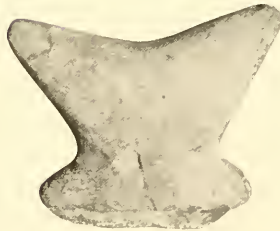
c



d



e



f

STONE AXES FROM ST VINCENT, BRITISH WEST INDIES
(One-third natural size. $f=4\frac{1}{2}$ by $3\frac{1}{4}$ inches)



a



b



c



d



e



f



g

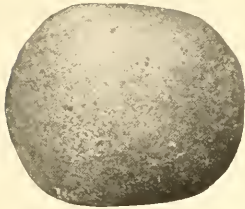


h



i

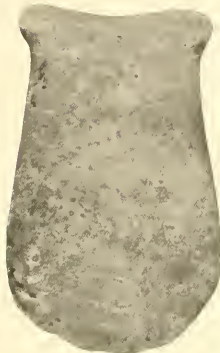
STONE AXES FROM ST VINCENT, BRITISH WEST INDIES
(Three-eighths natural size)



a



b



c



d



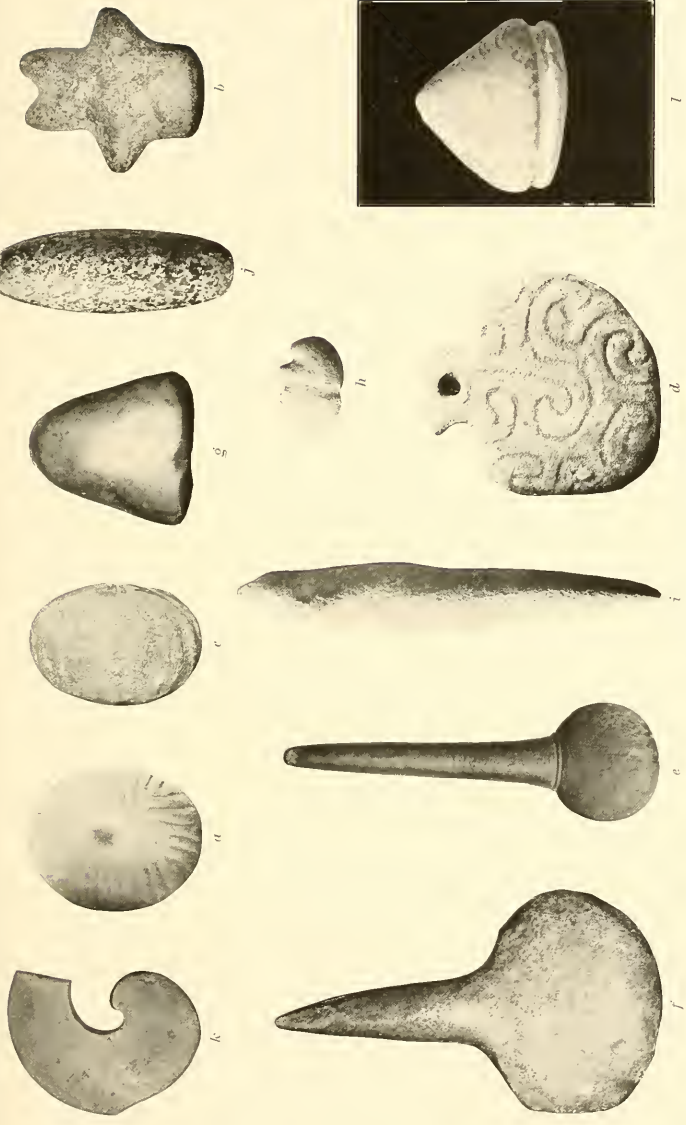
e

STONE AXES FROM ST VINCENT, BRITISH WEST INDIES
(One-half natural size.) *a* Stone ball. *c* 8 by 4 inches



PETALOID STONE IMPLEMENTS, CUBA

(One-half natural size)



STONE OBJECTS OF VARIOUS FORMS

- a Disk with superficial markings (Archbishop Merrifield collection); diameter 7½ by 5½ inches
- b Disk with superficial markings (Archbishop Merrifield collection); diameter 7½ by 5½ inches
- c Oxoid specimen (Archbishop Merrifield collection); diameters 4 and 4 inches
- d Disk with superficial grooves (Archbishop Merrifield collection); diameter 17 inches
- e Corporal button (Gabb collection); length 17 inches
- f Problematical specimen (Lathier collection); length 3½, width 5½ inches
- g Polishing stone; length 3½ inches
- h Small specimen (Archbishop Merrifield collection)
- i Small specimen (Archbishop Merrifield collection)
- j Cylinder (Archbishop Merrifield collection); length 3½ inches
- k Curved specimen, St. Vincent; largest diameter 5½ inches, thickness 1 inch
- l Copied specimen of unknown meaning; one-half by 1 inch



STONE PESTLES, SANTO DOMINGO (ARCHBISHOP MERINO COLLECTION)

a, b Lateral and top views of specimen with figure lying on back; height 5½ inches
c, d Front and side views of specimen with head and body at end of handle; height 9 inches
e, f Front and side views of specimen with head and body at end of handle; height 7½ inches
g, h Front and side views of specimen with animal figure at end of handle; height 7½ inches
i, j Front and side views of specimen with figure on the end of handle; height 6 inches

*a**b**c**d**e**i**f**g**h*

STONE PESTLES (ARCHBISHOP MERIÑO COLLECTION)

a Elongated specimen with rude head on one end; length 11½ inches

b Rude specimen without head; height 4½ inches

c With globular enlargement at one end; height 6 inches

d With eyes on one end; height 5½ inches

e With animal on one end; height 6 inches

f, g, h, i Rude specimens without decoration (three-fourths natural size)

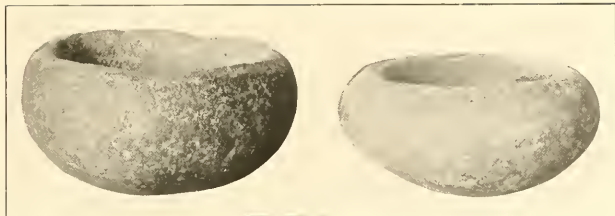
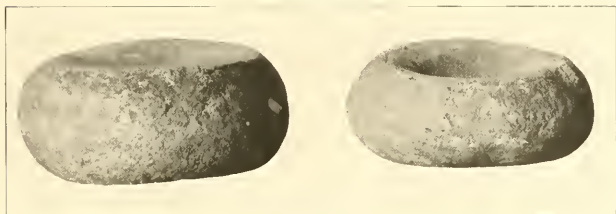
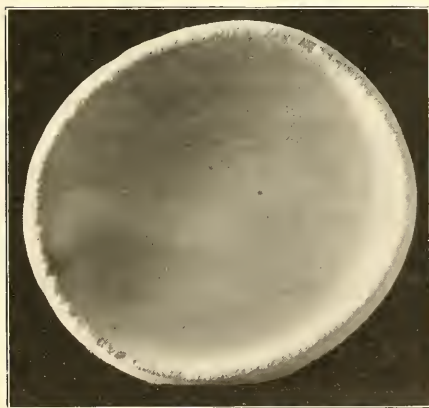


STONE PESTLES

- a* With large base (Archbishop Meriño collection); height 4½ inches
b With globular base (Archbishop Meriño collection); height 4½ inches
c With human face (Latimer collection); height 3½ inches
d Rude specimen (Archbishop Meriño collection); height 4 inches
e With the handle cut in imitation of a human being (Archbishop Meriño collection); height 5½ inches
f With human head on end of handle (Archbishop Meriño collection); height 4 inches
g With rude human head on one end (Archbishop Meriño collection)
h In form of an idol (Archbishop Meriño collection); height 4½ inches
i In form of bird (Archbishop Meriño collection); height 5 inches
j Rude specimen, St. Vincent, British West Indies (Ober collection)
k Rude specimen in form of idol (Archbishop Meriño collection); height 4 inches
l Rude specimen (Archbishop Meriño collection)

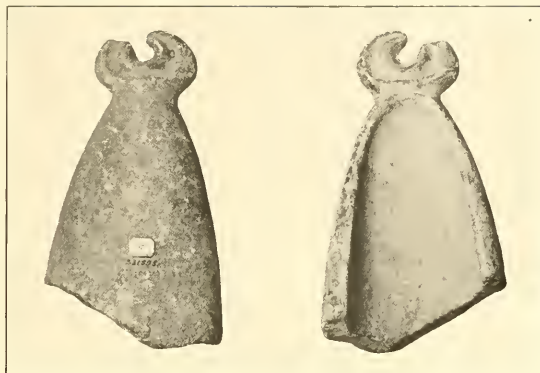
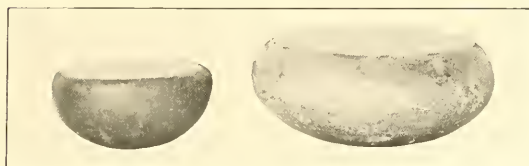
STONE PESTLES (*a-l* IMBERT COLLECTION; *m-l* HALL COLLECTION)

- a, b* Front and side views of specimen with head
c, d Front and side views of specimen with head
e, f Front and side views of specimen with globular base
g, h Front and side views of specimen with globular base
i, j Side and back of bird-formed specimen
k Disk-shaped specimen
l Dumb-bell specimen
m With human face
n Elongated specimen with conical appendage to the head
o With head; ears prominent
p With human face
q With two terminal disks
r With swollen handle; conical head
s, t Front and side views of specimen with globular base

*a**b**c**d**e**f*

STONE MORTARS

a, b, c, d Small specimens, Porto Rico, diameters: *a*, 3, *b*, 3, *c*, 6, *d*, 5 $\frac{1}{2}$ inches
e Large specimen, top view (Archbishop Merino collection), 13 $\frac{1}{2}$ by 12 $\frac{1}{2}$ by 4 inches
f Broken collar (has been used as a pestle), length 4 inches

*b**a**c**d**e*

STONE MORTARS

- a, b* Top and bottom views of fragment from Santo Domingo (Neumann collection); length 10½ inches
c, d Pigment grinders; diameter—*c*, 2½ inches; *d*, 4½ inches
e Elongated (Archbishop Meriño collection); 17 by 8½ inches

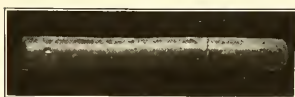


STONE IMPLEMENTS

- a Rubber or grinder with forked handle (Archbishop Merfio collection); length 8 $\frac{1}{2}$ inches
- b Rubber or grinder; length 8 $\frac{1}{2}$ inches
- c, d Rubbers (Lattimer collection); one-half natural size



a



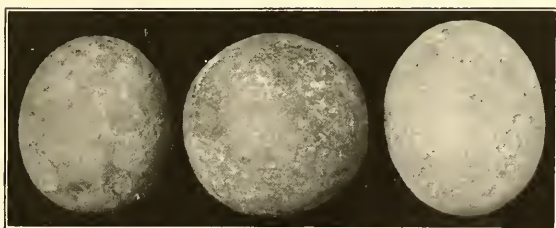
b



c



d



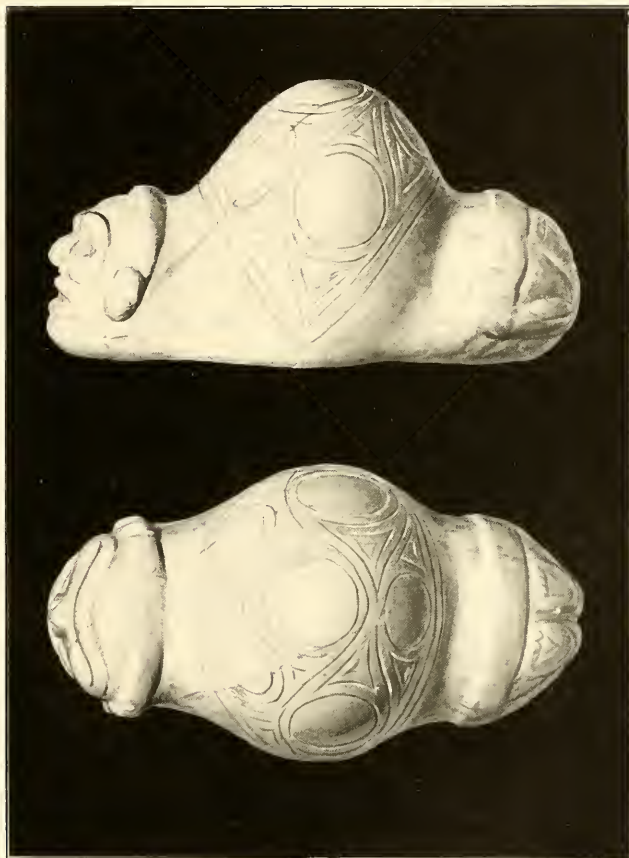
e

f

g

MISCELLANEOUS STONE OBJECTS

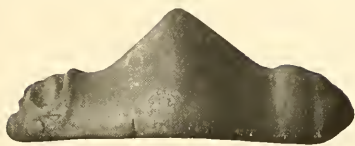
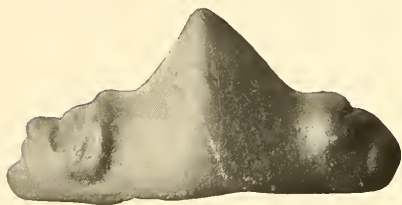
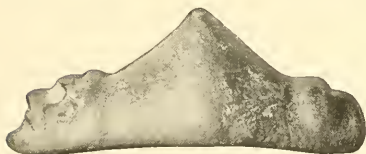
- a* Beads and pendants, Porto Rico
b Cylinder, Porto Rico; $5\frac{1}{2}$ by $\frac{1}{2}$ inches
c Cylinder, Porto Rico; length 4, diameter $1\frac{1}{2}$ inches
d Ball with eyelet (Archbishop Meriño collection); diameter 2 $\frac{1}{2}$ inches
e, f, g Balls, Porto Rico; one-fourth natural size



ad nat. M. W. Gill.

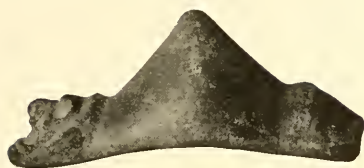
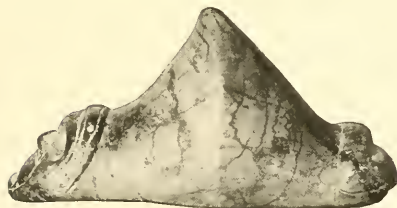
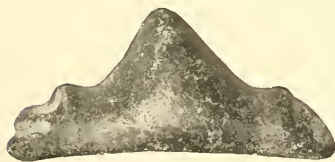
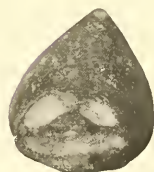
THREE-POINTED STONE OF FIRST TYPE; LENGTH 8 $\frac{1}{2}$ INCHES

a Side view
b Top view

*a**a'**b**b'**c**c'**d**d'*

THREE-POINTED STONES OF THE FIRST TYPE

- a, a'* Lateral and face views of specimen with low conical projection; length 5½ inches
b, b' Lateral and face views of specimen with rounded conical projection; length 10½ inches
c, c' Lateral and face views of specimen; length 14 inches
d, d' Lateral and face views of specimen, showing prominent ears and chin; length 9¼ inches

*a**a'**b**b'**c**c'**d**d'*

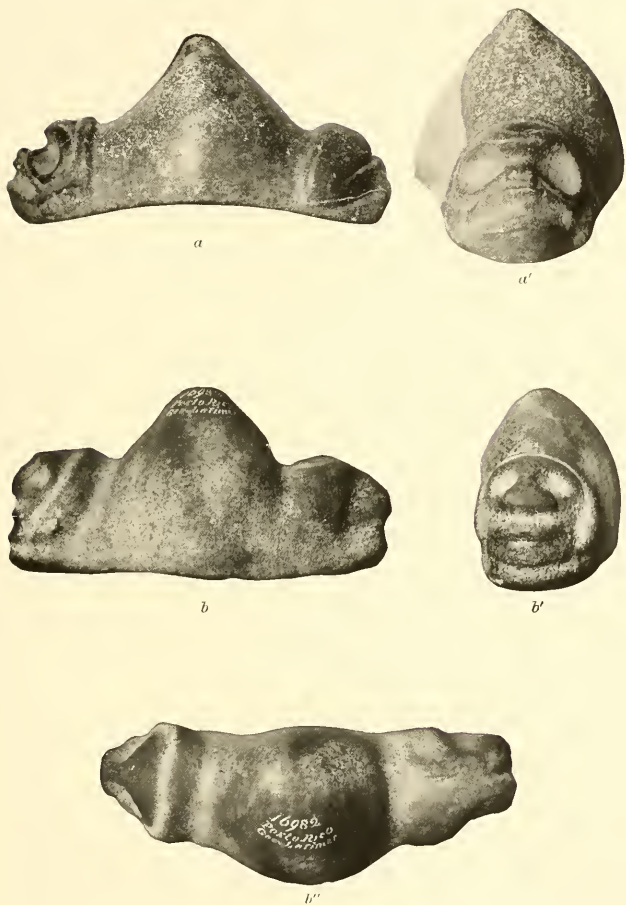
THREE-POINTED STONES OF THE FIRST TYPE

- a, a'* Lateral and face views of specimen with very smooth surface (Latimer collection); length 10 inches
b, b' Lateral and face views of specimen with curved base, showing patches of varnish (Latimer collection); length 11 inches
c, c' Lateral and side views of specimen (Latimer collection); length 10.3 inches
d, d' Lateral and side views of specimen with rude head (Neumann collection); length 10 inches

*a**a'**b**b'**c**c'**d**d'*

THREE-POINTED STONES OF THE FIRST TYPE

- a, a'* Lateral and front views of specimen, showing decorated band over eyes; length 4½ inches
b, b' Lateral and front views of specimen (Latimer collection); length 5.8 inches
c, c' Lateral and front views of specimen with prominent nose; length 5¼ inches
d, d' Lateral and front views of specimen, Santo Domingo (Archbishop Meriño collection); length 8¼ inches



THREE-POINTED STONES OF THE FIRST TYPE

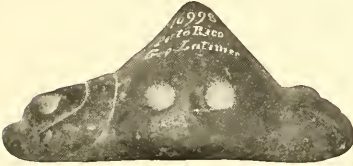
a, a' Lateral and face views of specimen with broken side (Neumann collection); length 11½ inches
b, b', b'' Side, face, and top views of warped specimen (Latimer collection); length 11½ inches



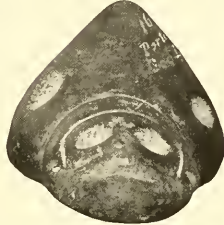
b



b'



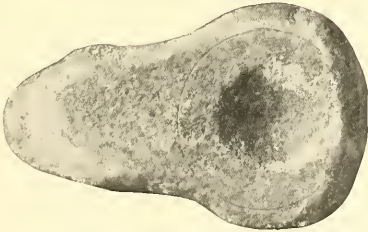
a



a'



c'



c''

THREE-POINTED STONES OF THE FIRST TYPE

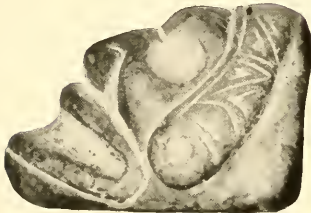
- a, a' Lateral and face views of specimen with two pits on each side (Latimer collection); length 6.15 inches
- b, b' Lateral and face views of specimen (Latimer collection); length 5.6 inches
- c, c', c'' Side, face, and base views of fragment (Latimer collection), length 12.8 inches



a



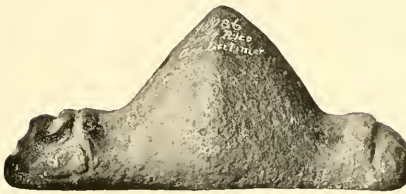
a'



b



b'



c



c'

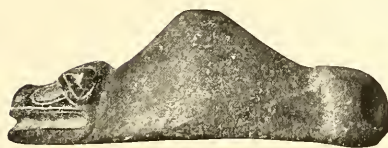
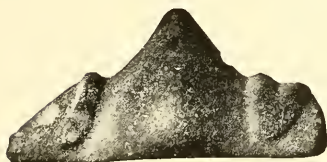
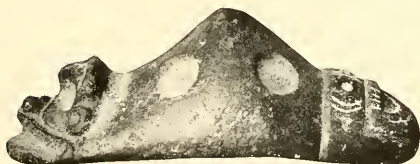


d

e

THREE-POINTED STONES OF THE FIRST TYPE

a, a', b, b' Face and lateral views of two fragments (Latimer collection); width 3 inches
c, c' Lateral and face views of specimen (Latimer collection); length 8 inches
d, e Two specimens with very much eroded surfaces; length 8½ inches

*a**a'**a''**b**b'**c**c'*

THREE-POINTED STONES OF THE FIRST TYPE

a, a', a'' Top, lateral, and face views of specimen with depression in the top of the conical projection (Latimer collection); length 9.65 inches

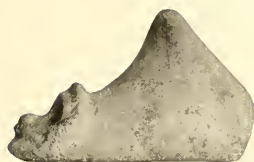
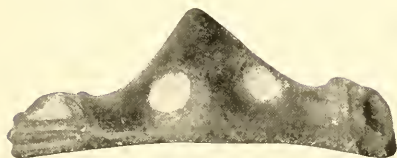
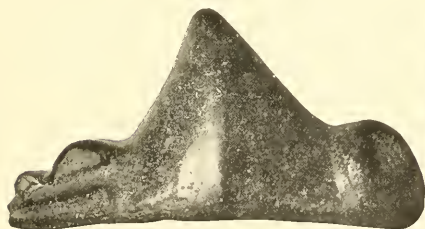
b, b' Lateral and face views of specimen with flat face (Latimer collection); length 7.95 inches

c, c' Lateral and face views of specimen with depressions on the side (Latimer collection); length 11.65 inches



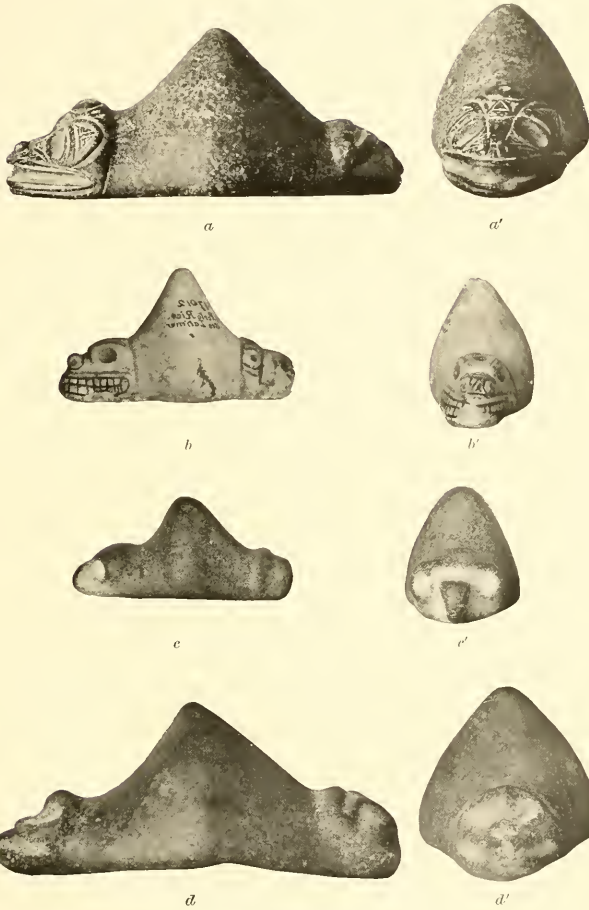
not nat. M. W. GILL

LATERAL (a) AND TOP (a') VIEWS OF A THREE-POINTED STONE OF THE FIRST TYPE;
5½ BY 2½ INCHES

*a**a'**b**b'**c**c'*

THREE-POINTED STONES OF THE FIRST TYPE

a, a' Lateral and face views of a fragment; length $5\frac{1}{2}$ inches*b, b'* Lateral and face views of lizard-formed specimen; length 10 inches*c, c'* Lateral and face views of lizard-formed specimen (Zoller collection); $11\frac{1}{2}$ by $5\frac{1}{2}$ inches



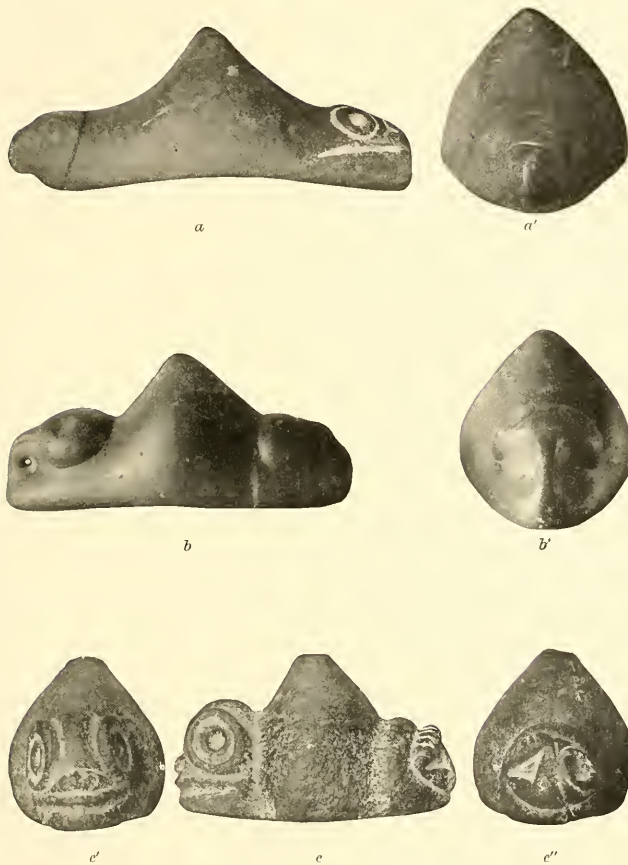
THREE-POINTED STONES OF THE FIRST TYPE

- a, a'* Lateral and face views of specimen with lizard head (Latimer collection); length 12.5 inches
b, b' Lateral and face views of specimen with lizard head (Latimer collection); length 4.85 inches
c, c' Lateral and face views of specimen with bird's head (Latimer collection); length 6.3 inches
d, d' Lateral and face views of specimen with rude face (Latimer collection)

*a**a'**b**b'**c**c'*

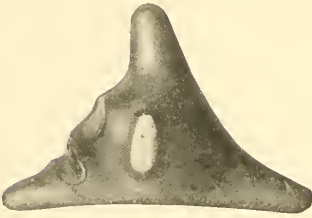
THREE-POINTED STONES OF THE FIRST TYPE

- a, a'* Lateral and top views of a lizard-headed specimen (Zoller collection); length 11 $\frac{1}{2}$ inches.
b, b' Lateral and face views of a bird-headed specimen, duck shape (Latimer collection); length 11.35 inches.
c, c' Lateral and face views of a bird-headed specimen with two lateral pits (Neumann collection); 11 $\frac{1}{2}$ by 4 inches.



THREE-POINTED STONES OF THE FIRST TYPE

- a, a'* Bird-shaped specimen (Neumann collection); length 10 inches
b, b' With bird head (Latimer collection); length 6.83 inches
c, c', c'' Lateral, face, and rear views of an owl-headed specimen (Latimer collection); length 4.95 inches



a



a'



b



b'



c



c'

THREE-POINTED STONES OF THE SECOND TYPE

a, a' Lateral and face views (Latimer collection); length $4\frac{1}{2}$ inches

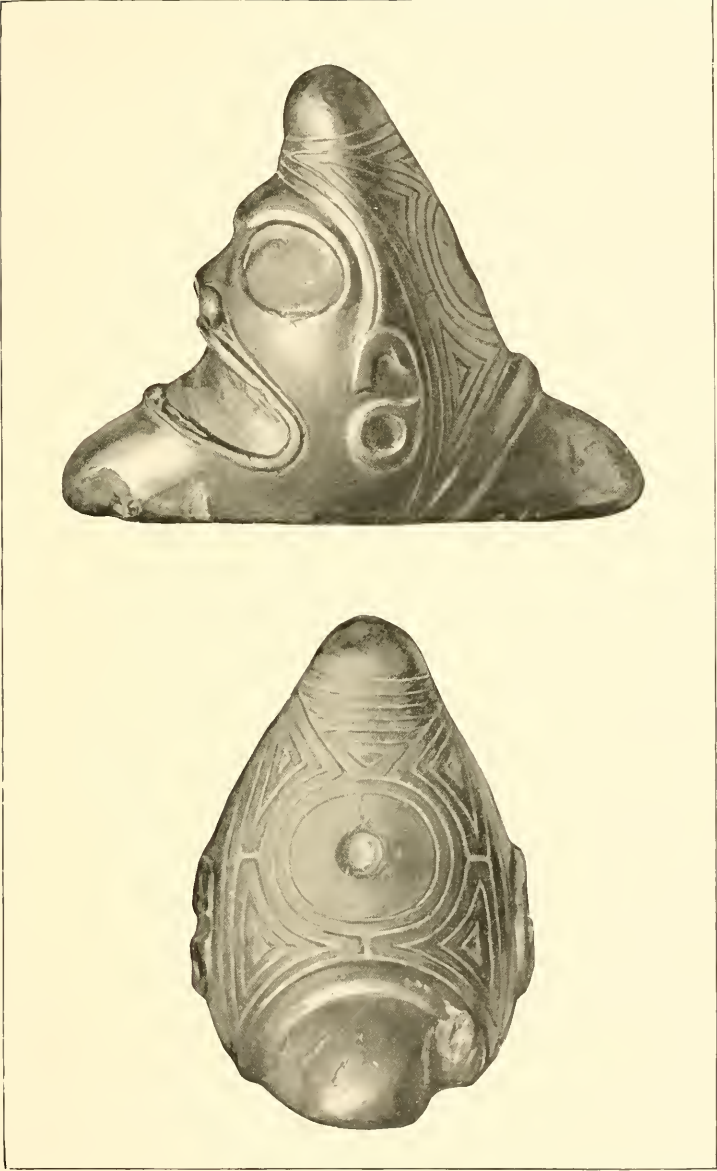
b, b' Lateral and face views; length 8 inches

c, c' Lateral and face views of specimen with appendages; length 7 inches



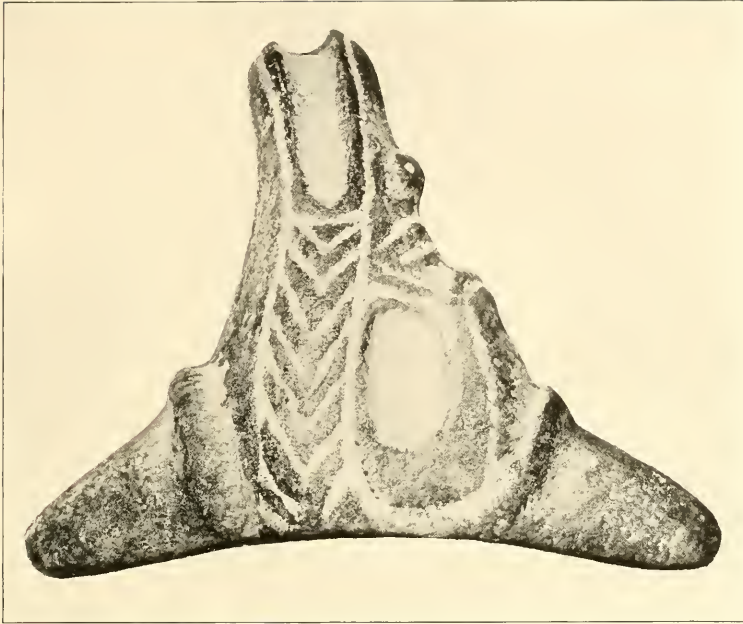
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LATERAL AND TOP VIEWS OF A THREE-POINTED STONE OF THE SECOND TYPE ('LATIMER COLLECTION'); LENGTH 3 INCHES

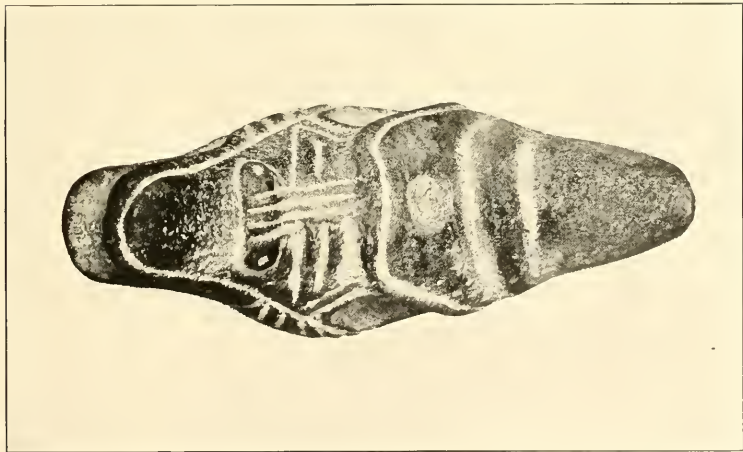


ad mit., M. W. Gill

LATERAL AND REAR VIEWS OF A THREE-POINTED STONE OF THE SECOND TYPE, LENGTH 4 $\frac{1}{2}$ INCHES



a



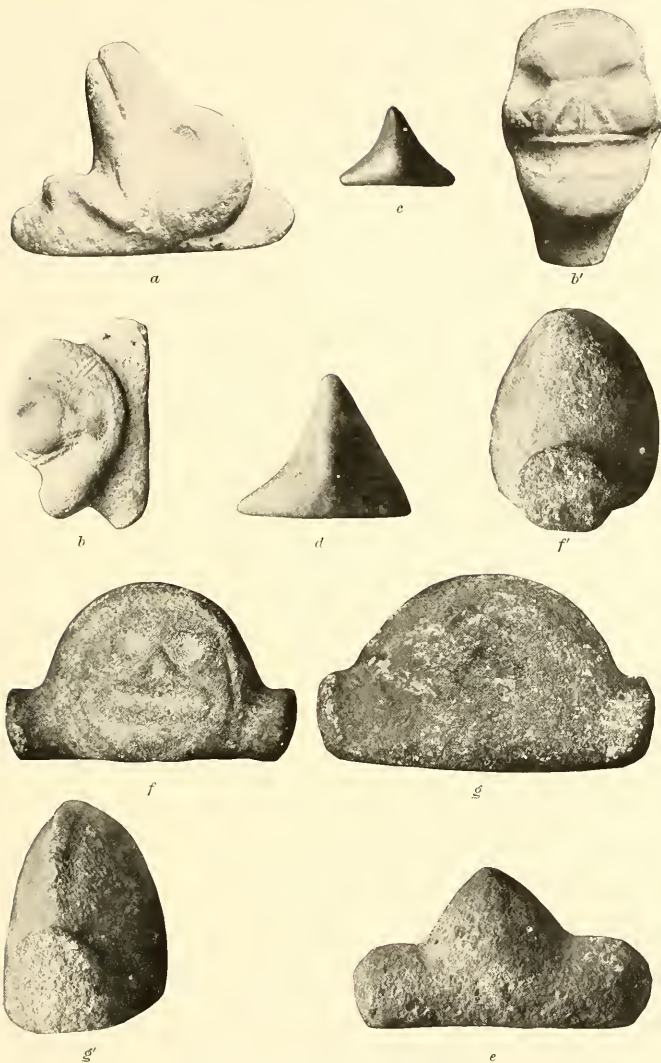
a'

LATERAL (*a*) AND TOP (*a'*) VIEWS OF A THREE-POINTED STONE OF THE THIRD TYPE (ARCHBISHOP MERIÑO COLLECTION); LENGTH 9 INCHES



art. nat. M. W. Gill

LATERAL (a) AND TOP (b, b') VIEWS OF A THREE-POINTED STONE OF THE THIRD TYPE
(NEUMANN COLLECTION); LENGTH 4½ INCHES



THREE-POINTED STONES AND STONE DISKS

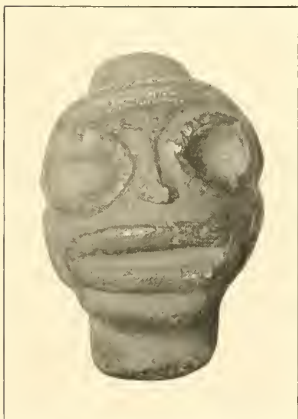
- a* Lateral view of a specimen of the third type (Archbishop Meriño collection); length 10½ inches
b, b' Lateral and face views of head, length 9½ inches
c, d Three-pointed specimens of the fourth type; lengths 3½ and 4½ inches
e Three-pointed specimen of the fourth type; 8 by 4½ inches
f, f' Face and side views of semicircular specimen with face; 7 by 4; 8 inches
g, g' Face and side views of semicircular specimen with face



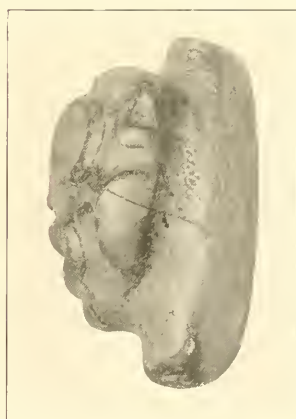
a



a'



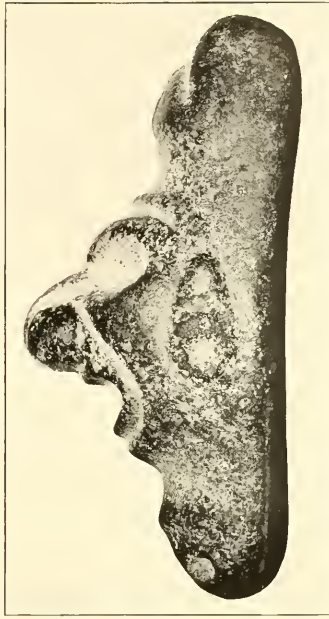
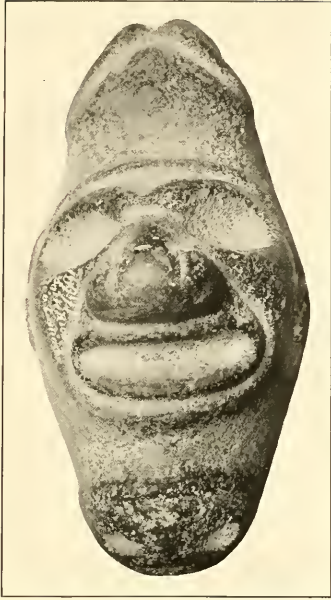
b



b'

STONE HEADS

a, a' Lateral and front views (Latimer collection); length 8.65 inches
b, b' Lateral and front views (Latimer collection); length 6, height 3, width 4 inches



STONE HEADS

a, a' Front and lateral views of specimen (Latimer collection); 9 $\frac{1}{2}$ by 4 inches
b, b' Front and lateral views of mask-like face; 7 $\frac{1}{2}$ by 2 $\frac{1}{2}$ inches



a



a'



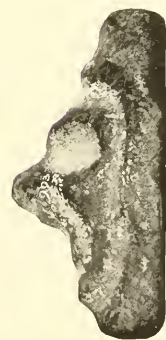
b



b'



c



c'

STONE HEADS

a, a' Front and lateral views; length 7 $\frac{1}{2}$, width 5 inches
b, b' Front and lateral views (Latimer collection); length 7 inches
c, c' Front and lateral views (Latimer collection); 7 $\frac{1}{2}$ by 3 $\frac{1}{4}$ inches



a



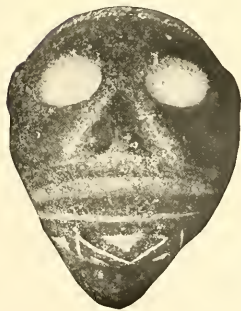
a'



b



b'



c



c'

STONE HEADS

a, a' Front and lateral views of rude head with neck, 9 by 5½ inches
b, b' Front and lateral views of head (Latimer collection), 5 by 4¼ inches
c, c' Front and lateral views of disk, 6 by 4¼ inches



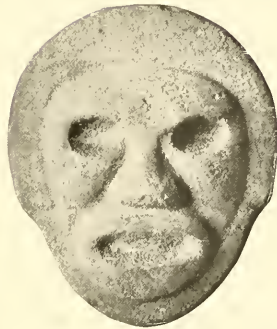
a



a'



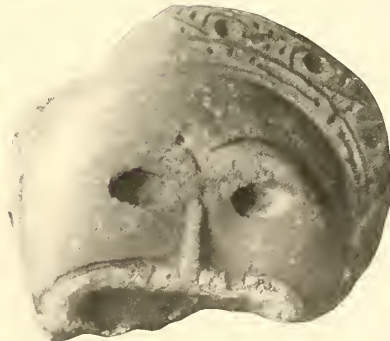
d



c



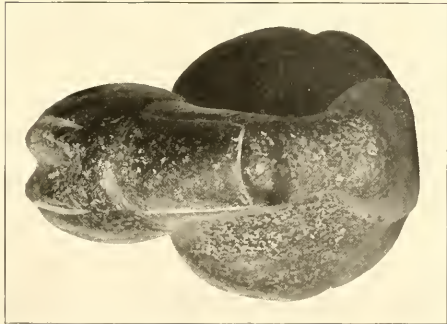
b



e

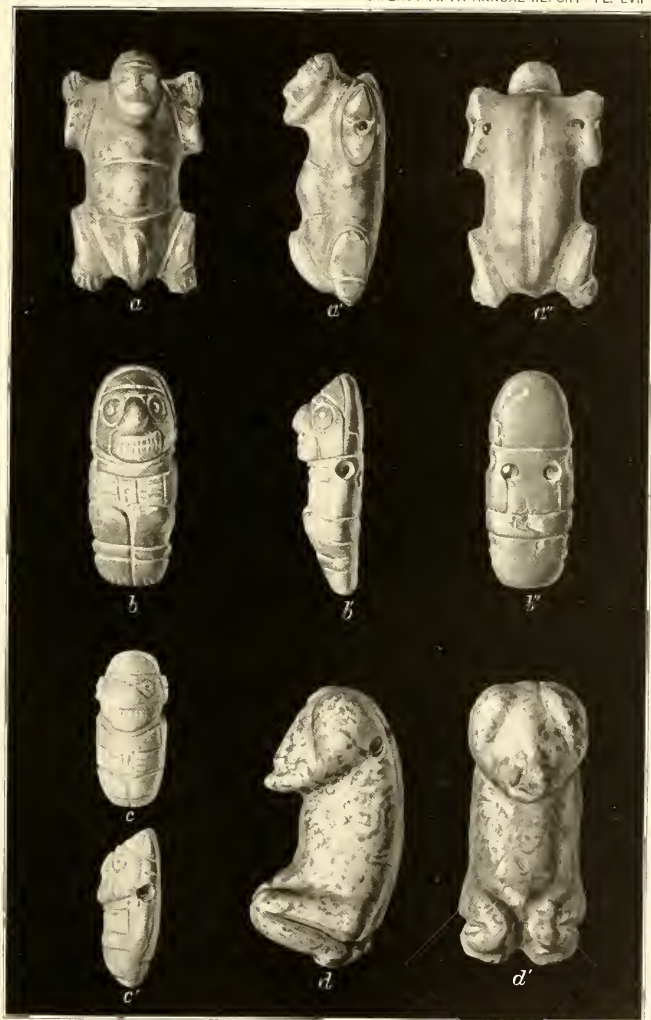
STONE DISKS WITH FACES

- a, a'* Front and lateral views of face; 5½ by 4 inches
- b* Front view of face; 4½ by 3½ inches
- c* Front view of face; 5½ by 5 inches
- d* Fragment of face; width 3½ inches
- e* Fragment of face (Nemman collection), width 3 inches



STONE FETISHES

- a*, *a'* Front and lateral views of fetish, Neumann collection, 53 by 4 inches
- b* Lateral view of fetish of scorpion, Trinidad, British West Indies, length 14 inches



STONE AMULETS, PORTO RICO



a



a'

at nat. M. W. GILL.



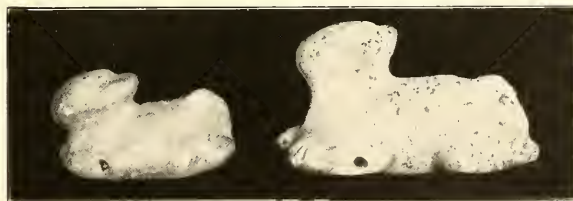
b



c



d



e



d'

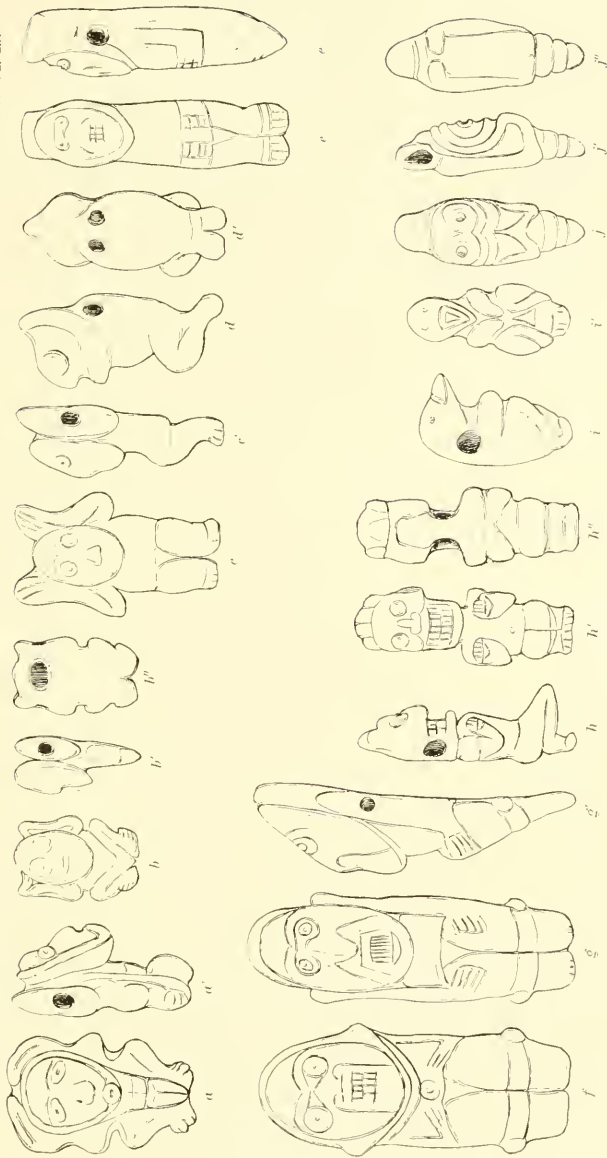
STONE AMULETS

a, a' Lateral and top views of animal of unknown character, Trinidad, British West Indies; natural size

b Twin amulet, Santo Domingo (Archbishop Meriño collection); length 1½, width 1¼ inches

c, c' Front and lateral views; natural size

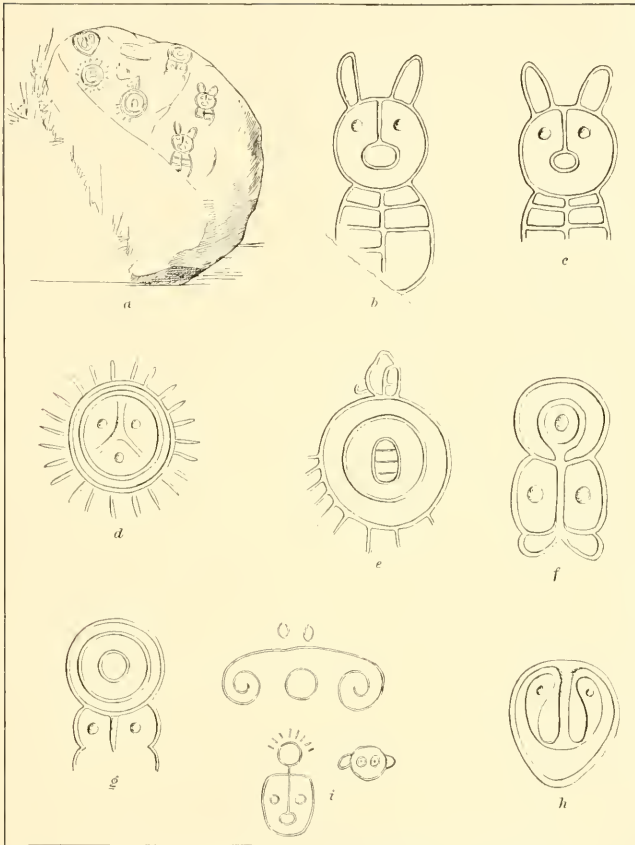
d, d' Front and lateral views; natural size



STONE AMULETS, SANTO DOMINGO

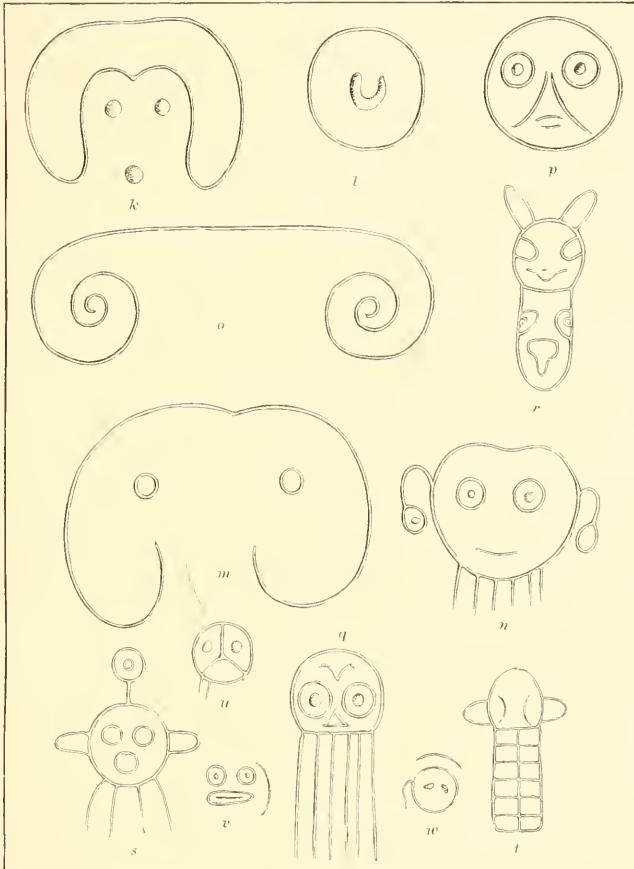
a, a', Front and lateral views (Hall collection).
b, b', *b''*, Front, lateral, and rear views (Hall collection).
c, c', Front and lateral views (Hall collection).
d, d', Front and lateral views (Hall collection).
e, e', Front and lateral views (Hall collection).

f, Front view (Imbert collection).
f', *f''*, Front and lateral views (Imbert collection).
g, g', *g''*, Side, front, and rear views (Imbert collection).
i, i', Lateral and ventral views (Hall collection).
j, j', j'', Ventral, lateral, and dorsal views (Hall collection).



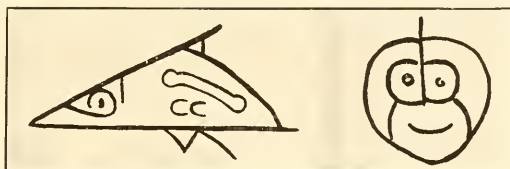
PORTO RICAN RIVER PICTOGRAPHS

- a* On bowlder, near Utuado
b, c With horns on head
d, e Sun
f Of unknown meaning
g Of unknown meaning
h From "El Salto del Merovis"
i Of unknown meaning



PORTO RICAN RIVER PICTOGRAPHS

- | | |
|------------------------------------|---|
| <i>k</i> Human face | <i>p</i> Human face |
| <i>l</i> Representing the moon | <i>q</i> Representing head |
| <i>m</i> Representing face | <i>r</i> Representing human head and body |
| <i>n</i> Human face | <i>s</i> Face with circle |
| <i>o</i> Two spirals, water symbol | <i>t</i> Human head and body |
| | <i>u, v, w</i> Of unknown meaning |



a

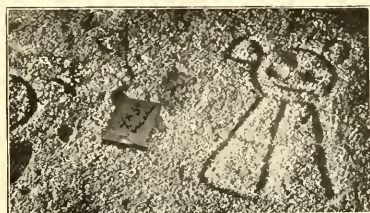
b



c



d



e

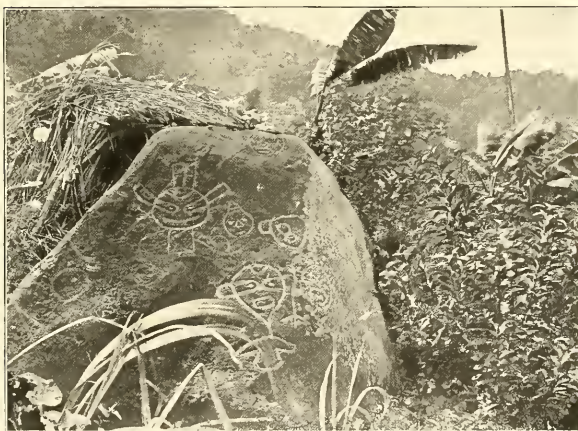


f

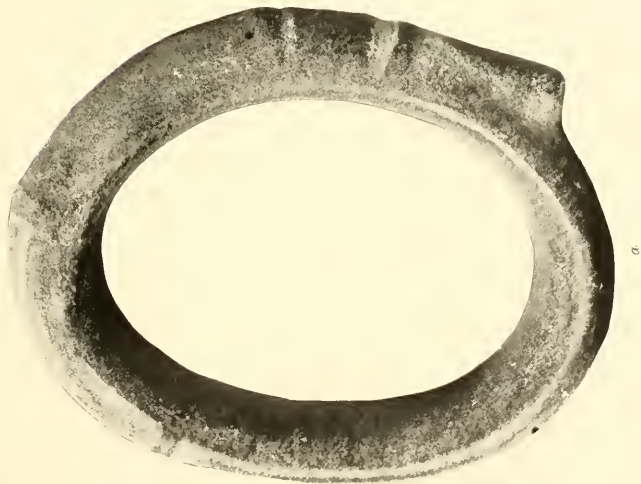
g

PORTO RICAN PICTOGRAPHS

a, b, c, d From cave near Ponce
e, f, g From eastern end of Porto Rico



CARIB PICTOGRAPHS, ST VINCENT, BRITISH WEST INDIES



a

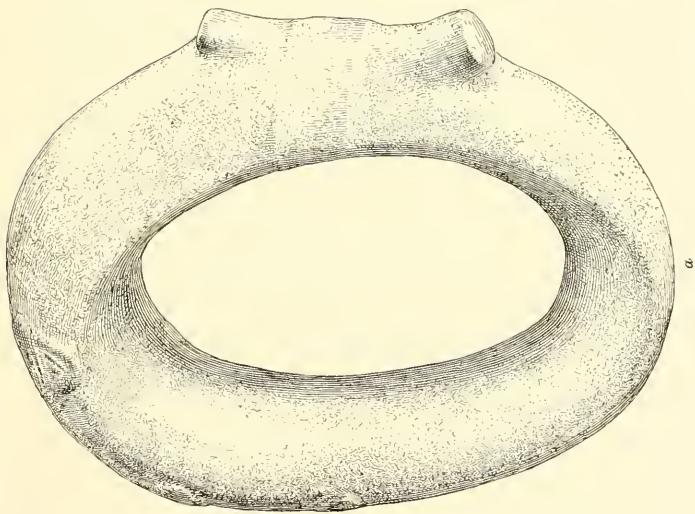


b

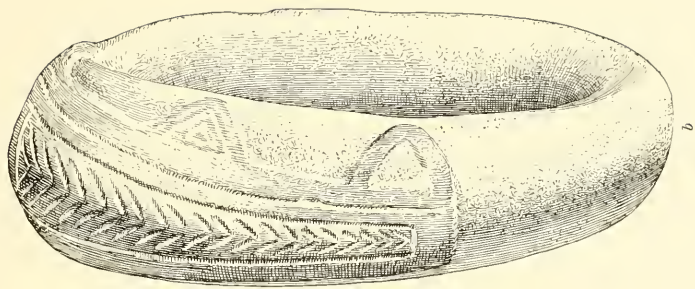
MASSIVE STONE COLLARS

a 17 $\frac{1}{2}$ by 11 inches

b 19 by 16 inches



a



b

MASSIVE STONE COLLAR
a Front view; 19 inches
b Side view; 6 inches



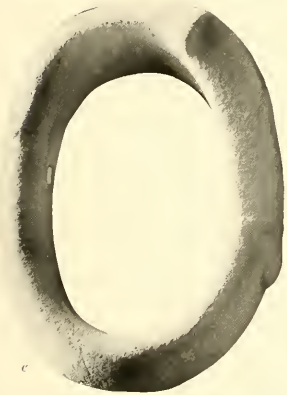
a



b



d



c



e



f

MASSIVE STONE COLLARS

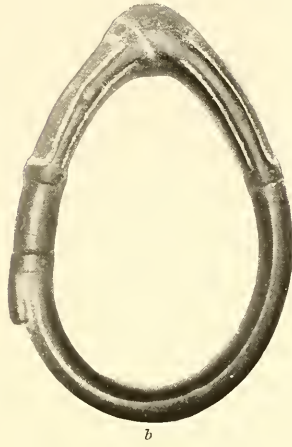
a 17½ by 15 inches
b 18 by 13½ inches

c 17½ by 13 inches
d 19 by 14½ inches

e 14½ by 9 inches
f 18 by 13½ inches



a



b



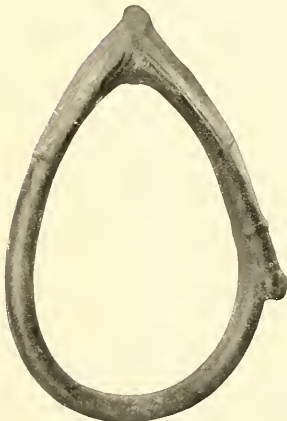
c



d

SLENDER OVATE STONE COLLARS

- a* Specimen (Latimer collection); 17 by 11 inches
- b* Well-polished specimen (Neumann collection); 15 inches
- c* Simple specimen (Latimer collection); 15 inches
- d* With heart-shaped projection (Latimer collection); 15 inches

*a**b**c**d*

SLENDER OVATE STONE COLLARS (LATIMER COLLECTION)

- a* With decorated panel border; 18½ by 12½ inches
b With decorated panel border; 18 by 12½ inches
c With head on projection; 17½ by 11½ inches
d With decorated panel border; 18½ by 12½ inches



PANELS OF SLENDER OVATE COLLARS (LATIMER COLLECTION)

a Partially decorated specimen, size about 9 inches

b Sun figures, size about 9 inches

c Unknown figures, size about 9 inches



a



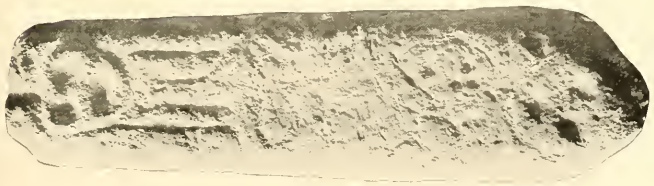
b



b'

STONE COLLAR AND ELBOW STONE

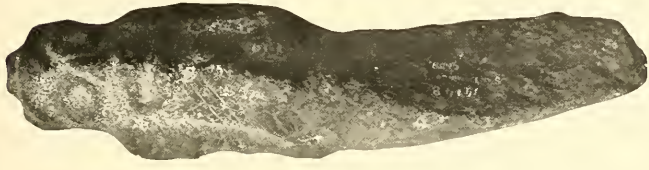
a Stone collar with attached three-pointed stone; diameter 16½ inches
b, b' Face and lateral views of an elbow stone (Latimer collection); length 7½ inches



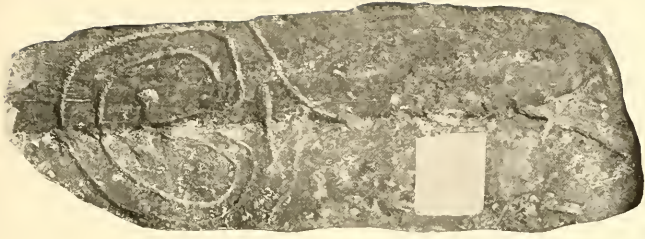
a



b



c



d

PILLAR STONES

- a With face, body and appendages cut in relief; length 2 feet 4 inches
- b With face in relief (Lattimer collection); length 25 inches
- c With face and part of the body cut in relief (Gable collection); length 25 inches
- d With face cut in outline (Lattimer collection); length 2 feet 5 inches



a



b



c



d



a'

FRAGMENTS OF PILLAR STONES WITH HEAD OR FACE IN RELIEF (LATIMER COLLECTION)

- a, a'* 9 $\frac{1}{2}$ by 4 $\frac{1}{2}$ inches
- b* 13 $\frac{1}{2}$ by 12 inches
- c* 16 by 7 inches
- d* 3 feet 6 inches



STONE IDOLS FROM CUBA

- a, a'* Front and lateral views of specimen made of coral rock (Santiago de Cuba Museum). (Reduced one-half)
b Engraved stone, Nipe bay. (Reduced one-half)
c Specimen made of coral rock in form of a pestle (Santiago de Cuba Museum). (Reduced one-half)



HANDLES OF POTTERY FROM GUEVA DE LAS GOLONDRINAS, PORTO RICO
(the half natural size)



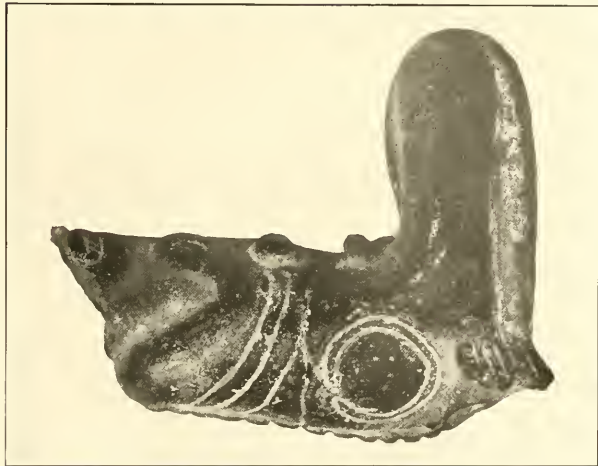
POTTERY HEADS, FRAGMENTS OF BOWLS, SANTO DOMINGO
(One-half natural size)



FRAGMENTS OF POTTERY BOWLS, SANTO DOMINGO
(One-half natural size)



a



a'



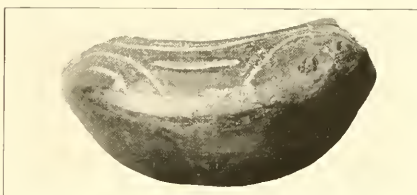
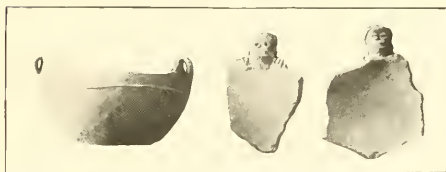
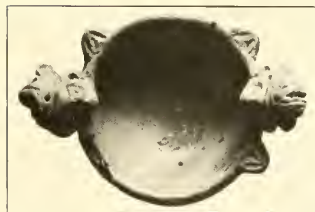
b



c

POTTERY FROM SANTO DOMINGO

a, a', Front and lateral views of a kneeling figure made of clay; length 6, width 5 inches
b, Small bowl; diameter 3 1/2 inches; height 1 1/2 inches
c, Small bowl; Archbishop Merello collection; diameter 3 1/2 inches

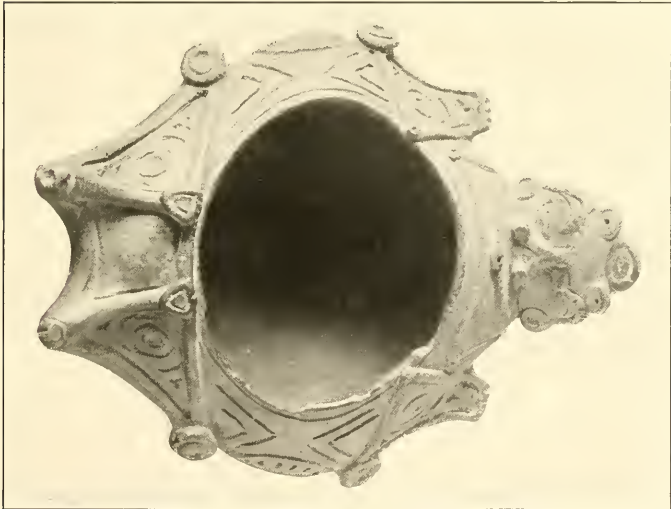
*a**a'**b**c**d**d'**e**e'*

POTTERY FROM PORTO RICO AND SANTO DOMINGO

- a, a'* Top and side views of bowl from near Utuado, Porto Rico; diameter 4 by 2½ inches
b Lateral view of a globular bowl, Porto Rico; diameter 7 by 3 inches
c Rough bowl with two handles, Utuado; diameter 7 by 6½ inches
d, d' Two fragments of a dish from Porto Rico; one-fourth natural size
e, e' Top and lateral views of a bowl with two heads (Archbishop Meriño collection); diameter 6½ and 3 inches



a



a'

(*a*) LATERAL AND (*a'*) TOP VIEWS OF AN EFFIGY VASE FROM AGUAS BUENAS, PORTO RICO;
8½ BY 6¼ INCHES

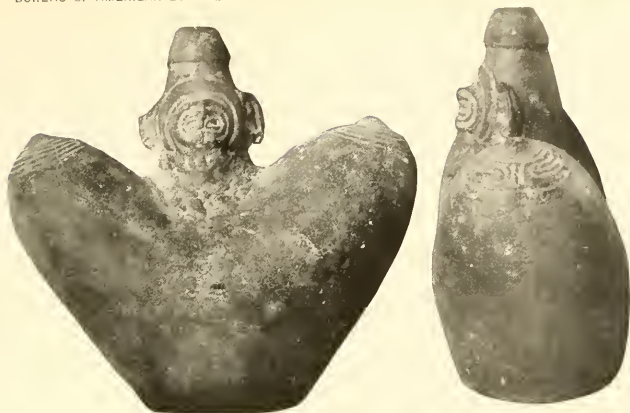
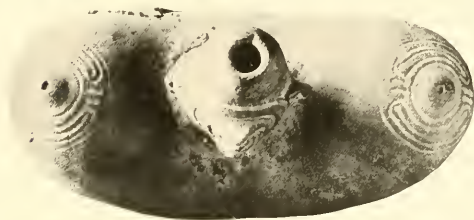


a



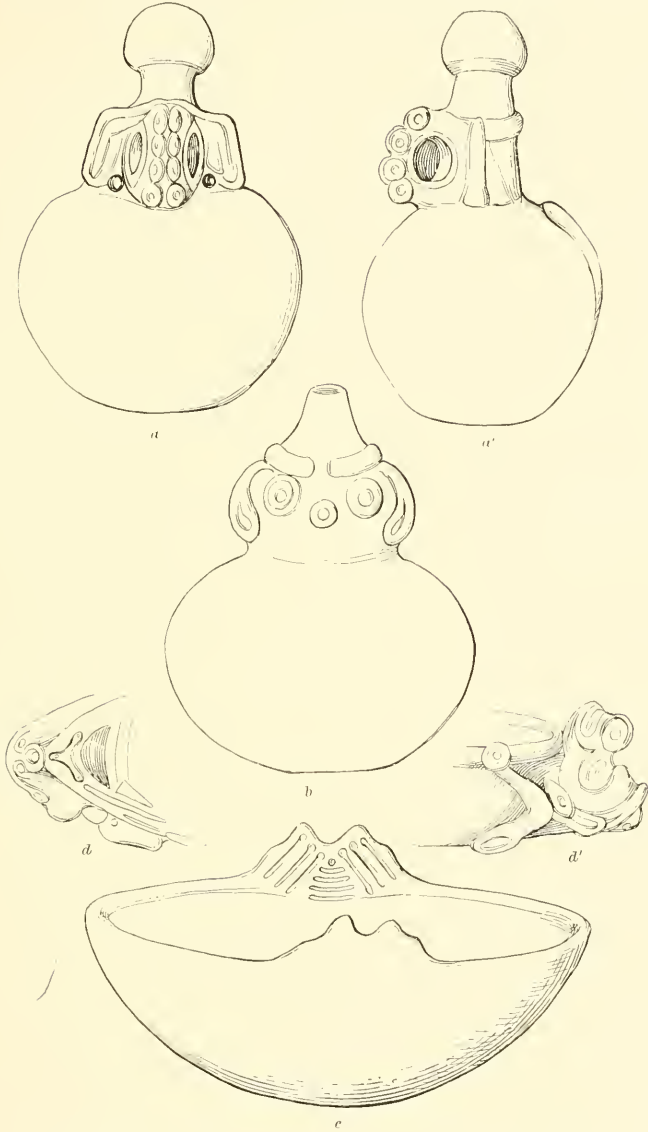
a'

(*a*) FRONT AND (*a'*) TOP VIEWS OF BIRD EFFIGY BOWL FROM WESTERN END OF PORTO RICO (NEUMANN COLLECTION); HEIGHT 7, DIAMETER 9 INCHES

*a**a'**a''**b**b'**c**d*

VASES FROM SANTO DOMINGO

- a, a', a''* Front, lateral, and top views of mummiform vase (Archbishop Meriño collection); height 10 $\frac{1}{2}$ inches
b, b' Lateral and front views of bowl with relief decoration; diameter 5, height 3 $\frac{1}{2}$ inches
c Bottle-shaped vessel (Archbishop Meriño collection); 4 $\frac{1}{2}$ by 3 by 2 inches
d Bottle-shaped vessel (Archbishop Meriño collection); 3 $\frac{1}{2}$ by 2 inches

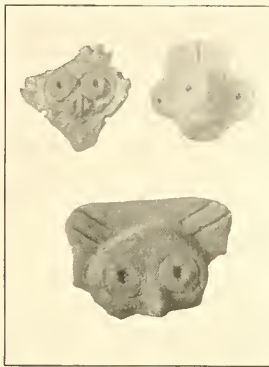


BOTTLE-SHAPED VASES AND BOWL FROM SANTO DOMINGO (IMBERT COLLECTION)

- a, a'* Front and lateral views of bottle vase, with perforation on one side of neck
b Vase with head represented on side of neck
c Bowl with opposite elevations on the rim. (See Plate I.)
d, d' Fragment of flat bowl or dish; *d* view from below; *d'* lateral view



a



b, c, d

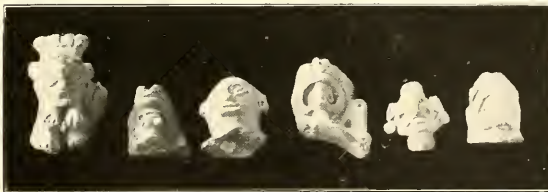


e

f

g

g'



h

i

j

k

l

m

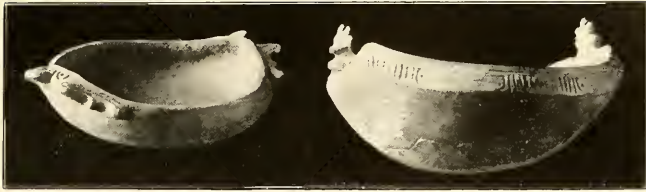
POTTERY OBJECTS

a Image made of burnt clay, Santo Domingo (Desangles collection), size much reduced

b, c, d Three fragments from Nipe bay, Cuba: one-half natural size

c-l, k-m Fragments from Santo Domingo (Archbishop Meriño collection), one-third natural size

j Purchased by author

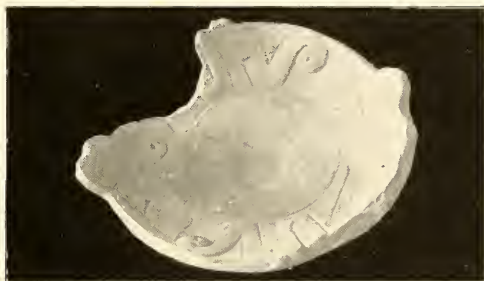
*a**b**c**d**e**f*

POTTERY FROM THE WEST INDIES

- a* Shallow bowl or dish, 12½ by 9½ by 3 inches
b Elongated dish, with beads on opposite rims: 13 by 11½ by 4 inches
c, d, e, f Flat bowls and shell-shaped pottery, St Kitts, British West Indies (reduced one-fourth)



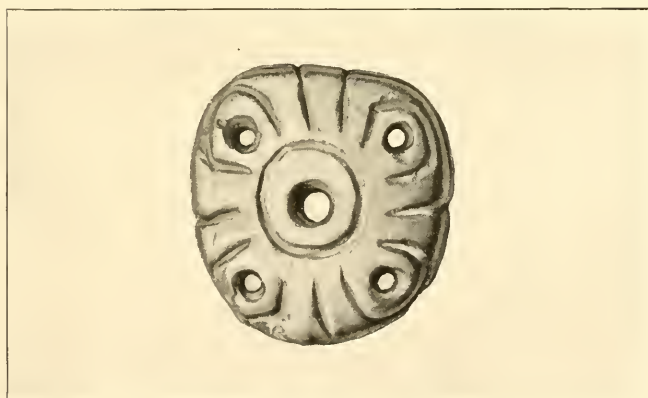
POTTERY FROM GRENADA, BRITISH WEST INDIES
a-d Fragments of bowls or vases (reduced one-third)
c, f Clay heads (slightly reduced)

*a**b**b'**b''*

POTTERY FROM TRINIDAD, BRITISH WEST INDIES (MUSEUM OF PORT OF SPAIN)

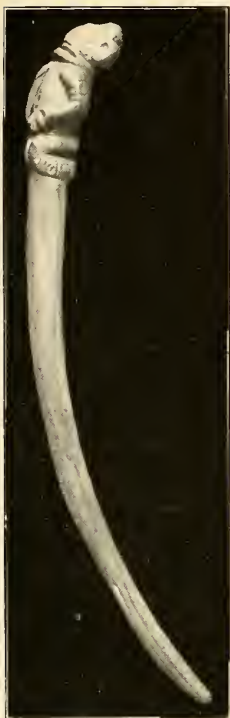
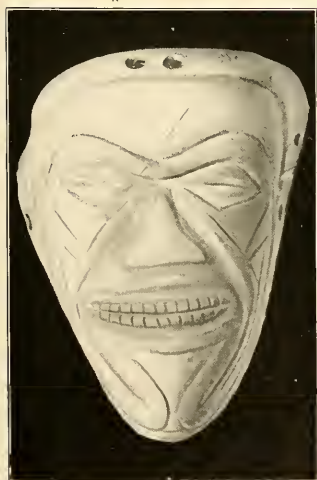
a Interior of decorated dish

b, b', b'' Lateral, top, and front views of turtle-shaped effigy bowl

*a**b**b'**c*

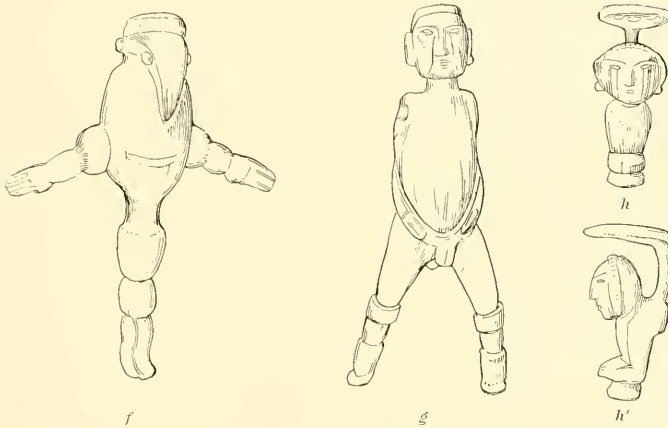
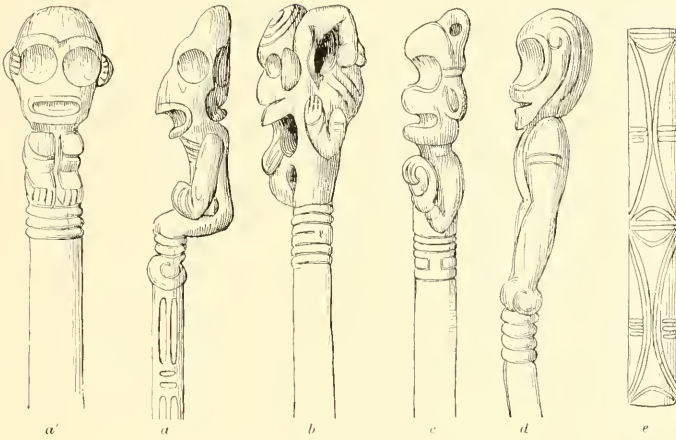
POTTERY OBJECTS AND STONE SPINDLE WHORL

- a* Cylinder for stamping pottery (Archbishop Meriño collection); length 3½, diameter 1½ inches
b, b' Obverse and reverse of a stamp with inscribed designs (Archbishop Meriño collection); diameter 2½ inches
c Spindle whorl (Latimer collection); diameter 1½ inches

*d**g**d'**d''**c**e**f**b**a*

STONE, SHELL, AND BONE OBJECTS

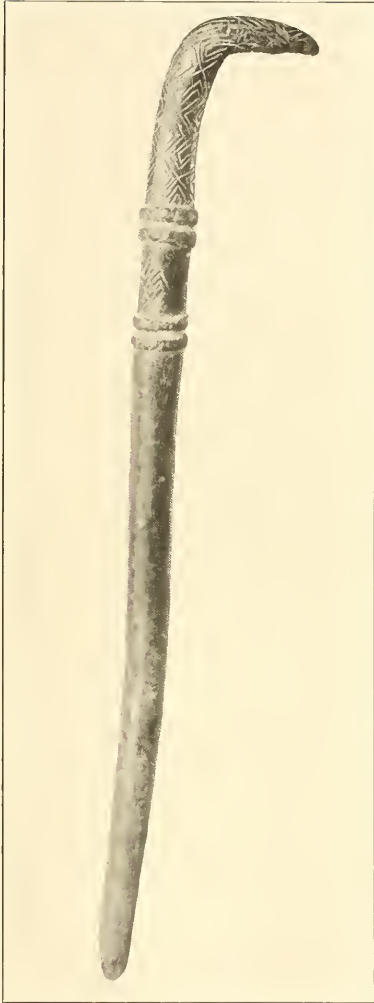
- a* Necklace of stone beads with attached shell pendant, Utuado, Porto Rico
b Cut-shell objects, Cueva de las Golondrinas, Porto Rico
c Carved shell (Archbishop Meriño collection); one-half natural size
d, d', d'' Swallow stick made of bone (Archbishop Meriño collection); one-half natural size
e Shell mask (Latimer collection)
f Frontal amulet made of shell (Archbishop Meriño collection); three-fourths natural size
g Frontal amulet made of bone (Archbishop Meriño collection); one-half natural size



WOODEN STICKS AND IDOLS

a, a', b, c, d Ends of curved swallow sticks (Imbert collection)
e Decoration on the side of one of the swallow sticks
f, g Idols, Jamaica, British West Indies
h, h' Front and side view of idol, Jamaica, British West Indies





a



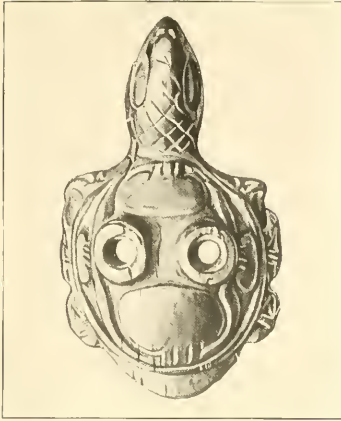
b



b'

WOODEN BATONS

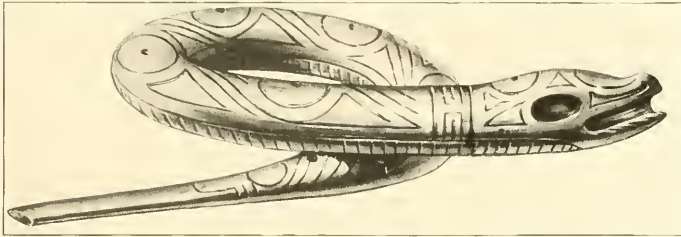
a Ornamented planting dibble (Neumann collection); length 3 feet 6 inches
b, b' Lateral and front views of the end of a ceremonial baton (Gabb collection); length 27½ inches



a



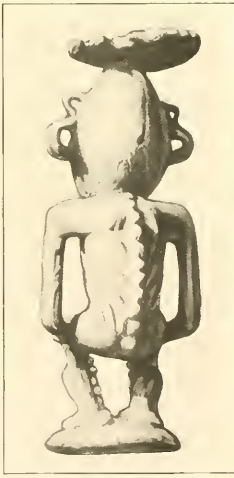
a'



b



c



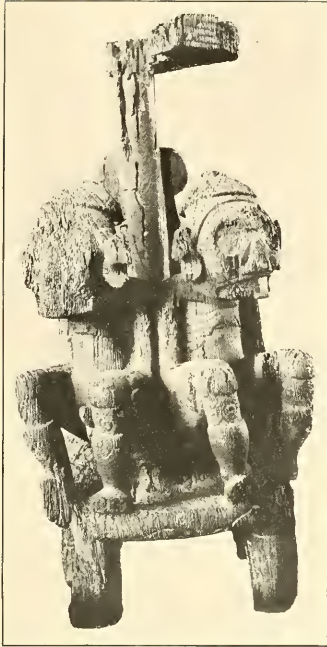
c'



c''

WOODEN IMAGES AND IDOLS

a, a' Lateral and top views of turtle, St Vincent (Ober collection); 4 1/2 by 2 1/2 inches
 b Serpent, Santo Domingo (one-half natural size)
 c, c', c'' Front, back, and lateral views of idol (Imbert collection); approximately 2 feet high



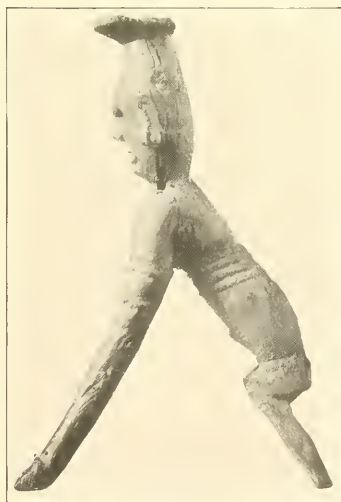
a



a'



b



b'

WOODEN IDOLS

a, a' Front and lateral views of twin idols seated in a *duba*; height 31 inches
 b, b' Front and lateral views of idol, Caicos, or Turks Island; height 43 inches



a



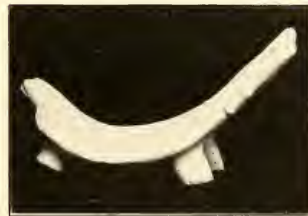
a'



b'



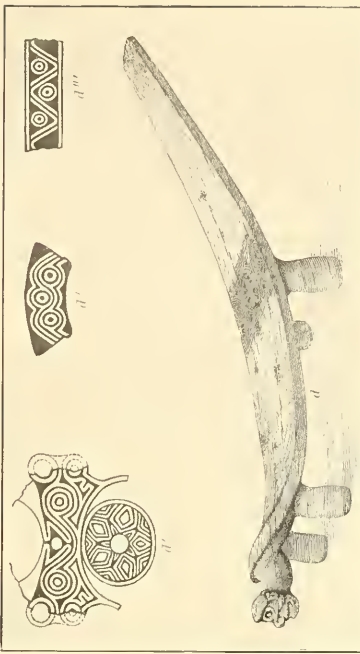
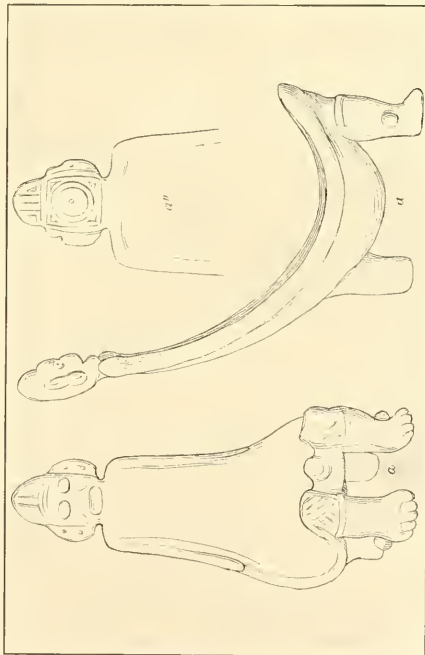
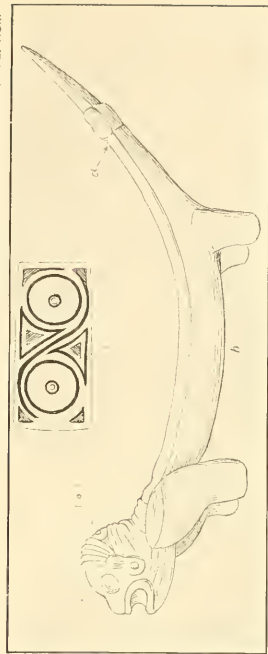
a''



b

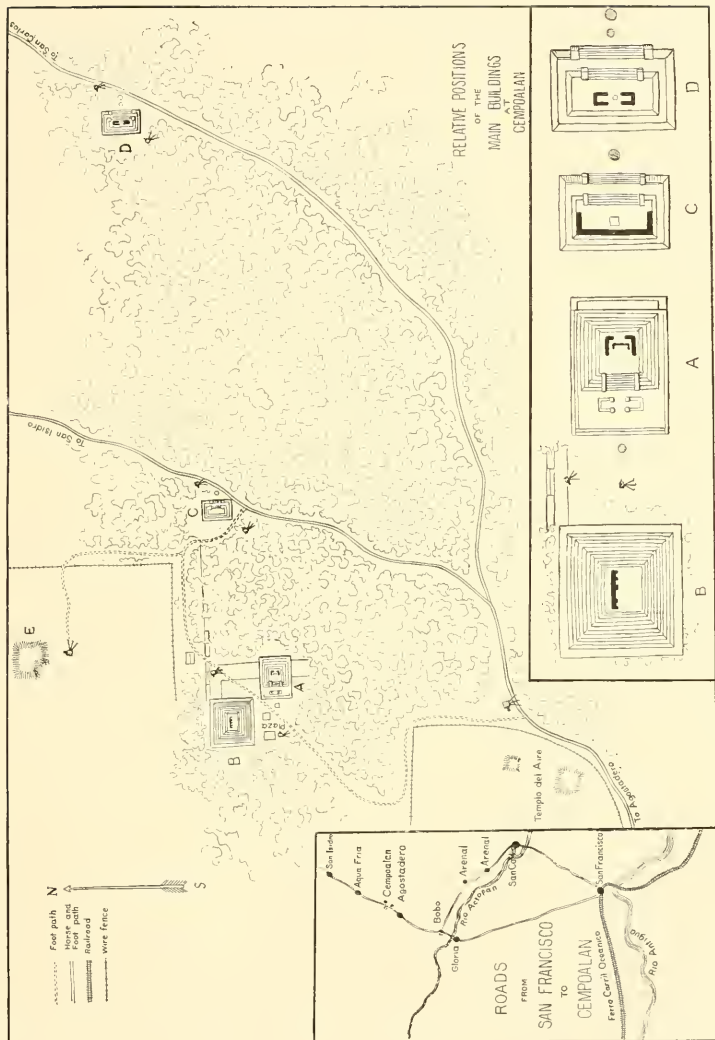
STONE STOOLS, OR DUHOS

a, a', a'' Top, lateral, and bottom views (Latimer collection); 7½ by 4½ inches
b, b' Lateral and front views of *duho* with back (Latimer collection); 11½ by 5½ inches

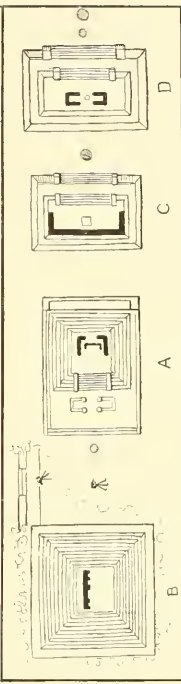


WOODEN STOOLS, OR DUHOS

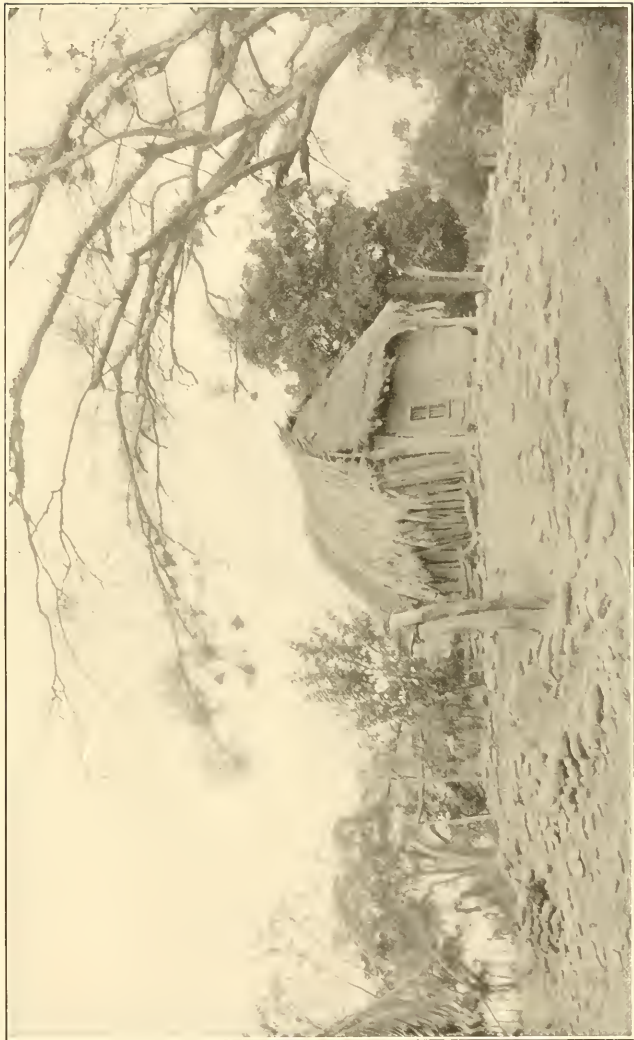
a, a', a'', Front, lateral, and back views of *duho* of human form (Dr. Loomis collection)
b, b', Front and lateral views of *duho* of human form (Dr. Loomis collection)
c, Top view of specimen from Turks Island; one-fifth natural size
d, Lateral view; the accompanying figures, *d', d'', d'''*, show incised decoration (Latimer collection)



RELATIVE POSITIONS OF THE MAIN BUILDINGS OF CEMPOALAN

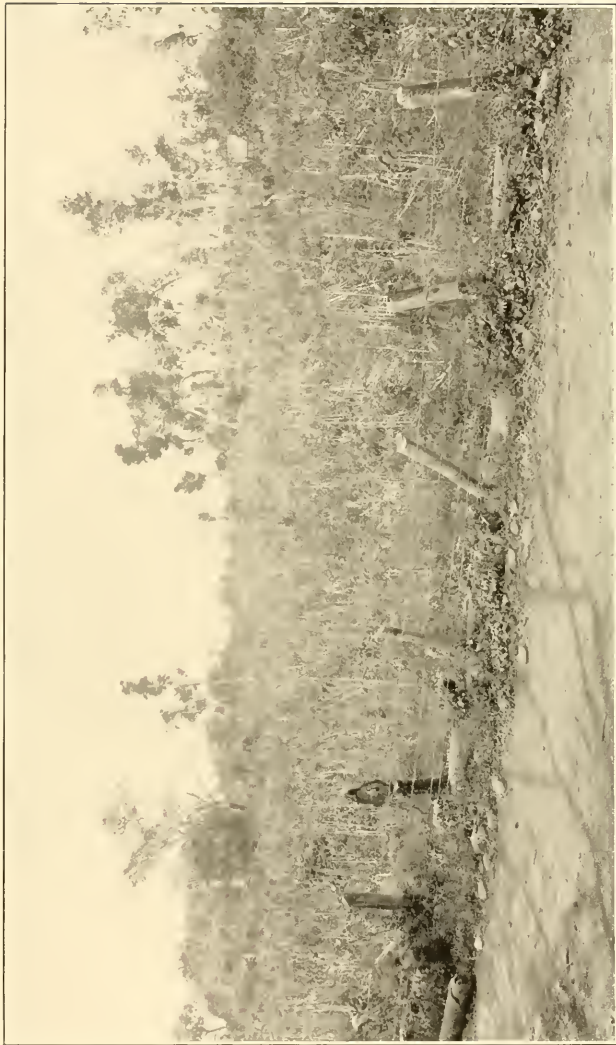


RELATIVE POSITIONS OF THE MAIN BUILDINGS AT CEMPOALAN



MODERN BUILDING ON FOUNDATION OF CEMPOALAN PYRAMID

Photographed by Ximenes



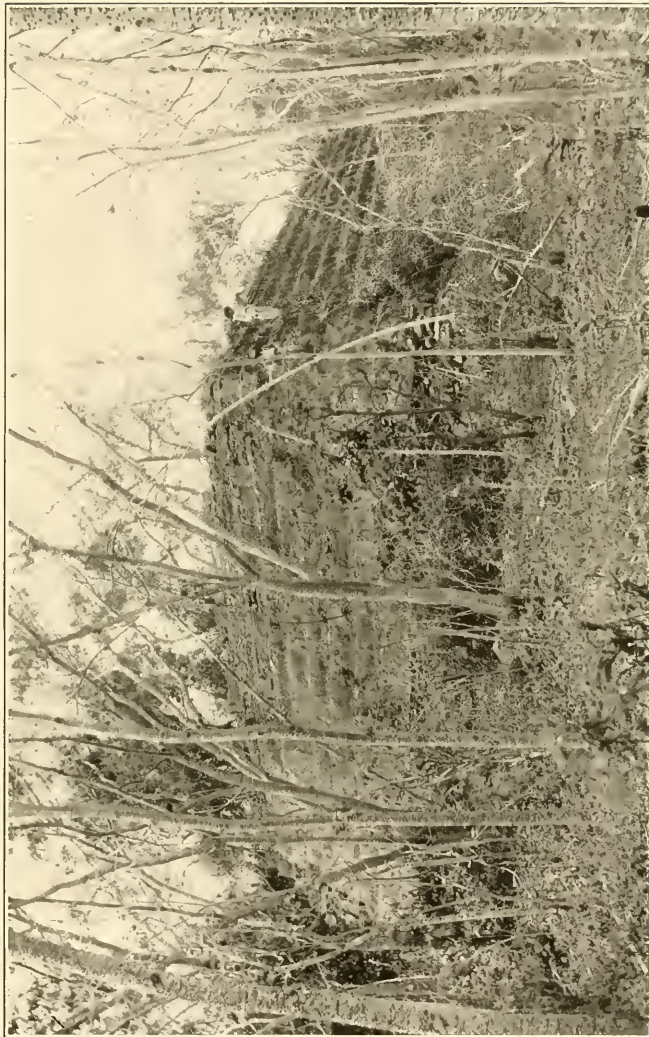
Photographed by Ximenes

TEMPLO DEL AIRE



BUILDING A. CEMPOALAN

Photographed by Ximenes



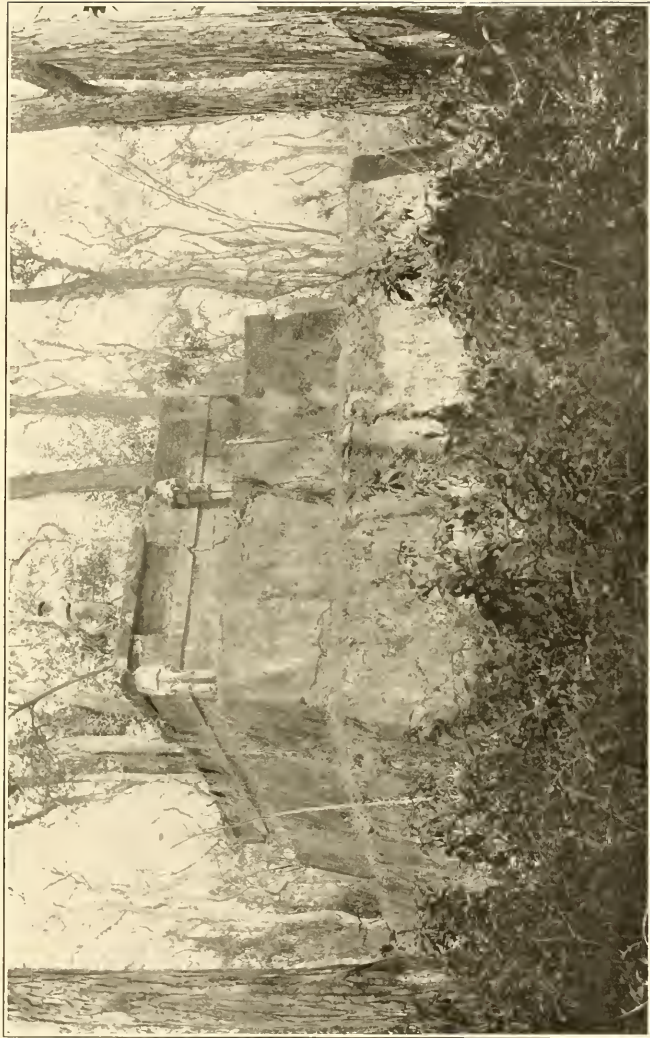
Photographed by Ximenes

BUILDING B, CEMPOALAN



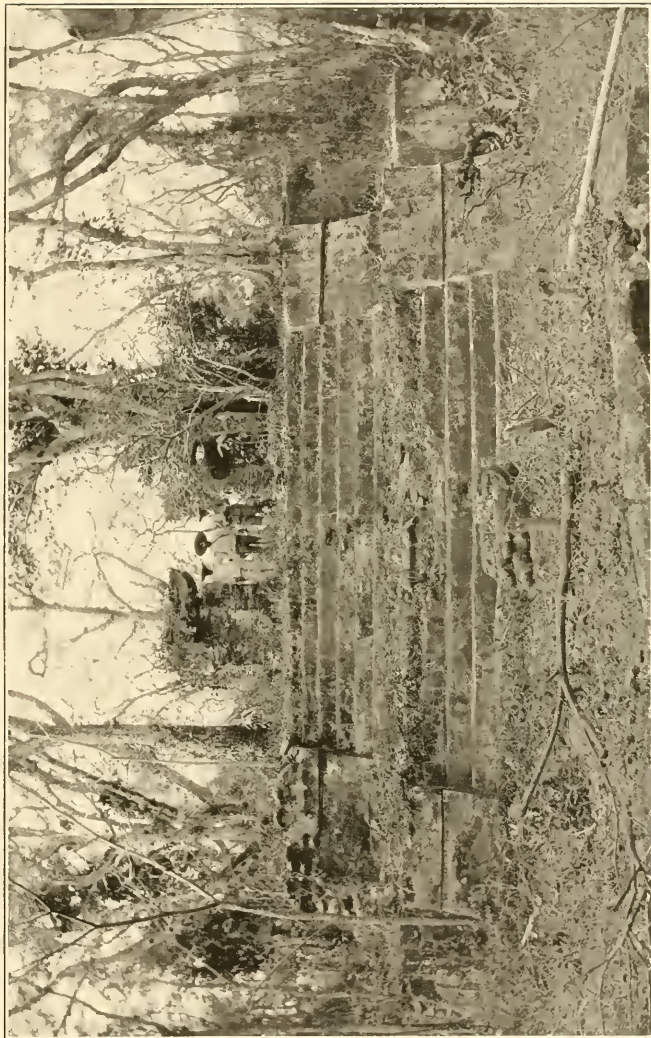
Photographed by Nimenes

BUILDING C, CEMPOALAN (FRONT VIEW)



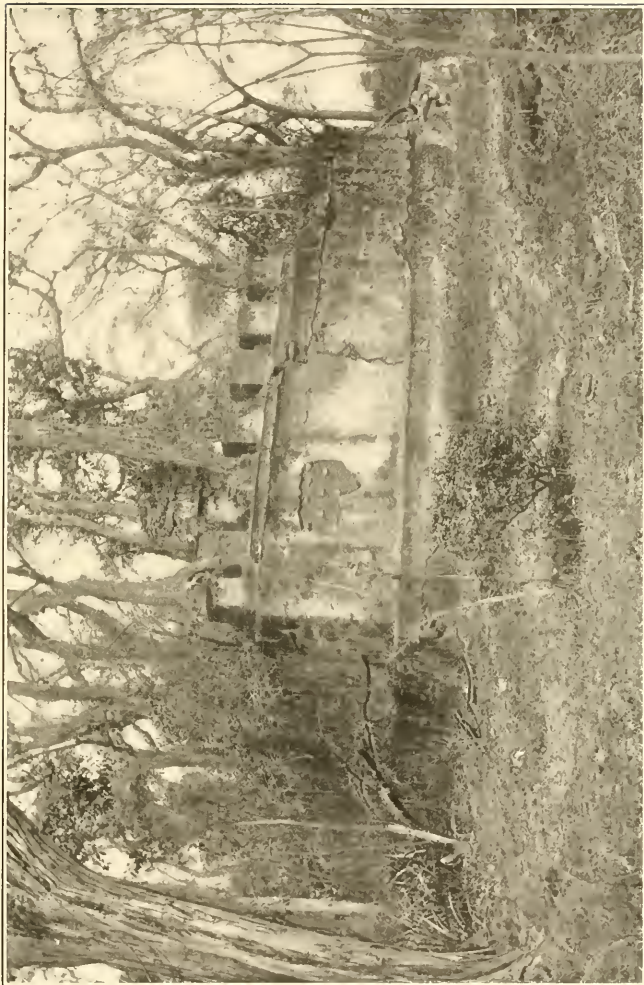
BUILDING C, GEMPOALAN (LATERAL-REAR VIEW)

Photographed by Ximenes



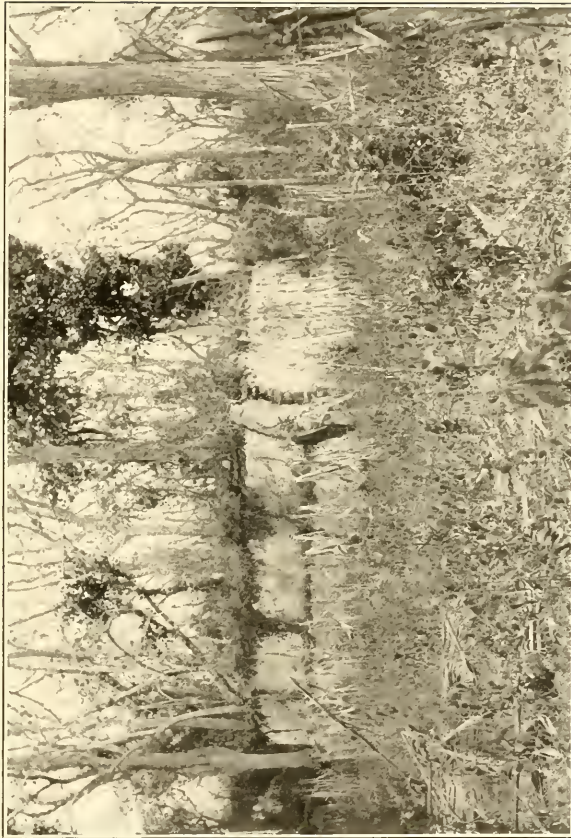
BUILDING D, CEMPOALAN - FRONT VIEW

Photographed by Ximenes



BUILDING D, CEMPOALAN (LATERAL-REAR VIEW)

Photographed by Ximenes



Photographed by Ximenes

BUILDING E, CEMPOALAN



MOUNDS AT TEXOLO

Photographed by Ximenes



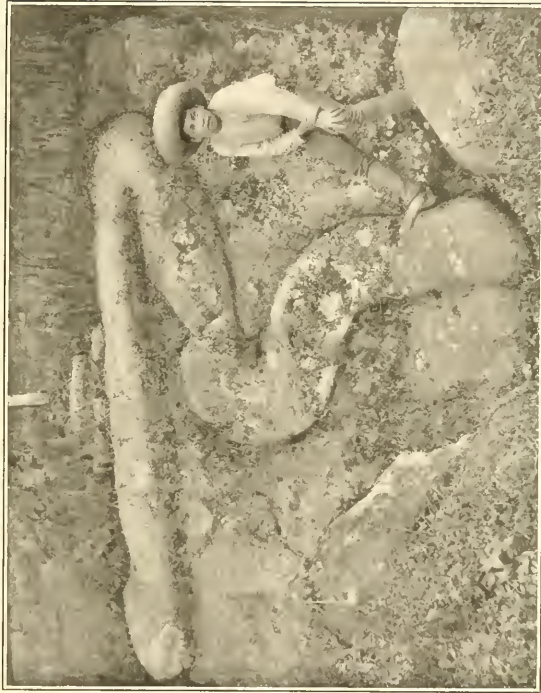
MOUNDS AT TEXOLO

Photographed by Ximenes



STONE IDOL AT XICO VIEJO

Photographed by Ximenes



Photographed by Tarja

STONE SERPENT AT FUENTE





a

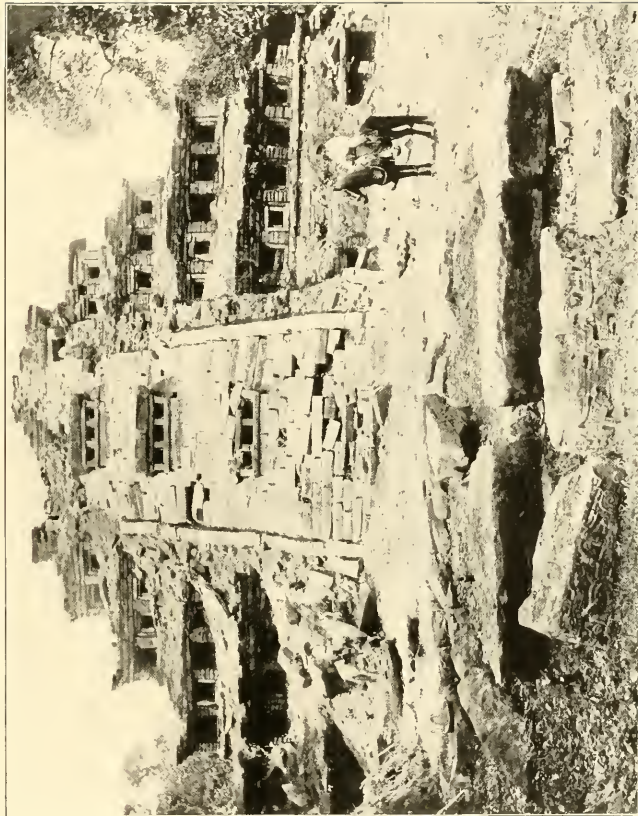


b

Photographed by Ximenes

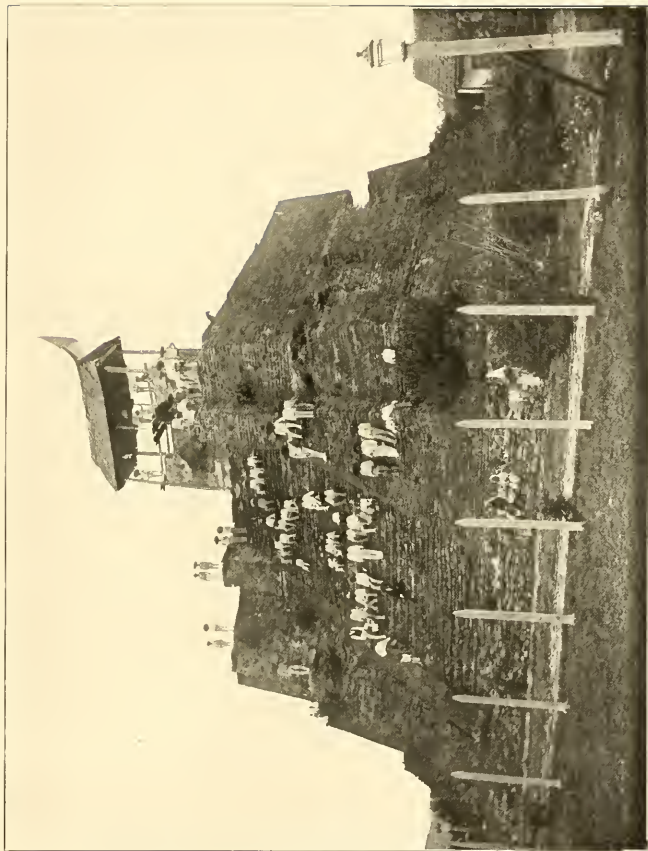
VIEW OF XICO VIEJO

- a* The pyramid
- b* The old houses



Photographed by Ximenes

VIEW OF EL TAJIN, PAPANTLA



CASTILLO DE TEAYO



a



b

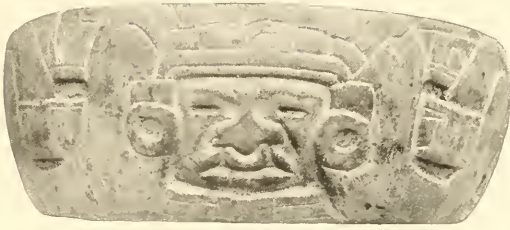


c

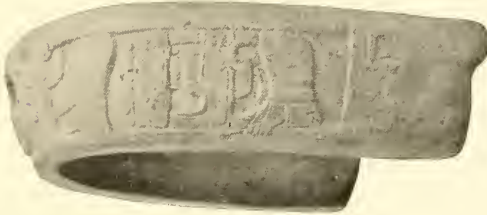
Photographed by Ximenes

STONE YOKES OF THE FIRST GROUP (DEHESA COLLECTION); SIZE 16 BY 14 INCHES

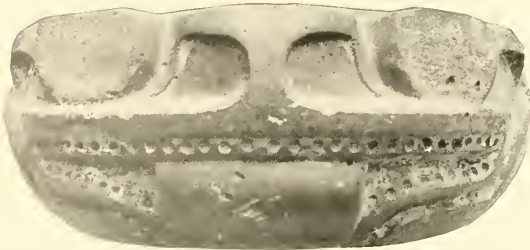
a Front view
b Side view
c Top view



a



b



c



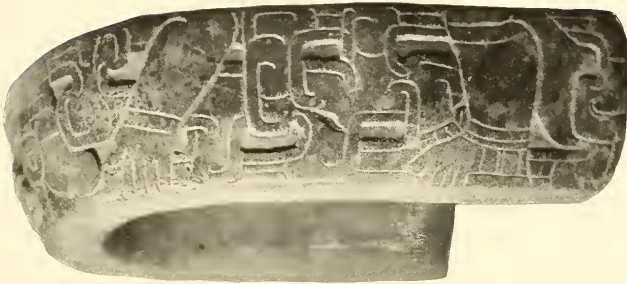
Photographed by Ximenes

STONE YOKES OF THE FIRST GROUP (DEHESA COLLECTION)

- a* Front view; width 4 inches
- b* Side view of *a*; width 4, length 16 1/2 inches
- c* Front view
- d* Side view of *c*



a



b



c

Photographed by Waite

STONE YOKE OF THE FIRST GROUP (SONORA NEWS COMPANY COLLECTION)

a Front view
b Side view
c Base view



a'



b



a



c



d

STONE YOKES OF THE FIRST GROUP (DEHESA COLLECTION)

a, a' Front and lateral views of same yoke
b, c, d Side views of other yokes

Photographed by Ximenes



a



b

Photographed by Ximenes

PADDLE-SHAPED STONES (DEHESA COLLECTION)

- a* Front view, size 32½ by 8½ inches
- b* Front view, size 33 by 9 inches

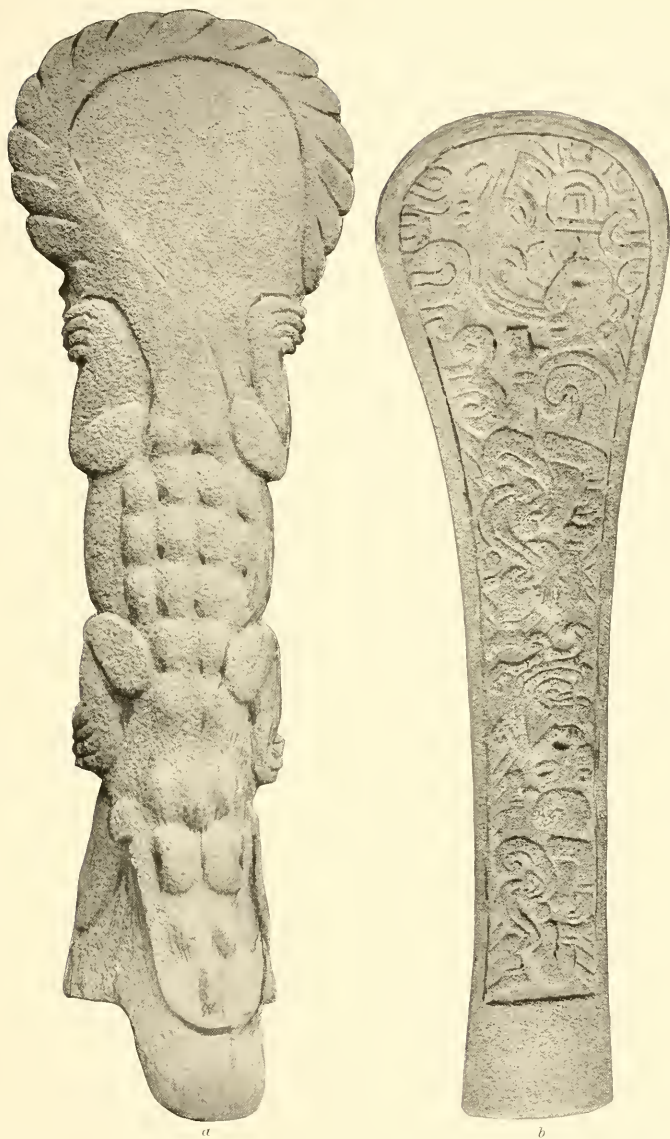


Photographed by Ximenes

PADDLE-SHAPED STONES (DEHESA COLLECTION)

a Front view; size 28 by 9 inches

b Front view; size 26½ by 9½ inches



Photographed by Ximenes

PADDLE-SHAPED STONES (DEHESA COLLECTION)

a Front view; size 27 by 9 inches

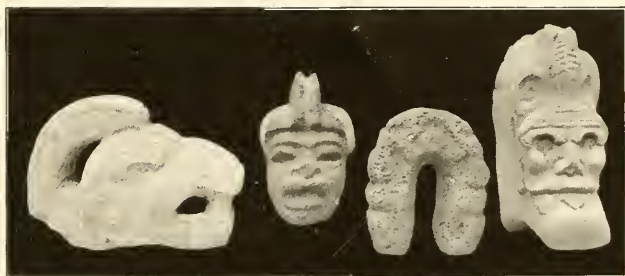
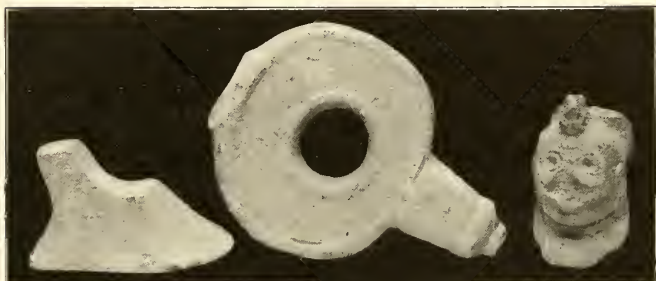
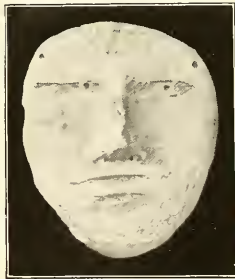
b Reverse view of *a*, Plate CXVI

*a**b**c**d**e**f*

Photographed by Ximenes

FAN-SHAPED STONES (DEHESA COLLECTION)

- a, b* With human face
c With bird head and body
d 2½ by 7¼ inches
e 1½ by 8¼ inches
f 2¾ by 8¼ inches

*c**d**a**e**b**c**f**i**h**j*

Photographed by Ximenes

STONE HEADS, MASKS, AND IDOLS (DEHESA COLLECTION)

- a* Small yoke: 5 by 4 inches
b Flatiron-shaped specimen: 9 by 5½ inches
c Perforated specimen: 14½ by 10 inches
d, e, f Heads: *e*, 8 by 3½; *d*, 6 by 3½ inches
g, h Padlock-shaped specimens: 8 by 4½ inches
i Seated figure: 12½ by 7 inches
j Mask: 6 inches



a



b



c



d



e



f



g



h

STONE HEADS (IDEHESA COLLECTION)

- a, b. Heads of clowns; 9 by 5½ inches
- c, d. Heads of old men; 9½ by 6 inches
- e, f. Heads of young men; 10 by 8 inches
- g, h. Flat-topped head; 13 by 8½ inches
- i. Bird-shaped specimen; 10½ inches

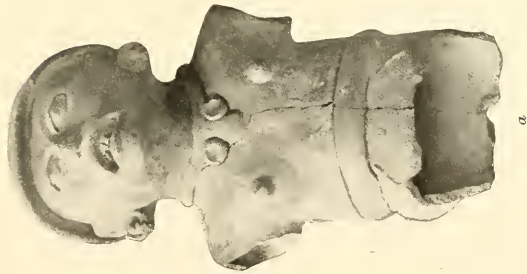
Photographed by Ximenes

*e**a**d**g**c**f**b*

Photographed by Ximenes

CLAY IMAGES FROM CEMPOALAN AND VICINITY (DEHESA COLLECTION)

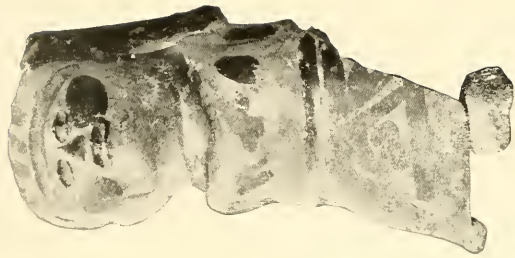
- a* Effigy
b Head of Rain god; 7½ by 6 inches
c Rain god; 13 by 7 inches
d, e Bowls in shape of death's head; 8 by 8 inches
f Head of Flower goddess; 8 by 6 inches
g Small painted effigy; 7 by 3 inches



a



b



c

POTTERY IMAGES FROM BARRA CHACHALICAS
a b Front and side view of figure without arms or legs
c Faded edge of female figure

Photographed by White



Photographed by Waite

CLAY OBJECTS FROM CEMPOALAN

- a, b, c, d, e, f* Small heads
- g* Well-made large head
- h* Painted head
- i, j* Heads from panel of temple

*a**e**b**d**c**f*

Photographed by Ximenes

POTTERY FROM OTATES (ESTEFANIA COLLECTION)

- a* Decorated bowl, from exterior
b Decorated bowl, from exterior
c Painted bowl, showing spiral ornament
d Deep bowl, side view
e Bowl with interior decorated with picture of monkey
f Bowl with exterior decorated with death's head



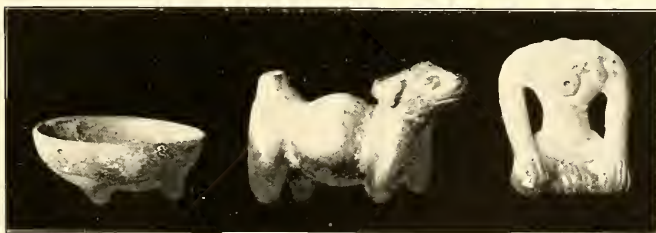
POTTERY OBJECTS FROM NEAR JALAPA AND TAMPICO (ESTEFANIA AND PRESSLEY COLLECTIONS)

- a* Classic pitcher with graceful handle
- b* Food bowl with three legs
- c, d* Bowls with two handles
- e* Bowl with legs
- f, g, h* Clay heads
- i* Clay effigy of a human being
- j* Section of a bowl
- k* Rude effigy of human being
- l, m* Dippers



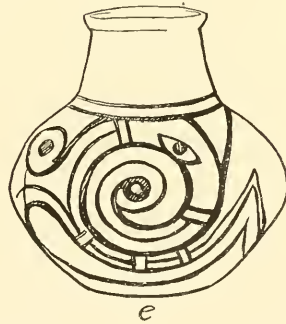
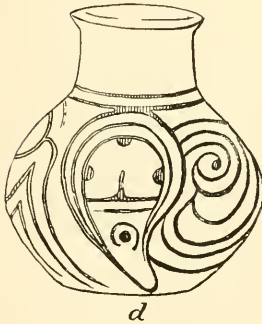
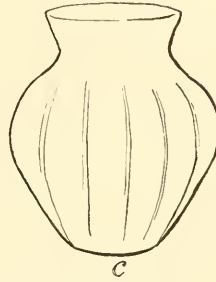
POTTERY OBJECTS FROM PANUCO VALLEY (PRESSLEY COLLECTION)

- a* Melon-shaped specimen
- b* Melon-shaped specimen with handle
- c* Double-handled vase with human face
- d* Globular dipper with human face
- e, f, g, h* Clay heads
- i, j* Unknown objects
- k, l* Figurines
- m* Seated figure
- n* Paint mortar

*a**b**c**d**e**f**g**h**j**l**k**i*

POTTERY IMAGES FROM THE PANUCO VALLEY (PRESSLEY COLLECTION)

- a, b, c, d* Figurines
e, f, g, h Clay heads
i Seated figure
j Figurine smoking (?)
k Unknown quadruped
l Bowl with legs



POTTERY FROM CHAMPAYAN LAGOON, TAMPICO

- a* Vase with meridional swelling
b Vase with painted curved designs
c Undecorated vase
d, e Painted vases