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ARCHEOLOGICAL INVESTIGATIONS IN THE COROZAL DISTRICT OF BRITISH HONDURAS

By THOMAS AND MARY GANN

In the Corozal District of British Honduras, between the valleys of the Rio Hondo and the Rio Nuevo, there lies a group of large mounds and banks known to the Indians as Nohmul, or Great Mound, so called because one of the pyramidal structures, of which a great number are found in the neighborhood, is the loftiest in the district, reaching a height of 95 feet.

Two seasons were spent in field work on this and the adjoining structures, of which the following paper is a record.

The main group, hereafter called Nohmul, occupies a space measuring approximately 550 yards from east to west by 500 yards from north to south, and consists of a congeries of banks and mounds surrounding rectangular spaces, or plazas, the whole covered with tall forest trees whose branches, decorated with air plants and ropes of lianas, formed a leafy roof over our camp, almost impervious to both rain and sunlight.

The great central structure towering over us just to the north of camp consisted of a rectangular substructure measuring 52 by 50 yards, and 26 feet high, which supported on its southern margin a steep pyramidal mound 68 feet high. From the northwest and southwest angles of the substructure extensions projected toward the west, that on the north being 6 yards long, that on the south 20 yards, and to the west of these a low bank or mound enclosed a rectangular space, which with the substructure and extensions formed a long narrow plaza. West of this was a further series of spaces enclosed by long mounds, or banks, bounded toward the south by a bank 200 yards in length running almost due east and west, the height of which varied from 3 to 6 feet. A short distance south of this the land became lower, ending in a swampy stretch upon which no mounds or other structures had been erected.

To the east the group was bounded by a series of long, low mounds which varied a good deal in height and width, the average height being approximately 6 feet and the average width 25 feet.

The plaza in which our camp was pitched was bounded to the north by the great substructure, to the west by a mound 65 yards long by 20 yards broad and 22 feet high, to the south by a similar mound, and to the east by two mounds, one 30 yards long and the other smaller and almost round.

About a furlong to the southwest of the group was a small water hole, only a few yards in diameter and about 1 foot deep, from which very evil-tasting water was obtained. By the side of this, however, and connecting with it, was a reed-covered swamp of considerable extent which had, until it became silted up, probably formed a lagoon of moderate size from which good water could be obtained.

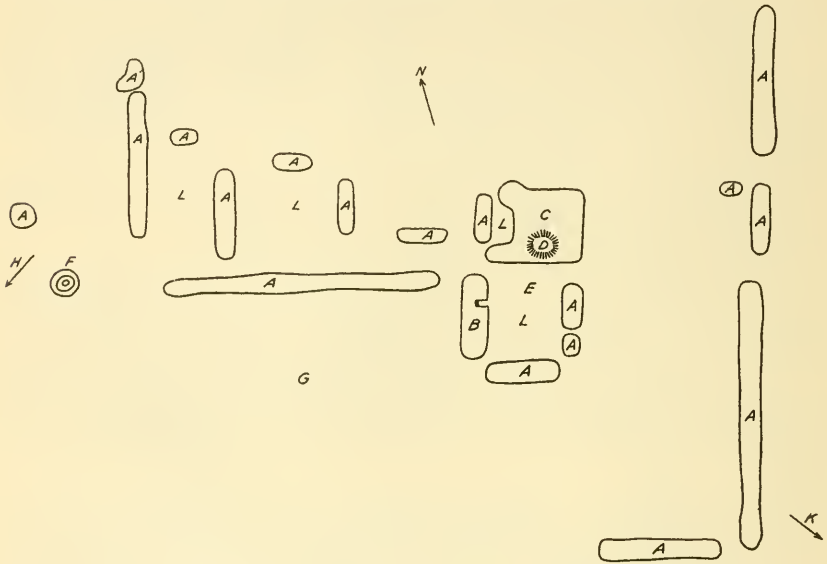


FIGURE 1.—Rough sketch plan of Nohmul. *a*, Mounds and banks. *b*, Mound to the west of camp showing excavation on its eastern side. *c*, Large substructure on which stood the burial mound. *d*, Burial mound. *e*, Camp. *g*, Low-lying swampy land. *h*, Arrow pointing to western water hole and swamp. *i*, Arrow pointing to lagoon. *l*, Plazas.

To the southeast of the group was a fine deep water hole, extending over several acres, the greater part of which was now covered by a suddlike growth over which ran numbers of little spur-wings. It must contain fish, as a large heron was wading about in the clearer part, so tame that it allowed us to get within a few yards before winging off lazily. This fine lagoon probably influenced the old Maya in their choice of a site, as it provided an unlimited supply of water, which we found excellent not only for washing but for drinking, and may also have served as a fish pond, or reservoir, as did those of Angkor for the Khmer.

The large mound occupying the south side of the substructure (fig. 1) had partially collapsed on its northern face, about 20 feet from the

summit, exposing part of a well-built wall of squared blocks of limestone.

On the same side of the mound, midway between the summit and the base, was found the midsegment of a large stela, approximately 3 feet long by 3 feet broad, partially buried in the vegetal mold which covered the whole structure. This was levered over with sticks in the hope that on its under surface might be found a hieroglyphic inscription recording a date. Considerable disappointment was experienced, however, on finding only three layers of tough stucco covering the under surface, on which it is not improbable that an inscription had originally been painted, as happened not infrequently among the later Maya. The discovery of well-built walls near the summit of the mound gave us hope that they might form part of a burial chamber containing grave furniture similar to that found some years ago in the large mound forming part of a group in this region, close to the Rio Hondo. Clearing was carried out around the walls, and they were found to enclose a small chamber 14 feet long by 5 feet broad and 4 feet high, which contained nothing except squared blocks of limestone, fragments of cement, and rubble and earth. It seemed probable that the roof had at some period caved in, exposing the chamber, the contents of which had been removed by Indians of the neighborhood, and that at a later period a further slide had taken place from the top of the mound, filling in the burial vault with rubble, stones, and earth. As will be seen later, this site was occupied during the Maya Reoccupational Period, probably up to if not subsequent to the conquest, by people in a far lower state of culture than the builders of the mounds containing burial cysts, and it is probable that they may have been responsible for the removal of the contents of this chamber.

Excavation was continued beneath the stucco floor of the chamber, no easy matter, as the mound was solidly constructed of squared blocks of limestone held together by mortar, forming a compact mass of masonry. On reaching a depth of 12 feet beneath the chamber floor and 37 feet beneath the summit of the mound, this was given up as hopeless.

On the following day a wizened old Indian named Hau, who had been engaged on the work, came up and with an air of great mystery said that during the night he dreamed that he had discovered a great treasure of jade and painted pottery in a chamber in the mound; also, would we permit him to go on digging on his own account, and what reward would he receive if he found the treasure.

He had the reputation of being something of a prophet among the Indians, though I suspected him of having secreted some valuables from the excavation while our backs were turned, but rather than

lose this I gave him leave to dig on his own account, promising a reward for anything exceptionally good found.

The old man had a little son of 10 years who accompanied him everywhere, who he admitted with a grin was a great thief and always in mischief, but when with him "a good boy". The same afternoon this little lad turned up in camp with a message from his father saying he had "found the bones of a giant". On following him up the mound, there, true enough, at the bottom of the excavation, 11 feet below the floor of the upper chamber, was a stone cyst measuring 8 feet by 3 feet by 2½ feet high, in which lay the skeleton, fully extended upon its back, of an adult male between 68 and 69 inches in height. Hau had evidently partially opened this cyst while digging on the previous day, kept the knowledge to himself until we gave up further excavation as hopeless, and then invented the dream to obtain the promise of a reward, hoping to find jade and painted pottery in the cyst.

The long diameter of the upper chamber ran north and south, but of the lower one east and west, and the lower lay at the southern extremity of and 11 feet below the upper chamber.

It was built of well-cut blocks of limestone and roofed with flat flags.

The corpse had evidently been wrapped in fine palm-leaf matting at burial, as traces of this were found over the upper part of the body, light and fragile as thistledown and disintegrating almost at once when exposed to the air. Beneath the skeleton, on the floor of the cyst, was a quantity of soft reddish-brown material which may possibly represent the decayed remnants of the garments in which the corpse was clothed at burial, beneath the palm-leaf matting wrapping. The same condition was found by Merwin at Holmul, where traces of red and brown material were found around several of the skeletons and traces of casts from the palm-leaf matting upon the stucco in contact with them. The legs had been encased in stucco up to the pelvis and traces of the matting were very clearly imprinted on this. At Holmul, in Guatemala, Skeleton I in Group III, Ruin X, appears to have been buried under precisely similar conditions. The corpse lay upon its back, arms at the sides and legs extended, while the lower parts of the legs were covered with lime mortar. In this case also the bones were those of a young adult, and vestiges of the perished grave clothes lay beside it.

The skeleton was moved with difficulty, as the bones though perfect were extraordinarily fragile. Unfortunately, though well packed the skull was badly broken up on its various journeys by pack mule, motor boat, and train. Fortunately, however, the two measurements of most importance were taken on the spot, namely, the maximum

length, which was 17.2. cm, and the maximum breadth 15.3 cm. The report by Mr. Cave, Assistant Conservator of the Royal College of Surgeons, on such parts of the skeleton as reached him is as follows:

The skull has been crushed and is now a mass of small fragments impossible of restoration. Certain recognizable portions recur, however—the frontal and two petromastoids, most of occipital, the mandible, the hard palate and maxillae, the basi occiput. The rest of the vault and base is excessively comminuted.

The highly developed mastoids are very powerfully developed: the glenoid fossa is capacious, with a vigorous anterior view. The occipital condyles are large and well formed; like the joint surfaces of the anterior two vertebrae they are quite healthy. The frontal fragments reveal a vertically disposed forehead, very rudimentary supraorbital processes, and relatively small frontal sinuses. Large healthy tooth sockets characterize the maxillary fragments. The apertura pyriformis has a sharp inferior margin (i. e., no simian groove). The mandible is a large, coarsely built, and powerful bone, with a square-cut ascending ramus. Its teeth are all healthy and of good size and shape: the molars show a very slight crown wearing.

The available anatomical evidence indicates the individual having been a young, active, adult male, of good physique. The nature of the remains precludes any attempt at reference to racial type, as also any opinion as to whether artificial cranial deformation had been present or not.

This skull differs very markedly from those presently to be described, which are highly brachycephalic and typically Maya. Moreover, the individual buried here was, in his height, 68 to 69 inches, at least 5 inches taller than the average Maya height, which ranges from 60 to 64 inches in different localities.

The cranial and skeletal differences are so marked as to suggest an individual of a race differing from the Maya, at least of the Re-occupational Period.

No grave furniture accompanied the corpse, with the exception of a single small round bead of bright green jade which was found resting on the upper cervical vertebrae and had probably been placed in the mouth of the corpse at burial. The practice of placing a piece of jade in the mouth of the corpse, though not uncommon in Mexico, was of rare occurrence among the Maya of the Old Empire. Among the Aztecs a piece of jade was placed with the ashes of the dead in a jar to represent the soul.

The cementing down of the lower part of the body is a peculiar custom but not unknown in other parts of the Maya area, as Merwin in excavating a Maya mausoleum at Holmul found the same procedure carried out in several of the interments.

This great mound with its extensive substructure must have taken a considerable time to build, as at a rough computation between 20 and 30 thousand tons of material had been used in their construction, a considerable proportion of which consisted of well-cut blocks of limestone which, with only stone tools available, must have re-

quired for their manufacture either a great number of workers or a long period of time.

It may be that, like the Egyptian and Khmer rulers, the Maya Halach Uinic, or high priest, commenced the construction of his mausoleum some time before his death, or his remains may have been transferred from some other grave for secondary burial in the pyramid. It is unfortunate that the contents of the upper chamber had been removed, as it is now impossible to say whether it also was a burial chamber or merely a receptacle for the grave furniture of the occupant of the lower chamber. Merwin, in the oldest burial at Holmul, found the bones in a small cyst only a little more than a foot below the main chamber, which contained only pottery of a high class. At San Antonio, Quintana Roo, Mexico, some of the burial mounds contained three superimposed chambers, one of which usually held the corpse, the others the grave furniture.

It is possible, of course, that this pyramid was not intended primarily for sepulchral purpose, but that the upper chamber had contained a number of dedicatory offerings placed beneath the stela, a fragment of which was found on the side of the mound, where it had evidently fallen from the summit. This procedure is found at Copan, where in substelar vaults beautiful objects of jade and pottery are found.

Should this be the case the single interment beneath the vault may represent a sacrifice made at the dedication of the stela beneath which it was buried.

A trench was dug through the long mound, or bank, bounding the west side of the plaza, immediately south of the mound last described.

This was 195 feet in length, 60 feet in breadth, and 22 feet high. It was covered by an accumulation of vegetal mold averaging 1 foot in thickness, beneath which it was constructed of tightly packed blocks of limestone and marl dust. The trench was dug nearly to the center of the mound, or down to the ground level, and 30 feet from its edge a wall 6 feet high, built of well-cut blocks of limestone, was uncovered, evidently the wall of some large building. It rested on a solid masonry foundation, also 6 feet high, which had probably formed part of the substructure upon which the building stood. This wall continued unbroken by any opening along the short distance that its course was followed.

An excavation was made in a second of these long mounds, to the west of the large burial mound, and here precisely the same condition was encountered; a long, well-built wall running nearly through the center of the mound, standing on a solid substructure, which with the building on top of it had been completely covered over at a later period to form the present long mound.

The following is an account of the excavation undertaken in the mounds in the vicinity of Nohmul.

MOUND 1

This mound was situated about half a mile east of Nohmul. It was pyramidal in shape, 20 feet high, and very steep sided. The top of the mound, to a depth of 6 feet, was constructed of rubble, stones, and marl dust firmly packed together. At this depth a small chamber was encountered. It was built of roughly squared stones and measured 140 inches from east to west by 46 inches from north to south and 47 inches in height. It was roofed by a crude cantilever arch. The mound all around the chamber was built of well-cut limestone blocks averaging 12 by 8 inches by 4 inches in thickness, held together by friable mortar.

A few weeks after opening the chamber it was found to be occupied by a host of small frogs and tiny black lizards, though how they got in was a mystery unless they were born there, and certainly food and escape must have presented a serious problem, as there was nothing edible in the chamber, while a 2-foot perpendicular leap separated them from the outside world.

The floor of the chamber was covered with a layer of fine marl sand 6 inches thick, in and on which were found a number of objects, including human bones in a very poor state of preservation. Beneath the loose sandy layer was a cement-like floor of mortar and stones, and underneath this a layer of black vegetal mold varying from 6 to 10 inches in thickness, which rested on the substructure of the mound solidly built of blocks of limestone, many of them squared, the interstices between which were filled in with marl dust and friable mortar.

A single skeleton lay on its back nearly in the center of the floor, in the extended position, the head pointing toward the east. The corpse had apparently been placed on top of the loose sandy layer in which most of the objects accompanying it were partially or completely buried. The fragments of the skull lay about 3 feet from the eastern wall of the chamber. At each angle of the eastern end 20 large, roughly spherical polished green jade beads were found, and just in front of the skull two fresh-water shells, *Ampullaria insularum*, known locally as hooties, one large, one small, both perforated by a large round hole. On the left side of the skull were 10 crude chert spear heads and one very finely chipped flint implement 9 inches in length (pl. 1, 1). This, with its needlelike point, sharp cutting edges, and bent handle would have been singularly well adapted for carrying out human sacrifices by the method, commonest among the Aztecs, of severing the costal cartilages in

order to extract the victim's heart through the wound. Beside this lay sherds of a cylindrical polychrome lacquer vase of thin, fine-grained pottery, painted red, yellow, black, and brown, on which is depicted, on a white background, a male figure with a broad collar surrounding the neck, and the face projecting from the open jaws of a serpent. He wears a short kiltlike maxtli, and around both

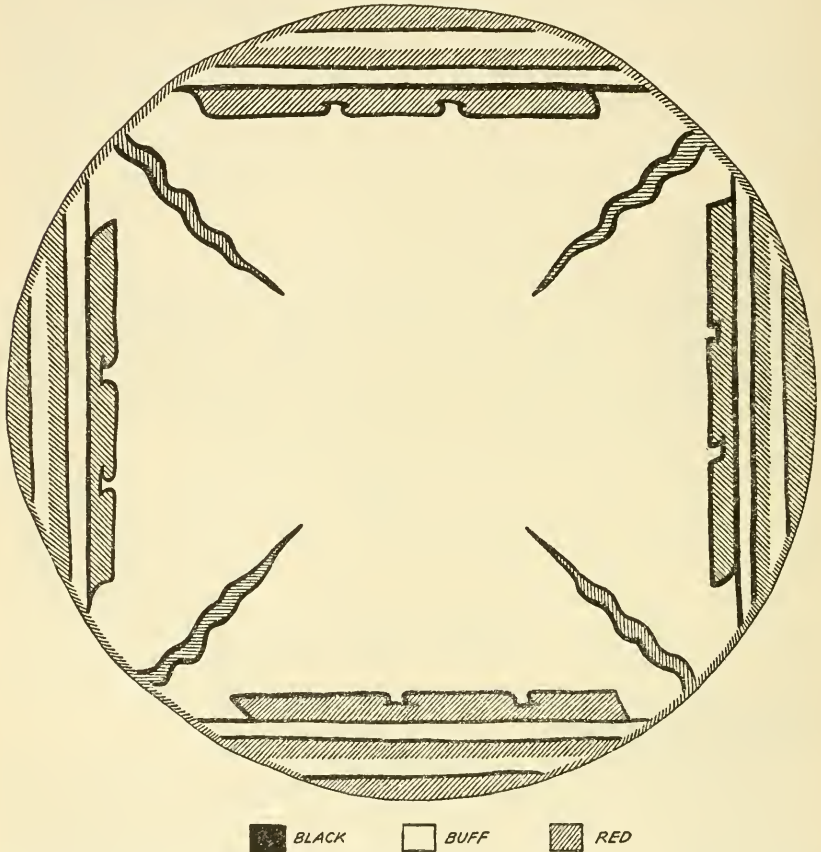


FIGURE 2.—Polychrome disc found in fragments in chamber Mound 1. $19\frac{1}{2}$ by $4\frac{1}{2}$ inches.

wrists are strings of beads. His left hand holds two cords and his right a staff, or spear, decorated with a plume of feathers, in front of which is a very elaborate feather-decorated object, possibly part of the headdress of a second warrior standing in front of him (pl. 2, 1). Judging by the curve of this sherd the diameter of the vessel would have been about 18 cm. It was unfortunate that the other fragments of this vase were missing, as it must have been one of the finest examples of polychrome pottery yet found in the Maya area.

To the right of the skull were fragments of a large round polychrome lacquer dish, 50 cm in diameter and 12 cm deep, more frag-

ments of which were found near the left foot, though not enough to complete the entire dish (fig. 2). It was decorated in red, yellow, and black, and on the interior, on a yellow background, a geometrical ornament was repeated four times. Apparently these two vessels were regarded as so valuable that even the fragments were buried with their owner, for too much of both vessels is missing for this to have been an instance of the usual "killing" of objects placed with the dead. By the side of both the right and the left arm were found a number of chert spear heads, similar to those found near the head, and over the front of the chest a pendant of exceptionally fine dark-green mottled jade (pl. 3, 1). This is 14 cm long by 2.5 cm broad, and is carved to represent a human figure, evidently the model of a Maya stela, though without a date, as on the sides and back are portrayed only the dress and ornaments of the individual. The headdress consists of the head of some mythological monster; the eyes are wide open and staring, the pupils formed by hooks; large oval ear ornaments are worn, and from the upper lip depends a hook-shaped labret. The forearms are held over the chest, the hands placed back to back. The maxtli is held up by a broad, elaborately decorated belt, and falls to the feet both in front and behind. The pendant has been bored with remarkable skill through its long diameter, the perforation from one end meeting that from the other almost exactly in the center. It closely resembles one found beneath a stela in Old Copan dating probably, according to Morley, from the second Katun of Bactun Nine. The unusual position of the hands, held back to back over the chest, is characteristic of the oldest monoliths at Copan, so that on stylistic grounds it would appear that this ornament belongs to a very early period, and that its provenance may have been the city of Copan, from whence it may have passed as a trade piece to Nohmul.

The discovery of very fine pieces of jade carving at small provincial sites, too insignificant, one would suppose, to be able to afford such valuable jewels, and far removed from the great Maya cities where one would naturally expect to find them buried with important personages, or with ceremonial caches beneath stelae, is often puzzling to the archeologist. There are two possible explanations: either they may have been dug up from their original sites by a later people or they may possibly have been robbed from merchants traveling along the trade routes which existed between such cities as Copan and Quirigua to the south, Palenque and Piedras Negras to the west, and Uaxactun and Tikal to the east. Close to the right side of the pelvis was a large, coarse, basin-shaped vessel full of charcoal and charred fragments of human long bones. It was partially buried in the sand layer, and on endeavoring to remove it, it

broke into innumerable fragments, so friable that it was found impossible to join them, as the basin originally had been very imperfectly fired. By the side of the right knee were two round buttonlike objects of shell, one plane and 3.5 cm in diameter, the other 2.5 cm in diameter, with a round boss on one side. In the same neighborhood an Indian digging a post hole found, about a foot below the surface, a similar shell disk with an elaborately decorated human head outlined upon it in shallow lines (pl. 3, 3). It measures 3.5 cm in diameter and resembled so closely one found at Holmul by Mervin that they are not improbably the work of the same artist.

At the feet were a number of small pieces of jade, evidently fragments of broken ornaments, and at the extreme west of the chamber, buried in the sand covering the floor, nearly 200 obsidian knives and cores, two small cowrie shells perforated for suspension, and a string of 13 very small perforated red shell disks made from spondylus shells, with which was a single very thin circular ear plug of bright green translucent jade, 3.5 cm in diameter. It is curious that in opening Maya graves one so frequently comes across single ear ornaments; this may possibly be due to economy on the part of the friends and relations of the deceased; it is, however, I think more probable that a single ear plug was worn to designate the rank of the individual, for the same practice is still in common use among the Santa Cruz Indians of Yucatan, whose chiefs wear a single large gold ear pendant which differs in pattern according to their rank.

The spear heads, the implement which, as suggested, may have been used in opening the chest of the sacrificial victim, and the obsidian knives were all freely smeared with a paint composed chiefly of red ocher, and the same substance in the form of powder had been scattered over them, though it was absent from the other objects.

This mineral has been found at other Maya sites associated with flint and obsidian knives and weapons, and it may possibly have been used to symbolize the blood with which their use was usually accompanied.

Almost the whole of this mound was later dug down. It was found to be solidly built throughout of blocks of limestone, the interstices between which were filled with friable mortar and marl dust. Near the summit of the south side was found a thimble-shaped object of jade with a narrow projecting rim around the opening, probably worn either as a labret or ear plug.

Toward the center of the south side, buried in the structure of the mound, three rather remarkable vessels were found placed close together. The largest of these (pl. 4, 5) was a nearly spherical

vessel made of thin, fine pottery covered with a lacquer of very pleasing dark orange color and so brightly polished that it appeared to have been glazed. The vessel was 27 cm high by 23 cm in its greatest diameter, the opening surrounded by a narrow rim 9 cm in diameter. The base was so pointed that the vessel could not stand alone, and was used necessarily with some sort of chuyub, or ring, such as the modern Maya employ for supporting utensils made from calabashes, though this, which may have been made of woven split cane or some such perishable material, was not found with it. That such a support was used is evidenced by the striations penetrating the lacquer all around the base of the vessel. The second vessel was a small bowl of hard, thin ware, 14 cm in diameter by 6.5 cm deep. The basic color is a bright orange red over which has been applied a black slip which has worn off, or been deliberately removed in places, producing a very pleasing mottled effect in two colors. Both the outer and inner surfaces of the bowl had been treated in this way, and both are polished. The third vessel (pl. 4, 1) is made of fine, thin pottery with a yellowish red veneer and high polish. It measures 17 cm in length and 11 cm in depth, and is an almost perfect reproduction of an *Ampullaria insularum* shell. On the upper part of the vessel, as if emerging from the shell opening, is a well-modeled human head wearing a conical headdress, with a twisted band around the forehead and large round ear ornaments.

A similar vessel, but of much cruder workmanship, and belonging to the Maya Reoccupational Period, was found on an island in the Lagoon of Om, in British Honduras; this also represents a human head emerging from the opening of some univalvular shell.

MOUND 2

This mound was situated to the east of Nohmul, close to the little Indian settlement of Santa Rita. It was 22 feet high, conical in shape, and its steep sides were covered with dense undergrowth which had to be removed before work began on it. The cap of the mound beneath the vegetal mold, which had collected to a depth of several inches all over it, was composed of irregular blocks of limestone, the interstices between which were filled with marl dust to form a very solid structure. This was removed to a depth of 5 feet 6 inches, where a floor of flat, smooth stucco, averaging 8 inches in thickness, was encountered. About halfway between the summit of the mound and the stucco floor a single interment was found, the bones of which were in a very poor state of preservation, as they were not enclosed in any cyst or chamber but were in direct contact everywhere with the mound structure itself. They were so fragmentary, indeed, that it

was impossible to say in what position the body had originally been buried. Close to the skeleton was a single shallow dish, 32 cm in diameter. It was of the coarse pottery covered with a red slip such as was manufactured by the Maya from the earliest times until after the conquest.

Beneath the stucco floor and in contact with its under surface was a layer of black earth varying from 3 to 6 inches in thickness, on removing which a row of large, roughly squared stones was discovered, forming the roof of a chamber running down through the center of the mound. The chamber measured 65 by 50 inches by 9 feet in height and was divided into four compartments, nearly equal in size, by three floors of flat stone flags placed across its lumen. All these compartments were loosely filled with fine marl sand, and each contained portions of human skeletons, so fragmentary that it was impossible to determine the position of the corpse at burial. With each skeleton was a single pottery vessel but no other grave furniture of any description.

In the uppermost cyst, immediately beneath the roof, was a very fine polychrome lacquer bowl, or dish (pl. 2, 5) 33 cm in diameter and 9 cm high. It is of composite silhouette outline with flat annular base, and is decorated in red, yellow, and black. The interior is colored yellow throughout, and on the outer surface of the rim and the upper surface of the flange is a geometrical figure repeated twice, the two parts being joined by a highly conventionalized bird. This vessel was recovered whole.

In the second cyst were found fragments of human long bones together with a very fine polychrome lacquer bowl (pl. 2, 3 and 4) 25.5 cm in diameter by 13 cm high. It is of composite silhouette outline with flat annular base, and is supported on four hollow pyramidal legs. It is decorated in red, yellow, and black on an orange background. On the interior of the bowl are represented two intertwined crested serpents, and both the interior and exterior of the rim are ornamented by geometrical devices repeated six times on the former and five on the latter. This bowl was unfortunately broken in excavating it, and had not been "killed" before burial as was the case with much of the ceramic material removed from this site.

In a small recess on the north side of this cyst, which was filled with marl dust, were fragments of human bones together with a single black lacquer bowl of composite silhouette outline (pl. 4, 2) with flat annular base and spout for pouring out the contents. This bowl had not been "killed" before burial, but was unfortunately broken in removing it, owing to the narrowness of the recess in which it lay and the tightness with which it was packed in its bed of marl dust and fragments. It measured 17 cm in diameter by 11.5 cm in depth

Almost exactly similar vessels, also in black lacquer, were found by Merwin at Holmul, and belong, according to Vaillant's classification, to Holmul III Period.

Fragments of human bones were found in recess 3 accompanied by a single small polychrome cylindrical vessel 11.5 cm high and decorated with geometrical devices in red, black, and yellow. In the lowest cyst, with fragments of human bones, was found a single shallow plate of porous pottery, 34 cm in diameter and 5.5 cm deep, of simple silhouette outline, standing on a flat base. The outside of this vessel was unpainted. The interior was colored and highly polished. On a dark-brown background were outlined in black a number of curious amoeboid objects, each differing from the others in shape. This is a form of ceramic ornamentation never previously encountered in the Maya area. The bottom of the lowest cyst was covered with a layer of large, roughly squared blocks of limestone beneath which was a layer of black alluvial earth varying from 2 to 6 inches in thickness. Below this the base of the mound was solidly constructed of irregular blocks of limestone and marl dust.

These layers of black alluvial earth, called "ek lum" by the Maya, of a type which is regarded by the modern Indians as the most suitable soil on which to cultivate their maize crops, were found in nearly all the large burial mounds, forming a thin layer either above or below the vault containing the corpse. They cannot have added to, but must rather have detracted from, the stability of the mounds, which were built of squared blocks of stone held together by loose mortar, or of irregular blocks of limestone the spaces between which were filled in with marl dust, and it is possible that they had some ceremonial significance, possibly connected with fertility, or survival after death, which the exceptionally fertile earth may have symbolized.

A curious incident occurred in connection with the excavation of this mound. Digging in the white marl under the grilling rays of the tropical sun is exhausting work, and the men had left a large tree on the side of the mound whose overhanging branches partly shaded the opening of the chamber while they were at work within it.

One day a large hawk flew over, holding a small snake with its beak and one claw, and made toward the tree as if about to settle upon it and enjoy its meal, but spying the men, it dropped the snake and flew off with an angry scream. The snake, which proved to be a small 2-foot rattler, fell into the hole, to the consternation of the laborers, but was soon dispatched as it was too badly injured to be dangerous. Of the six burials which this mound contained, the bones of all were in such an advanced stage of decay that it was impossible to say whether the interments were primary or secondary.

The burial which had taken place in the cap of the mound, between the summit and the roof of the burial chamber, was probably of later date than those in the chamber itself, though unfortunately the single vessel which accompanied it affords no basis for period fixing on stratigraphic lines, for this type of vessel is found throughout all periods of the Maya occupation. In the chamber itself the vessels found with the four upper burials belong undoubtedly to Vaillant's Holmul III period, while the vessel found in the lowest cyst is unusual in shape and unique in decorative motif, though a bowl of this shape was found by Thompson at Tzimin Kax in the Cayo District of British Honduras. At the same site were also found polychrome bowls of compound silhouette outline closely resembling the vessel found in compartment 2 in the burial chamber of Mound 2, except that they stand on three and not four legs. It seems probable that all the burials within the cyst took place at the same period, and that the mound was built to contain the remains of five persons who had been buried elsewhere. At a later date the height of the mound was increased by the addition of a cap of limestone blocks and marl dust in which a sixth burial was made, but how long after the first five it is impossible to tell.

MOUND 3

This mound was situated close to Mound 2, in a corn plantation which had first been cleared of bush. It was in the shape of a truncated cone, 15 feet in height and 180 feet in circumference, and was very solidly built throughout of limestone blocks, rubble, and marl dust tightly packed together, which rendered its excavation very difficult. Near the center of the mound, at a depth of 8 feet from the surface, a smooth, hard, level stucco floor was encountered, 6 inches thick, and at a depth of 4 feet beneath this, tightly packed within the material of which the mound was constructed, three pottery vessels were found. The first of these (pl. 2, 2) was a polychrome vase decorated in red and black on an orange yellow background. It was spheroidal in shape with an unusually high, somewhat everted rim, and measured 13 cm in its greatest diameter by 12 cm in height. The rim was decorated by a band composed of alternate red and black rectangles, and on the outside of the body, also in red and black, were depicted two highly conventionalized serpents. The second vessel was a shallow polychrome bowl with composite silhouette outline and low annular base, measuring 28 cm in diameter by 11 cm in depth. It was decorated in red and black on an orange background. Around the outer surface of the rim were depicted two highly stylized parrotlike birds and two ornamental geometrical devices (fig. 3).

Within this bowl were 60 spheres of imperfectly baked clay, each 1.75 cm in diameter, which had probably been used as markers, or counters in some game, for not having been bored they could not have served as beads. The third vessel was a shallow circular orange-colored saucer, 15.5 cm in diameter. All these vessels were polished and the last two had evidently been broken before interment, as the fractured surfaces clearly indicated. This mound was excavated to the ground level but nothing further was discovered within it. Judging from the analogy of other similar mounds excavated in the vicinity, notably at San Andres and Pueblo Nuevo, it would appear that this was originally a house mound, the stucco floor representing

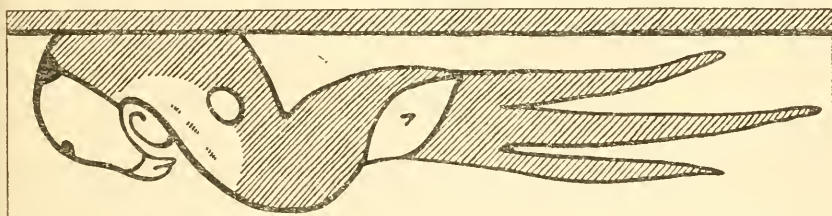
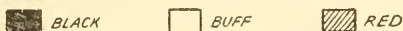
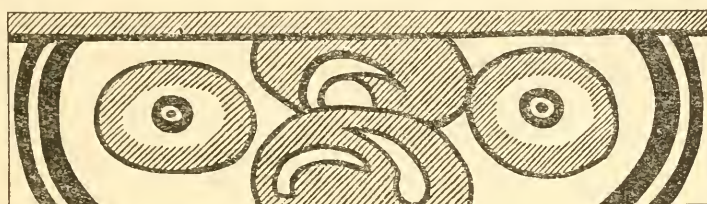


FIGURE 3.—Decoration on exterior of polychrome vessel from Mound 3.

the floor of the house raised on a low, solid substructure. On the death of the owner, among the Maya, we know that not infrequently he was buried beneath the floor of his house with some of his possessions, after which a mound was erected on the site of the house. Usually with burials of this kind bones are found, which in this case may have disintegrated so completely that not even the teeth, which outlast all other skeletal remains, survived. The absence of other objects, such as ornaments, weapons, and implements used by the deceased during his life and buried with him for use in the next world is, if this be a house-mound burial, far more difficult to explain.

The second vessel appears to indicate that this burial belonged to the Holmul III period, though the spheroidal vessel with high rim does not occur at Holmul.

MOUND 4

This mound was situated about a mile to the east of Nohmul. It was roughly pyramidal, 30 feet in diameter by 5 feet in height, and beneath the cap of vegetal mold was constructed of tightly packed rubble, marl dust, and limestone blocks. Near the center, almost on the ground level, skeletal remains were found, in a very advanced stage of decay. The corpse appeared to have been buried lying on its back fully extended. With the bones were two rather curious vessels. The first was shaped somewhat like a champagne glass (fig. 4, *b*) with a hollow cylindrical stem. It measured 18 cm across the rim of the cup and 15.25 cm in height. The lower end

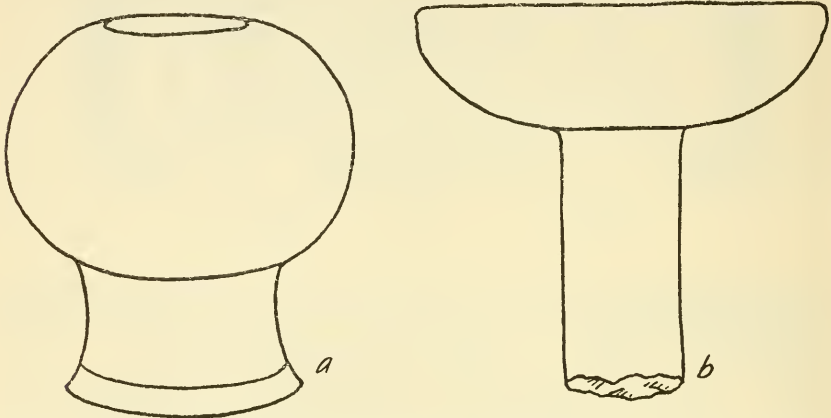


FIGURE 4.—*a*, Vessel standing on high annular base, from Mound 4. *b*, Champagne-glass-shaped censer from Mound 4.

of the stem had evidently been closed at one time, as the edges were rough where the bottom appeared to have been broken away. The whole of the interior, both of the cup and the stem, was covered with the black deposit one finds in the interior of censers used for burning "pom", or incense made from the gum of the white acacia, such as was employed by the pre-Columbian Maya in their religious ceremonies, and is still in use by their modern descendants. It was probably used as a hand censer, as it could not have stood upright on the narrow base afforded by the stem, unless this were much larger than the bore of the latter.

The second vessel (fig. 4, *a*) was almost spherical in shape, with a round opening above and supported below on a high annular base the margin of which was everted to form a secure stand for the bowl to rest upon. The total height of the bowl was 15.25 cm. This is the only vessel supported on a high annular base found at this site. Similar vessels were found by Merwin in the oldest burials at Hol-

mul, and by Thompson at Cahal Cunil. They are ascribed by Vailant to Holmul I Period. They were probably evolved from the pot with hemispherical base which could only stand upright on a ring stand of pottery, plaited split cane, or sisal. It would seem to have been simpler to make an ordinary flat-bottomed vessel, but it may be that some ceremonial significance was attached to this shape, as a good many of them bear traces of having been used as censers, and from them were undoubtedly developed the hourglass censers of the Maya Reoccupational Period. The interior of this vessel was also blackened from the smoke of pom, and it had evidently been a small standing censer. Both vessels were of rough unpainted pottery such as was used by the later Maya in the construction of the censers decorated with a human figure, or face, found so commonly associated with late burials all through this region. Vessels of both these types are extremely rare in the Maya area, and no other objects were buried with this individual who may possibly have been a Men or Maya village priest of the lowest order.

MOUND 5

This mound was situated close to Mound 4, which it resembled closely in size and shape. It also was built of tightly packed rubble and marl dust beneath the superficial layer of vegetal mold. Near the center of the mound, on the ground level, parts of a human skeleton were found in a very fragmentary condition, beside which was a spheroidal bowl of red polished pottery 18 cm in diameter standing on a low annular base with a large round opening at the top.

This vessel is almost exactly similar to those used by the modern Maya to keep their tortillas or corn cakes warm. The cakes are wrapped in a napkin and placed within the pot, the corners of the napkin being folded over them to retain the heat, and turned back every time the diner wishes to extract a fresh tortilla.

Close to this pot was a very fine ax head of flint (pl. 1, 3, *d*) 25.5 cm in length by 7 cm in breadth, the cutting edge of which was still polished from use. Near the ax head was a small leaf-shaped spear or javelin head of flint 7.5 cm in length.

This, from its contents, would appear to have been the burial mound of an adult male whose tortilla pot, ax, and spear head were placed beside his corpse.

MOUND 6

This mound was situated close to Mounds 4 and 5, which it closely resembled in size, shape, and construction. At the center of the

mound, on the ground level, fragments of human bones were found, close beside which was a large shallow round bowl of polished red ware, 41 cm in diameter, resting on a low annular base. With this was the upper part of the figurine of a woman, from the waist up (pl 3, 2, c). Part of her headdress had been broken away, but enough remained to show that below a beaded band her hair was parted in the middle and brushed to each side over her ears. She wore large round ear ornaments in her ears and a high-necked garment over which her arms were folded, the hands grasping some round object held over the center of her chest. This figurine had originally been painted blue over a white wash, but a good deal of the color had worn off, especially in the exposed places. It appears to have been originally part of a whistle, made in a mold, and is almost exactly like those found in such large numbers at Lubaantun in the southwest of British Honduras, and may not improbably have been derived from that city, which appears to have been the center from which this type of whistle figurine was distributed over a wide area. It was found at Lubaantun that the sex of the occupant of a grave was frequently indicated by the sex of the figurine buried with them, which latter could always be determined by the nature of the clothing and ornaments. If this holds good for the Nohmul area, this mound would be the grave of a female.

The three mounds last described form part of an extensive group in the same neighborhood. No other mounds in this group were excavated, as they all appear to be burial mounds of persons of the lower class, with whom it is unlikely that objects of any great value or interest would have been buried. The soil in the neighborhood is very fertile, and particularly well adapted for the cultivation of maize. On and around it today are scattered a number of little Maya villages containing from 2 or 3 to 15 or 20 houses, whose inhabitants live entirely on the produce of their milpas, or corn plantations, in which they cultivate not only maize but sweet potatoes, beans, pumpkins, plantains, oranges, bread fruit, cotton, and tobacco, which render them almost, and at a pinch entirely, self-supporting and independent of supplies from outside their own villages.

Owing to its fertility this area has probably been occupied from early Old Empire days up to the present time, and the burial mounds scattered over it may cover a period of 10 centuries or more. Vaillant places vessels with higher annular base in Holmul I Period, the pottery of which possesses many characteristics of Lothrop's Q complex class, to which he ascribes a very early date. The only vessel of this type found at Nohmul, however, belongs to a very late period, and may even be slightly post-Columbian.

MOUND 7

This was a small mound situated on the savanna to the east of Nohmul. It was 5 feet high and approximately 25 feet in diameter. In all these mounds it was difficult to estimate accurately their original size, for whereas the rains of many wet seasons had reduced their height by washing material from the top, they had at the same time added to their breadth by depositing it at the base of the mounds.

The mound, beneath an outer covering of vegetal mold, was composed of rubble and marl dust, mingled with a good deal of soil. Resting on the summit, covered only by the mold which had accumulated over them since they were deposited there, were fragments of a human figurine in coarse pottery, which had evidently formed the exterior decoration of a late Maya censer. The body of the figurine and the censer to which it belonged had been broken into small pieces and scattered broadcast over the surface of the mound, but the head, which was well modeled, with applique ornaments and ear plugs, was almost intact (pl. 5, 2); it was 11.5 cm wide between the outer edges of the ear plugs. The upper part of the headdress was missing; the lower consisted of a flat, tight-fitting cap with double rows of beads covering the forehead, from which descended on each side tassels reaching to the upper margins of the large round ear ornaments. A stud was worn just over the nose which, unlike most noses found on the censers, was slightly retrousse; small labrets were worn at each angle of the mouth and the chin was remarkably pointed and prominent.

This mound was excavated to the ground level, and about 2 feet from the surface, almost in the center of the mound, a human skeleton was found, the bones of which were still in a moderately good state of preservation. The corpse had evidently been buried in the dorsal position and fully extended. The bones were those of a person of considerable age, certainly over 60 years, judging by the appearance of the inferior maxilla which was preserved almost entire. The body of this bone was greatly atrophied and the dental sockets completely obliterated, so that its possessor during life must have masticated his food with his gums alone. Moreover, the angle between the body and the ramus of the bone instead of being about 90° was about 130°. Not enough of the skull remained to render it possible to take accurate measurements, but enough was found to make it evident that it was decidedly brachycephalic in character. Beside the skeleton were a leaf-shaped flint spear head 15 cm in length, two small scrapers of chert, and a guitar-shaped copper depilatory 3.5 cm in length, covered with green incrustation. This

mound was certainly of much later date than most of the other burial mounds excavated, as the bones though placed under less favorable conditions, i. e., nearer the surface and covered by a mixture of earth and marl dust, were in a far better state of preservation than those found in the others; moreover, copper was unknown to the Maya of the Old Empire, and was introduced at a comparatively late date to the inhabitants of this area, as is shown by the fact that none of the other graves, though their furniture was far more elaborate, yielded a single object made of metal.

The only other instance known in British Honduras of broad-bladed tweezers for the removal of hair being found associated with a burial was at Santa Rita, where it was discovered in the grave of a woman, with an iron pyrites mirror, red ocher powder, and other toilet requisites. Unpainted clay censers, usually hourglass shaped and decorated on their outer surfaces with an elaborately clothed and ornamented human figurine, appear to have been manufactured by the late Maya inhabitants of this region in great numbers. They sometimes show traces of having been painted blue over a white slip, but the paint has usually worn off except in very protected places, where traces of it may be still discerned.

They are frequently associated with burial mounds, occasionally buried with the corpse, but more frequently broken and scattered over the surface of the mounds where after a time they have become covered with vegetal mold and so preserved both from the weather and from natives who pick them up as playthings for their children. They were invariably "killed", sometimes by being broken up into small fragments and strewn broadcast, so that it is impossible to reconstruct either censer or figurine, but at other times merely by breaking off the arms, legs, and hands and leaving them on the summit of the mound where they can be collected and partially restored. They are usually blackened inside by burning incense, and near San Andres one was found within a burial chamber still half full of unconsumed pom.

But these censers were employed for other than funerary purposes, as at a point about halfway between San Andres and Nohmul there is a very large mound built over the ruins of a stone building, probably a temple, all around the base of which innumerable fragments of both censers and figurines were found lying on the ground, covered only by a thin layer of vegetal mold, just as they were left by those who made sacrifice to their gods at the foot of the mound. Within a mile of this mound an Indian cultivating the soil near his hut came across a number of clay arms, legs, torsos, and other fragments, and we investigated the site. Over an area of from 60 to 100 square yards were scattered innumerable fragments of these censers, very

numerous toward the center of the area but becoming fewer and more scattered toward the periphery. We found fragments of at least 20 figurines, though there were probably many more; only in one case, however, were we able even partially to reconstruct the entire figure, so small and scattered were the fragments. It was 27 cm in height from the heels to the double band which surrounded the forehead, above which the upper part of the headdress was missing (pl. 5, 1). The nose was long and hooked. In the right ear was a large round ear ornament; that on the left side was missing. The front of the chest was covered by two large round medallions, and from the sides of the arms, reaching to the elbows, projected ornaments possibly meant to represent feathers; around the right wrist was a wristlet composed of spikelike objects, and around the upper part of the legs garters of similar objects, possibly shells or teeth. The left forearm and the front parts of both feet were missing. The right hand grasped what appeared to be the double handle of some object which had been broken off short.

MOUND 8

This mound was situated about 3 miles east of Nohmul, and when first found was covered with thick bush which had to be cleared off before excavation began. It was pyramidal in shape, 35 feet high, and approximately 300 feet in circumference. Excavation was commenced on the flattened summit and at a depth of less than 2 feet beneath the surface, covered by a layer of mixed rubble, marl dust, and blocks of limestone, a well-defined smooth stucco floor was discovered, from 4 to 6 inches thick, beneath which was a stratum of black earth also from 4 to 6 inches thick. Close to the under surface of this last layer, and near the center of the mound, a few decayed fragments of human bones were found, so disintegrated that it was impossible to tell from them the position of the corpse at burial; surrounding these bones and quite close to them, buried in the structure of the mound without any trace of a burial cyst, were five pieces of pottery.

The first of these was an unusually large bowl or dish of simple silhouette profile and oblique sides, orange red in color and polished. It was 47 cm in diameter by 6.5 cm deep. The second vessel was a polished black-ware bowl 37 cm in diameter by 7 cm in height, the sides of which were upright and the rim slightly everted. The third was a polished redware dish of simple silhouette profile, 35 cm in diameter by 7 cm deep. Its sides were slightly oblique and the rim everted.

All three vessels were badly pitted, probably by humic acid, and as they were firmly wedged in the tightly packed structure of the

mound, all were more or less broken during extraction. Pitting by humic acid takes place almost invariably in polished vessels placed superficially in mounds, where they come in contact with the earth, and are moistened by every shower of rain, but pitting of vessels buried at such a depth beneath the surface and protected in addition by a layer of practically waterproof stucco is difficult to account for, except on the hypothesis that the vessels had first been exposed on the surface of the mound and later buried. All these vessels had been "killed" by means of holes punched in their bottoms.

The fourth vessel was a round bowl 16.5 cm wide by 9.5 cm high. It stood on a low annular base and was made of polished red ware. Unlike the others, neither this nor the next vessel to be described showed any signs of pitting. The last vessel (pl. 4, 6) was a polished redware jar with spheroidal body and upright rim standing on a low annular base. It was supplied with three looped handles, probably for suspension, and measured 30.5 cm in width by 27 cm in height. The wide opening of this vessel, which was probably used to contain water, was covered by a scutate lid, the handle in the center of the convex surface of which was formed by a well-modeled parrot's head, the eyes of which were set far back in their sockets, and the pupils formed of small disks of pottery.

Three feet beneath the first interment, also centrally placed in the mound, fragments of the bones of another skeleton were found tightly packed in the structure of the mound, and beside these in contact with each other lay five flint implements.

The first of these was a large halbert-shaped weapon (pl. 1, 4) 47 cm in length by 20.5 cm in breadth, ending in a crescent above, below which on the opposite side of the weapon was a long keen-edged spikelike projection. The second was a broad, keen-edged knife, 20 cm long, made from a single unworked piece of flint, triangular in section, struck straight from the core. The third was a triangular spear head 19 cm long, with a handle 5 cm long, which might possibly have been used as a dagger, hafted and held in the hand. The fourth was a narrow leaf-shaped spear head, and the last an ax head with rounded cutting edge, 16.5 cm long.

Several exceptionally large eccentrically shaped flints very similar to the one above described were found a few years ago in a stone-lined burial chamber within a large mound in the neighborhood of Nohmul. Among these was a halbert-shaped implement 44 cm in length, similar in every respect to the one described, except that it was somewhat heavier and the crescentic projection, instead of being placed above the sharp spikelike prolongation, was placed exactly opposite to it.

The other objects consisted of the life-sized figures of a rabbit and a turtle, a very long spear head, an object 44 cm in length, the top

of which is hooked, the bottom pointed, and both edges serrated. and a crescentic implement 26 cm long by 17.5 cm wide, from the convexity of which project a long central spine and two smaller lateral ones. The only pottery vessel found in this mound was a small nearly spherical pot from the side of which projected the head of an animal with a long pig-like snout.

These are at the present time in the Liverpool Museum. Several very similar eccentrically shaped flint objects, the only history attached to which is that they were found in a cave on the Bay of Honduras toward the end of the eighteenth century, are now in the Wellcome Museum in London. It is not impossible that the provenance of these objects was the chamber within the great mound at Nohmul which, owing to a landslide on the side of the mound, had been exposed at some indeterminate period. From the chamber they may have been removed by the local Indians, from whom they found their way into the hands of mahogany cutters, for wood was being got out along the Nohukum River at that date, and there was no doubt considerable trade between the wood cutters and the Indians, some of whom worked for them clearing bush for truck passes. From the mahogany cutters they would probably have passed to the hands of some sailing ship captain by whom they were carried to England.

A scutate pot lid with a parrot's head as a handle was found by Merwin at Holmul, very similar to that from Mound 8, though the vessel to which it apparently belonged was a large round bowl of complex silhouette outline, with an external flange, standing on a flat annular base. A vessel shaped like a peccary's head was also found there, very similar to that already referred to with a piglike head. Both of these vessels are placed by Vaillant in the Holmul III period. No eccentrically shaped flints were found at Holmul, but as they are found so closely associated with vessels of the Holmul III type, it is only reasonable to suppose that they also belong to the same period.

MOUND 9

About 2 miles to the southeast of Nohmul was situated a large mound, 50 feet in height and about 100 feet in diameter at the base, covered with dense bush which had to be removed before excavation was possible. Through the north side of the mound a trench was dug to the center, to a depth of 30 feet. Four feet below the top a thin stucco floor was encountered, beneath which was a layer of black earth varying a good deal in thickness. Above this the cap of the mound was composed of marl dust and rough blocks of stone, in which no potsherds were found. Five feet beneath the layer of black earth a second solidly made floor appeared, upon which stood

the ruins of a building constructed of blocks of cut limestone, measuring 26 by 24 feet. On the south side the floor upon which this building stood extended beyond it as far as the edge of the mound, and it is possible that at one time the building was approached by a stairway leading up the south side of the mound, which has now completely fallen down or the stones from which were used in covering the building and forming a cap for the mound. At a depth of 12 feet below the second stucco floor a wall-like structure was encountered covered with a layer of hard stucco, 18 inches thick and painted dark red. This structure can hardly be termed a wall, as while its north face was covered throughout with stucco its south face blended with the structure of the mound, here consisting of tightly packed marl dust and blocks of limestone, through an irregular layer of cut-stone masonry. The wall ran due east and west and its north face was divided as follows: At the top was a rounded cornice 16 inches in length and 4 inches in breadth, beneath which was a recess 14 inches long followed by a projecting shelf 36 inches broad, upon which were found four pottery vessels and a quantity of carbon; beneath this the wall continued for 56 inches sloping outward, to end in a second recess, 9 inches long, which terminated in the stucco floor at the base of the building (fig. 5).

The ledge, *C* in the plan, had been covered with a layer of carbon averaging a quarter of an inch in thickness, above which was a layer of loose friable mortar, and standing on this were the four small vessels of pottery. All were of rather thick, clumsy ware painted a dark red and polished. It is possible that these vessels were not intended for everyday use, but solely as dedicatory offerings placed on the wall of the temple when the mound was erected over it, as they have been so imperfectly fired that the surface layers were scaling off, and so friable that it was almost impossible to get them out entire, a condition only found before in one bowl in Mound 1.

The first was one of those curious spouted vessels somewhat resembling an ordinary teapot, except that the spout is usually longer and more vertical, fairly common in the Maya area (pl. 4, 3). It was 15.25 cm high and 15.25 cm from the tip of the spout to the distal lip of the opening. The spout was connected by a short solid bar to the proximal lip of the vessel, and over the opening was placed a disk of thin red polished pottery, apparently chipped from a fragment of some large vessel. These spouted vessels are known as chocolate pots, though they must have been rather inconvenient to drink from, as the spout is often so nearly vertical, or even in some cases inclined inward toward the vessel, that it is impossible to do so without spilling the contents over the rim. The second vessel (pl. 3, 5) was 7 inches in height, its nearly spherical body rested

on a flattened base and its opening was surrounded by a wide flaring rim, near the junction of which with the body was a looped handle, another similar one being placed on the opposite side near the base of the vessel. The third pot (pl. 3, 6) was similar in shape to the last, but half an inch higher. It also possessed two looped handles, both on the same side of the vessel close to the junction of the rim

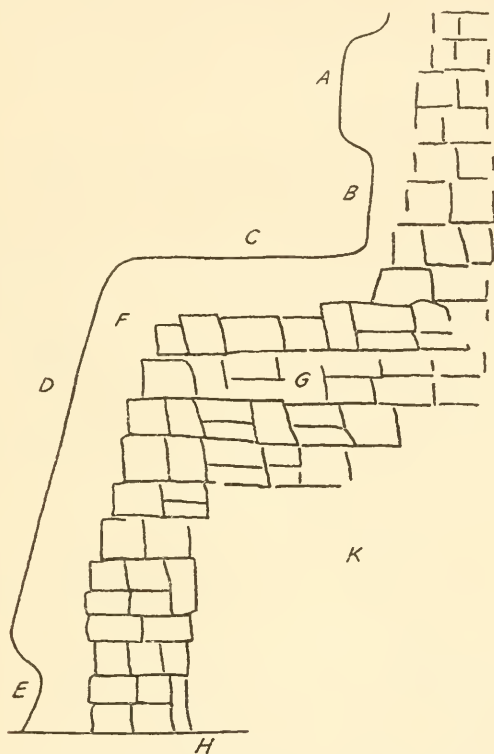


FIGURE 5.—Mound 9. Section through lower wall. *a*, Upper cornice. *b*, Recess. *c*, Ledge on which vessels were found. *d*, Sloping wall. *e*, Lower recess. *f*, Thick stucco layer covering wall. *g*, Cut-stone masonry. *h*, Stucco floor. *k*, Mound structure.

with the body. The fourth pot was almost exactly like the third except that it possessed three instead of two looped handles.

All these vessels were covered by round lids made from sherds of some large, thin, glazed red-ware vessel, and all held a considerable quantity of a grayish friable concretion, buried in which, in vessel No. 2, were small fragments of bone. It seems probable that all contained food offerings, which had disintegrated in the course of time, leaving nothing by which to identify them except a few fragments of bone.

Work on this mound was discontinued for several weeks after the north surface of the wall had been exposed at the bottom of the

trench, and during this period some Indians from a neighboring village dug a large hole through the stucco and deep into the masonry at the back, continuing even through the structure of the mound itself. They were evidently in search of treasure, as they never appear to realize that any other motive could actuate us in our eternal digging than the discovery of treasure hidden by "los antiguos." This has happened to us on several previous occasions when walls have been encountered at the bottom of excavations, so much so that where any probability exists of their forming boundary walls of burial chambers, a guard has to be kept over them to warn off unauthorized excavators.

The excavation of the mound had not been nearly completed at the end of the season, nor had the extension of the stucco-covered wall to the east and west beyond the confines of the trench been exposed. There remains a vast amount of work still to be done on this mound in exposing the wall throughout its entire course and excavating the substructure. Owing to its large size and compact structure, it will probably require many weeks to explore it thoroughly.

It is possible to trace at least four stages in the construction of this mound. The first corresponds to the erection, on a pyramidal substructure of marl dust and blocks of limestone, of a building with walls covered by a thick layer of stucco painted red. At a later period this building was partially destroyed and over its ruins the original substructure was enlarged to form a second and loftier mound on the truncated summit of which was erected a second building of cut-stone blocks, which later was partly destroyed and over its ruins a second addition made to the mound, the summit of which was covered by a stucco floor which may have supported a building of wood or adobe brick, which has completely disintegrated. Finally over this last floor a third addition was made to the mound to form its present summit.

MOUND 10

About $1\frac{1}{4}$ miles north of Nohmul a large mound was partially excavated. It was conical in shape, 30 feet high, and approximately 50 feet in diameter at the base. It was constructed throughout of marl dust and blocks of limestone, forming a solid, compact mass very difficult to excavate. A trench was dug in the side of the mound reaching its center, and 10 feet below the summit the convex stucco-covered top of a wall was uncovered, running east and west. On clearing the wall it was found to be 32 inches in thickness, $7\frac{1}{2}$ feet in height, and covered throughout with grayish stucco, its base resting on a stucco floor. The space behind the wall was next cleared, and at a distance of 2 feet another wall was found, also covered with stucco, on which was molded a grotesque human face 3 feet in height.

This was unfortunately destroyed in the absence of the workmen, probably by Indians who made a hole in the wall in the hope of opening up a treasure chamber. Excavation was continued by the side of the first wall, to a depth of 6½ feet through the substructure on which the walls rested, but nothing further was encountered. No artifacts of any kind were found at any level in this mound, with the exception of a few potsherds, chiefly of thick, rough domestic vessels, such as were in use among the Maya at all periods.

MOUND 11

This mound was situated northeast of Mound 10 and close to it. It was 15 feet high, 30 feet long, and 18 feet broad, and was built of rubble, earth, and irregular blocks of limestone. Twelve feet below the surface a stucco floor was encountered, and resting on this, nearly in the center of the mound, were human bones and teeth. The bones were very fragmentary, but enough remained to indicate that the corpse had been buried in the fully extended position. By the side of the skeleton were two small roughly chipped ax heads of flint, one 9 cm, the other 4.5 cm in length, and the fragments of a round shallow polished dish of black ware, 30 cm in diameter. Nothing further was found in this mound.

MOUND 12

This mound was situated about half a mile southwest of Mound 10, and was of almost exactly the same dimensions as Mound 11. It was built of marl dust, rubble, and earth. At a depth of 8 feet from the summit of the mound a stucco floor appeared, on which lay fragments of a skeleton in the full extended position. Beneath the pelvis was a curious object made from hard limestone, closely resembling the brazo of a hand corn mill, but rectangular in section with rounded angles. It measured 30.5 cm in length, 7.5 cm in width, and 4 cm in depth; accompanying it were fragments of a shallow red-ware dish, badly broken and incomplete.

About 2 feet to the west of the bones, also resting on the stucco floor, was a portion of the brazo of a hand corn-rubbing stone, 25.5 cm in length, with which were incomplete fragments of a shallow black-ware dish.

MOUND 13

About 100 yards northwest of Mound 12 is a long, narrow ridge, or bank, near the center of which an excavation was made. It was composed of alternating layers of marl dust, rubble, and black earth. At a depth of 5 feet from the surface a stucco floor appeared upon

which were found fragments of a human skeleton in the extended position. No artifacts whatever were found with this burial.

Five feet south of the first burial, and beneath the stucco floor, a second interment was discovered in which the corpse had evidently been buried in a squatting position with the knees drawn up under the chin. Close beside it was a shallow polished red-ware dish, 41 cm in diameter, which had evidently been "killed" when the burial took place.

Mounds 11, 12, and 13 appear to be burial mounds of people of the lower class, in which the owner was buried in his house and a mound subsequently heaped up over his remains. In burials of this kind among the Maya it was customary to place the corpse beneath the floor of the house, but here, with the exception of the second burial in Mound 13, all the corpses seem to have been merely laid on the floor and covered with a mound of earth, rubble, and marl. In all these mounds numerous potsherds were found, chiefly of rough, undecorated domestic pottery, probably picked up with the filler taken from the neighboring soil, but curiously enough no fragments were found of rough, unpainted censers so common in and on the burial mounds of the Maya Reoccupational Period, though the mounds themselves appear to be quite late in date.

There are a considerable number of small mounds in the vicinity, all probably similar in function, and doubtless marking the former site of a village.

MOUND 14

This mound was situated about half a mile southwest of Nohmul. It was pyramidal in shape, 50 feet in diameter and 9 feet high, and was covered with a layer of vegetal mold from 3 to 4 inches thick. The upper part of the mound was built of marl dust and blocks of limestone, and at a depth of 13 inches beneath this a hard stucco floor 12 inches thick was encountered, under which was a thin stratum of black earth. On continuing the excavation beneath this, through marl dust and limestone boulders, a small chamber was encountered situated almost exactly in the center of the mound. It measured 6 feet in length, 17 inches in breadth, and 15 inches in height. It was roughly built of small pieces of limestone held together by friable mortar and was roofed by large flat flags of limestone. Within the chamber was a human skeleton, the bones of which were in a bad state of preservation. The corpse had been buried lying on its back in the fully extended position. The face had been covered by a polished red-ware bowl 19 cm in diameter and 7.5 cm deep. The bones were evidently those of an elderly person, as most of the teeth had disappeared from both the upper and lower jaw and their sockets had

become atrophied. The long diameter of the chamber ran east and west, the head being placed toward the east.

MOUND 15

This mound was situated quite close to Mound 14. It was pyramidal in shape, nearly circular, 60 feet in diameter and 12 feet high (fig. 6). The excavation was begun in the center of the mound, and at a depth of 42 inches from the surface, through a layer composed chiefly of marl dust, the top of a stucco-covered wall was encountered. This proved to be the central wall of what had evidently been a building. At a depth of 50 inches the wall ended

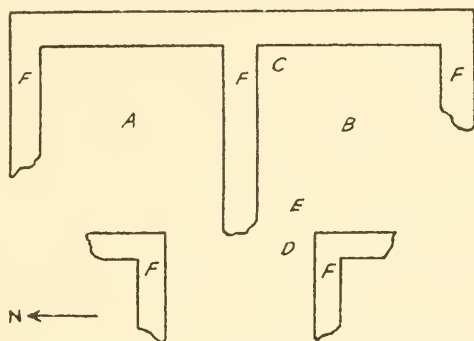


FIGURE 6.—Sketch plan of ruined house in Mound 15. *a*, North chamber. *b*, South chamber. *c*, Cache containing broken flute, etc. *d*, Cache containing conch, etc. *e*, Site of burial cyst. *f*, Walls.

in a stucco floor and on clearing the spaces above the floor on each side of the wall two small rooms were disclosed, A and B on the plan. Room A was filled with dark-colored rubble, evidently picked up from the land, among which were a great number of potsherds, chiefly of rough domestic pottery, but also showing examples of nearly every variety of ware found in the district, including very fine polychrome, zoomorphic figures in dark red on a light-red background, black lacquer on a yellow ground, and red ware with incised designs painted black and polished. The most frequently recurring sherds were those of large, coarse oval jars decorated with oblique lines over the body, incised before the vessel had been fired, while the clay was still plastic. Chamber B was completely filled with marl dust. At a depth of 3 feet a stucco floor 2 inches thick appeared, and 14 inches beneath a second floor 4 inches thick continuous with that of Chamber A, the space between the two being filled with marl dust. Resting on the lower floor, near the northeast angle of the chamber, lay the proximal end of a small broken pottery flute and a clay malacate or spindle whorl, geometrical figures

roughly incised on both its upper and lower surfaces. On the same floor, at the point marked E in the plan, a second cache was found consisting of a small conch shell perforated in two places for suspension, having its apex smoothly cut off, probably for use as a trumpet, which purpose, notwithstanding its small size, it still serves; a small, poorly made leaf-shaped flint spear head 14 cm in length; a fragment of an obsidian knife, and a large concave segment of conch shell 17 cm in length, which may have served either as a vessel or a ladle for liquids. Within this were the following objects: 125 small, smooth, water-worn pebbles of white quartz, 23 disks of mother-of-pearl averaging half an inch in diameter, a few of them bored through the center, two spherical balls of clay, blackened in firing, each half an inch in diameter, and a small, hard cylinder of clay, 2 cm long by 1 cm in diameter, duplicating one found in Mound 22. Similar hard-clay cylinders were found in a grave near Corozal accompanied by a large number of shell disks. The clay balls closely resembled the 55 similar ones found in Mound 3, from which they differ only in being slightly larger and better fired.

It seems very probable that these objects were used in playing some game, as, though the nacre disks may have been employed as ornaments for the headdress or ear plugs, to which they could have been attached by some adhesive gum, it is difficult to imagine to what uses the pebbles and pottery spheres could have been put other than as counters or markers in a game. We know from Landa that a variety of games were played by the Maya before the arrival of Europeans, and the little pebbles are similar to those still used by the modern Maya in playing the game of *chac*, a species of knuckle bones. Excavation was carried on beneath the floors of chambers A and B, and to the west of both, through a layer composed of marl, sand, and boulders of limestone.

Near the northwest corner of chamber B, at a depth of 34 inches beneath the floor, a small burial chamber was opened up. This was built of irregular blocks of limestone held together by a friable mortar, and was roofed by large flags of limestone. It measured 6 feet in length by 14 inches in breadth and 15 inches in height, the long diameter running due north and south, and not east and west, as in the case of Mound 14. Within the chamber lay a human skeleton in the extended dorsal position. Covering the face was a bowl of yellow ware, over which had been applied a black slip. It measured 18 cm in diameter by 13 cm in height. The skull was broken into a number of fragments, the fractures appearing to have been carried out at or before the burial of the corpse. No other grave furniture was present in this cyst, nor were the bones partly buried in marl dust as was the case in the burial cyst in Mound 14.

Beneath the burial chamber lay a narrow stratum of black earth, under which the mound was built of the usual blocks of limestone and marl dust, to the ground level.

In excavating the top of this mound a small human head was discovered, of red pottery, evidently made in a mold (pl. 3, 2, *b*). It measured 3 cm in height and width, and was so similar to those molded figurines from Lubaantun which adorn the whistles found at that site that it is quite possible it may have been imported from there as a trade piece. The upper part of the headdress has been broken away, as have most of the ear ornaments, but the lower part, consisting of a broad band with vertical stripes incised upon it, follows the best Lubaantun tradition.

This mound appears to have been constructed over the ruins of a small house the stone walls of which were stuccoed within and without. The two small chambers A and B were each only 6 feet square and when roofed must have been very dark, as the only light which could enter came through the rooms to the west of them, the sole vestiges of which now remaining are the two angular portions of walls shown in the plan on each side of the dividing wall between A and B. These rooms must also have been very small unless the substructure on which the original building stood was much larger than it is at present.

Mounds covering the remains of stucco-covered stone buildings, beneath which burials have taken place, are found near San Andres in this region. The walls of these are never over 4 feet high, and their summits are rounded and stucco covered. The presumption is that the upper part of the house was constructed of wood and probably thatched with palm leaf, a method of architecture found among the Itzas of Peten, the last independent Maya confederation to hold out against the Spaniards. The procedure in Mound 15 seems to have been as follows:

On the death of the owner an excavation was made in the floor of one of the back chambers of his house, into the substructure, where a small burial cyst was constructed for the reception of the corpse, over the face of which a bowl was placed. This was next filled in, the floor remade, two small caches of his possessions placed upon it, and over it a second floor constructed, in this chamber only. Lastly, the house was partially wrecked and buried beneath the mass of stone and marl which forms the cap of the present mound.

These two mounds, Nos. 14 and 15, appear to be examples of burials of the owners of houses in the substructure upon which their houses stood, followed by the erection of a new mound over the ruins of the house, but whereas in the case of Mound 15 the walls of the house were of stucco-covered stone, in Mound 14 they were

probably of wood or adobe brick, all traces of either of which would long since have vanished.

MOUND 16

This mound was situated near Buena Vista, about $1\frac{1}{2}$ miles southeast of Nohmul. It was conical in shape, nearly circular, 40 feet in diameter and 10 feet high. It was dug down to the ground level. The cap of the mound was composed of a solidly packed mass of marl dust and rough boulders of limestone. At a depth of 4 feet a cement floor was encountered averaging 6 inches in thickness, beneath which was a thin stratum of black earth in contact with the substructure of the mound which was built up of small stones, evidently collected from the surface of the surrounding land, as most of them showed distinct signs of weathering. Mixed with this rubble were great quantities of potsherds, the majority being of coarse domestic ware, many of which were those of cooking pots, as their outer surfaces had been blackened from contact with the fire. A considerable number of fragments of red polished ware were also present, with a few of polychrome, and black polished ware, one of the latter being decorated with part of a geometrical design incised on its outer surface.

The stucco-topped substructure of this mound had probably once supported a wooden or adobe house, over which a cap 4 feet high had been erected at some subsequent period. It does not appear to have been used for sepulchral purposes, as neither human bones nor grave furniture were found within it, though the whole mound was dug down, and one can only suppose that the flattened summit of the added portion was used for a second dwelling the floor of which was of beaten marl dust, commonly used by the modern Indians for this purpose.

MOUND 17

This mound was situated close to Mound 16. It was 15 feet in height, nearly circular, and 45 feet in diameter. On excavating through the marl dust and limestone blocks which composed the flattened cap of the mound, at a depth of 4 feet a cement floor was revealed, 8 inches thick. Immediately beneath this, almost in the center of the mound, a small, very crudely constructed cyst was exposed, measuring 3 feet by 2 feet. It was half filled with marl dust and contained fragments of human bones so badly decayed that it was impossible to tell in what position the corpse had been buried, though owing to the small size of the chamber this could not have been in the usual dorsal fully extended manner. Mingled with the bones was a cylindrical vessel with straight sides and slightly everted rim, measuring 30.5 cm in diameter and 11.4 cm in height. It was colored

dark brownish red, and highly polished both within and without. It appeared to have been imperfectly backed, as it was unusually friable. With it were the fragments of another exactly similar bowl. Both these vessels were of a shape very unusual in Maya pottery and are the only examples of their type taken from this district up to the present.

Accompanying these vessels was a small henequen fiber cleaner of very hard limestone, 7.75 cm long by 5 cm broad and 2.5 cm thick. It was roughened by scoring parallel lines on one surface and was convex on the other, while the sides were deeply grooved to hold in place a handle of liana or withy.

The excavation was continued through the marl dust and limestone boulders, of which the substructure of the mound was built, to the ground level, but nothing further was found.

Very few potsherds were unearthed during the excavation of this mound, the reason being probably that the material of which it was constructed had not been taken from the surface but especially quarried to build it.

It was evidently a house burial mound of the usual character, in which the dead man was buried in the substructure beneath his home, over which a second mound was raised later.

MOUND 18

This mound was situated close to Mounds 16 and 17. It was pyramidal in shape, 15 feet high and 46 feet in diameter. Excavation was begun on the summit, which was flattened and of considerable extent. The upper part of the mound was very difficult to excavate, as it was composed of large blocks of limestone the interstices between which were filled with mortar, forming a solid block of masonry. At a depth of 3 feet from the surface a segment of wall was encountered built of well-cut blocks of limestone, 2 feet high and about 6 feet long, broken off short at both ends, and evidently forming at one time part of a building. Beneath the wall was a cement floor 8 inches thick, under which the mound was composed of limestone blocks and marl dust for 18 inches, when a second cement floor 6 inches thick was brought to light. Digging down for a further 3 feet through limestone blocks and marl dust, a third floor, also 6 inches thick, was discovered, beneath which the mound continued to the ground level. Nothing was found in excavating this mound with the exception of a very few potsherds, nearly all of which were of the rough, coarse, undecorated domestic variety.

This would appear to be a house mound which had been added to and enlarged on at least three occasions. The first house was built on a stucco floor covering the top of a low stone substructure; 3 feet

of masonry were added to this, on which a second house was constructed on a stucco floor; later still, a second addition was made to the mound, 18 inches in height, covered with a stucco floor, but whereas the first two houses had probably been of adobe or wood, the last house was of stone. Finally this also was wrecked and covered in by a cap of masonry, on the flat summit of which it is probable that a fourth house was built, for, as the mound had not been used for sepulchral purposes it is only reasonable to suppose that there must have been some object in making the last addition to its height.

It is impossible to determine just how long an interval elapsed between each enlargement of this mound. It may have been a few years or it may have been a century or two. The various periods of occupancy represent probably not cultural epochs but stages of local architectural elaboration. The recovery of entire vessels or potsherds at each level might have afforded valuable data for stratigraphic dating. Unfortunately the ceramic content affords no clue of this nature, for not only were the sherds practically all of the domestic variety, but very few were found, and none below the middle floor.

MOUND 19

This mound was situated close to Mounds 16, 17, and 18. It was pyramidal in shape, 36 feet in diameter and 5 feet high in the center, and was built throughout of rubble and earth. It was dug down to the ground level. Near the center, at a depth of 2 feet beneath the surface, portions of a human skeleton were found, the bones of which, owing to the material in which they were buried and their nearness to the surface, were in a poor state of preservation, though probably not of any great age. The corpse had been buried in the fully extended dorsal position, and over the face was placed a large shallow dish of reddish yellow ware, polished both within and without. It was 38 cm in diameter, 7.5 cm in depth, and stood on a low annular base. Both this dish and the skull which it covered were badly broken, owing probably to numerous tree roots which surrounded them.

Beneath the southern margin of this mound a circular opening 2 feet in diameter was found, which at first appeared to be the opening of a chultun, or chamber hollowed out in the limestone, many of which are found in the district, but which proved on excavation to be the mouth of a cylindrical hole, probably an old well, 6 feet deep. It was filled with rubble and earth, among which were a few rough potsherds.

MOUND 20

This was one of a group of four small mounds situated about 2 miles southeast of Nohmul, two of which were excavated. It was conical in shape, almost circular, 8 feet in height, 35 feet in diameter, and was constructed throughout of marl dust and rough blocks of limestone. Near the center of the mound, beneath the layer of vegetal mold which covered it, lay a small clay whistle (pl. 3, 2, a). This, which was made of rather coarse red pottery, 9.5 cm in height, represented a human figure standing upright with the arms held straight down by the sides. The face closely resembled that from Mound 15, already described, and the forehead was in both cases covered by a vertically striated band. In this case, however, the upper part of the headdress was present and represented the face and upper jaw of some mythological animal. Small round ear plugs were worn in the ears and a very elaborate necklace of three rows of beads covered the front of the chest, from which depended a curious square ornament which rested on the front of the loin cloth, the free end of which fell almost to the ankles. The front of this figure, which had been turned uppermost, was much weathered, doubtless from exposure to the rain, before the formation of the layer of vegetal mold which later served to protect it. So great was the weathering that it had worn a hole through the wall of the whistle, just behind the left cheek. The back of the whistle was prolonged below into a mouthpiece, while above, two holes pierced the wall, by closing one or both of which three notes could be produced.

Scattered over the surface of this mound immediately beneath the vegetal mold were numerous fragments of arms, legs, and torsos of the figures used to adorn the outer surfaces of large censers of coarse pottery, all of which were much weatherworn.

The mound was dug down to the ground level, but nothing further was found within it.

MOUND 21

This mound was situated close to Mound 20, of which it was almost an exact duplicate in size. On the summit, covered only by the vegetal mold, was found a small vase standing on 3 short legs, 8.5 cm long, in the form of a human face (pl. 6, 2). The headdress consisted of a band of round flat beads on one of which the fingerprint of the maker had been so clearly left upon the wet clay that, were he still alive, it would be possible to identify him by it. The nose is long and hooked, and over its root a projecting nose ornament is seen. At each angle of the mouth small round labrets are worn, and in the ears large circular ear plugs. The face is modeled with

considerable spirit and might well be a portrait, as there is a marked lack of symmetry between its two sides. The outer surface of this vase had been covered by a white slip, over which a coat of blue was painted. Most of both coats had been worn off by long exposure, but can be traced still in protected places. Within the vase were four malacates, three of stone, one of clay, and a very small spheroidal vessel measuring only 3 cm in diameter by 2 cm in depth. This may possibly have been used as a censer, as there are three small holes placed at equal distances from each other around the body of the vessel. One of the malacates is very unusual; made of hard, well-polished limestone, it is in the form of a water jar of composite silhouette outline and high neck with everted rim, while the hole through its center forms the worm of a screw. This is the only instance recorded of a malacate of this type found anywhere in the Maya area, indeed the only instance which would seem to indicate that the principle of the screw was known to the ancient Maya; which suggests that this mound may date from after the conquest. Moreover, the remarkable symmetry of the outline of this little object, especially when compared with that of the other malacates, suggests very strongly that it was turned on a lathe and may have been a trade piece of Spanish origin.

Scattered over the surface of the mound, just under the vegetal mold layer, were numerous fragments of rough, figure-decorated censers, arms, legs, faces, and ornaments. These all showed the same technic as the face vase, and a few of them still retained traces of white and blue slip, in protected parts.

The mound was dug down to the ground level, but with the exception of a few sherds of rough domestic pottery nothing else was found within it.

MOUND 22

This mound formed one of a group of three situated about 2½ miles southeast of Nohmul. It proved to be in many ways the most interesting of all the mounds in this district. It was 15 feet in height, and approximately 50 feet in diameter at the base. To the west of it was a long, low, crescentic ridge, from the northern horn of which it was separated by a small mound 12 feet in height by 30 feet in diameter. This last was completely dug down to ground level and was found to be built of marl dust, rubble, and limestone. A few fragments of pottery were found in its structure, including red ware, black ware, and polychrome. Nothing further was found in this mound, which, as its summit was flattened, may have formed the substructure for a small wood or adobe house.

A small exploratory excavation was made in the southern horn of the crescentic mound. Within a foot of the surface, and buried

in the marl dust and limestone blocks of which the mound appeared to be built, was a very neatly chipped triangular arrow head of flint, measuring 5.5 cm in length, with narrow indentations on each side half an inch from the base, no doubt to retain in place the cord which bound it to the shaft. This was the only arrow head found in the entire area. The bow and arrow do not appear to have been known to the early Maya, as arrow heads are not found at the oldest sites. In this case the mound may have been erected during the Maya Old Empire Period and used as a burial place during the Reoccupational Period, not an uncommon occurrence. With the arrow head was a roughly chipped triangular spear or javelin head of chert, 9.5 cm in length.

Excavation was begun on the summit of Mound 22 and continued down for 3 feet through a layer of very solid material composed of blocks of stone, many of them squared, bound together by friable mortar. Later, excavation was begun at the western edge where the construction was similar to that on the summit, until at a distance of about 6 feet from the edge of the mound a pocket of soft sandy material appeared, on removing which two vessels were found buried within it. The first of these was a round bowl, or dish, 36.5 cm in diameter by 9 cm deep. It stood on a flat annular base, was of composite silhouette outline, and was colored a deep red throughout, and ornamented over the outer surface of the rim by black geometrical figures. This vessel had been "killed" before burial, by scraping a triangular hole in its bottom, an unusual method, as in most cases the hole is merely punched in the vessel to bring about its ceremonial demise.

The second vessel (pl. 7, 1 and 4) was cylindrical in form, 22 cm high by 11 cm in diameter. It was made of very hard, thin, fine-grained yellow clay and was covered throughout, both inside and out, with a pale reddish-yellow wash, on which, as a background, were executed various devices in red, brown, purple, and black. Around the outer surface of the rim of the vessel is painted a broad purple band 2.5 cm deep, bordered above and below by thin black lines. Around the outer surface of the base is a decorative band 3.75 cm deep, composed above of two thin black lines and below of triangular spaces enclosed in thick, stepped black lines, each space holding a red oval with a black center. The central zone of the vessel has unfortunately been badly worn, but a seated human figure can clearly be made out holding some unidentified object in his hands. The face, presented in profile, is thoroughly un-Maya in character, as the eyes are oblique and the nose large, turned up, and shapeless. An enormously high and elaborate headdress is worn projecting backward in the form of feather decorations which blend with other feath-

ered plumes and an unknown object to completely cover the entire surface of the zone.

On continuing excavation from the center of the mound through very solid material, at a depth of 5 feet beneath the surface, the tops of several partly broken-down walls which had evidently formed part of a building were exposed. These were 18 inches thick and covered on both sides with yellow stucco. As shown in figure 7, they appear to have enclosed a small building whose opening faced toward the west. The interior of this building had been tightly packed with solid masonry composed of square stones and mortar. Through the north wall of the building an irregularly shaped hole, 2 feet 3 inches by 2 feet, had been made (fig. 7, *B*).

The cement floor of the building rested on a thick layer of black earth. On each side of the opening in the north wall a flat flag was exposed, covering in both cases round openings in the black

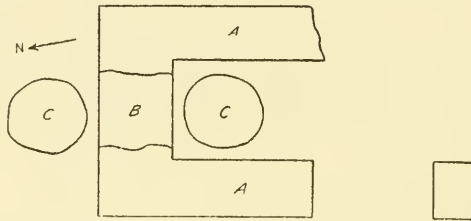


FIGURE 7.—Ground plan of building above subterranean chamber, Mound 22. *a*, Stucco-covered walls 18 inches thick. *b*, Irregularly shaped hole in the wall measuring 2 feet 3 inches by 2 feet. *c*, Circular openings to underground chambers.

earth and in the marl which underlay it. Each opening measured 2 feet 2 inches in width and 3 feet 10 inches in depth. Both opened below into a series of five small chambers hewn out in the marl, all of which were partially filled with sandy material, in and on which were found a great variety of objects (figs. 8 and 9).

Chamber 1.—This chamber was formed by the bottom of the round hole to the north of the north wall of the building. It was circular in shape, 2 feet 2 inches wide, and the concave floor was 6 inches higher than those of chambers 3 and 2. The bottom of the chamber was filled with loose, finely divided material which appeared to be a mixture of sand, marl dust, and humus, and the same material was found in all the other chambers. In it were buried 10 hootie shells, *Ampullaria insularum*, and part of the rim of a large polished red-ware basin with a very everted rim.

Chamber 2.—This chamber measured 6 feet 6 inches in length by 4 feet in breadth and 3 feet 2 inches at the highest point of the roof, which was vaulted. It was connected with chamber 1 by an oval opening just large enough to admit the passage of a man, and was

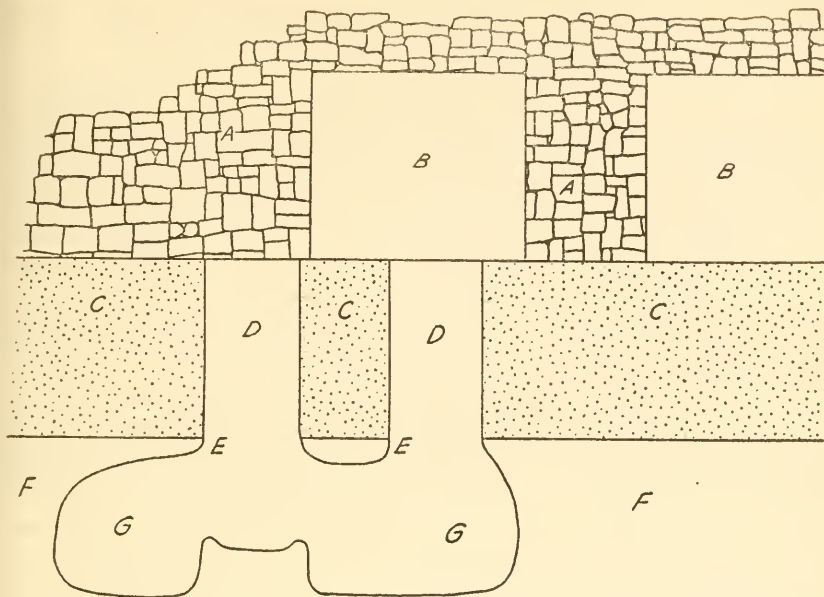


FIGURE 8.—Section through subterranean chamber, Mound 22. *a*, Body of the mound built of blocks of limestone and mortar to a height of 5 feet above the tops of walls *b*. *b*, Stucco-covered walls of building, and opening. *c*, Layer of black earth 3 feet 7 inches thick through which are excavated *d*. *d*, Openings through black earth each 2 feet 2 inches in diameter and 3 feet 10 inches deep. *e*, Parts of shafts traversing the marl. *f*, Marl. *g*, Chambers excavated in the marl.

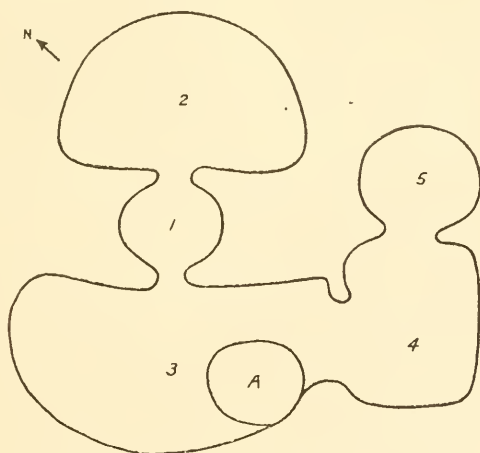


FIGURE 9.—Ground plan of subterranean chamber, Mound 22. Chamber 1 is 2 feet 2 inches wide, the floor 6 inches higher than Chambers 2 and 3. Chamber 2 is 6 feet 6 inches by 4 feet, and 3 feet 2 inches high. Chamber 3 is 8 feet 1 inch by 4 feet 7 inches, and 3 feet 2 inches high. At the point *A* is a circular opening through the roof and immediately beneath this is a circular well-like depression in the floor. Chamber 4 is 3 feet 8 inches by 2 feet 9 inches in height. Chamber 5 is 3 feet 5 inches in diameter. The opening to Chamber 4 is 2 feet 5 inches by 1 foot 4 inches.

filled almost to the roof with soft sandy material, in which were found a number of hootie shells, and a few potsherds of red ware and polychrome pottery, but nothing else.

Chamber 3.—This chamber was evidently the most important of all, as not only was it the largest, but it contained more artifacts than all the others combined. It measured 8 feet 1 inch in length, 4 feet 7 inches in breadth, and 3 feet 2 inches in height at the highest part of its slightly arched roof. It communicated with chambers 1 and 4 by means of narrow oval openings, and with the surface by means of the tubular shaft which opened above within the building. The chamber was filled almost to the roof with sandy material, in which were scattered irregularly at various levels a great variety of objects of pottery, flint, bone, obsidian, and shell. Ten complete or almost complete pottery vessels were found. The first of these was a small nearly cylindrical vessel of polished red ware with an everted rim (pl. 4, 4). It measured 9 cm across the mouth by 11.5 cm in height. Originally it had stood on three legs, but these had evidently been broken away some considerable time before it was buried, as the marks left on the base by their removal had worn quite smooth. This vessel had probably been used as a censer, as its interior for about 2 inches from the bottom was blackened by the smoke of incense. The second vessel was very similar to the first. It was of polished red ware, 14 cm in diameter by 12 cm high, and had been originally supported on three hollow legs.

The third vessel was cylindrical in shape, 14.5 cm in diameter by 9.5 cm in height (pl. 7, 2 and 3). It stood on three oval hollow legs originally, the rough surfaces caused by the breaking away of which had been smoothed down from use after the fracture had occurred. A small piece was at some time broken away from the rim of the vessel and the rough surface left by this had been carefully smoothed. The vessel was of thin, hard, well-baked light-red pottery. After it had been baked there was incised in low relief on its outer surface a design consisting of a row of cartouches above, and below a narrow band, unadorned. Between these the surface was divided into 6 panels by vertical lines. On three of them a monkeylike animal is depicted sitting on the ground, its legs drawn up, its long tail curled behind it. Over the tail of one monkey is a vacant space, over that of another, one oval dot, and over that of the third, two oval dots. Alternating with the monkey panels are three which appear to represent the highly conventionalized head of some mythological animal, but so overlaid with detail and ornamental designs used to fill in the background that it is difficult to be sure what the artist means to represent. When the carving on the side was complete a coat of black wash was applied to the vessel, both within

and without. This was then polished so that only the raised parts of the carving took the polish, the sunken areas forming the background remaining a dull black, in some places filled in with cross-hatching.

The fourth vessel was a large round polished red-ware bowl 21.5 cm in its greatest diameter, 19.5 cm at its slightly everted rim, and 17.25 cm deep (pl. 8, 1). On one side is molded a human figure 18 cm high. The head, which is in the round, projects slightly above the rim and is that of an individual with narrow eyes, large roman nose, and a chin so prominent as to suggest a short beard. The flat headdress is formed of some plaited material over the forehead, and in each ear is a large round ear ornament. Around the neck is a twisted band suggesting a rope. The limbs, which are represented in high relief on the side of the vessel, are long and thin, the arms bent at the elbows, the legs at the knees. The fingers are applique, and in the right hand is held a gourd with a long stem, such as was used for a rattle (pl. 8, 2). On the opposite side of the bowl is an almost exactly similar figure. In this case the flat headdress is ornamented with a row of beads in front of the forehead, the ears are perforated with large holes but hold no ear ornament, around the neck is a string of large beads, the hands hold a small round bowl over the lower abdomen, and the legs are crossed over each other in a most unnatural position (pl. 8, 3). The interior of this vessel was half filled with sandy material in which the following objects were found buried (pl. 9, 2). A nine-pointed star of mother-of-pearl, 2.5 cm in diameter (pl. 9, 2, *g*); the anterior half of a small cowrie (pl. 9, 2, *f*); parts of four bone gouges or polishers, the cutting edges of two of them 2 cm broad, of one 1 cm, and one terminating in a sharp point (pl. 9, 2, *h*); one borer, made by filing what appears to be the tooth of a young alligator to a fine point; a thimble-shaped object of bone (pl. 9, 2, *d*); a section, 11.5 cm long, cut from the hollowed-out long bone, probably of a large feline, nicely polished, possibly used as an ornament (pl. 9, 2, *a*); a very long canine tooth of some rodent, probably a gibnut (pl. 9, 2, *b*); two sections, each 2 cm long, cut from the rib of some large animal and hollowed (pl. 9, 2, *e*); a portion of the leg bone of some large bird from which the articular end has been neatly sliced; a portion of a similar bone evenly cut through below, polished and bored above, with two small holes evidently for suspension (pl. 9, 2, *c*); a smaller piece of bird's bone 3 cm in length, polished and hollowed out; two crab's claws, pierced for suspension both at the front and the base (pl. 9, 2, *k*); portions of a small thin bone plaque with geometrical devices engraved upon it in low relief and colored red. Unfortunately only a few pieces of this were recovered as the bone

was very badly decayed, but enough remained to indicate that the workmanship was very fine; a flat spindle-shaped piece of shell, 3 cm in length, 1 cm in breadth, nicely polished all over, and possibly used as a borer (pl. 9, 1, *n*); four small clamshells averaging 4 cm in length, and all perforated near their upper margins by two small holes, evidently for suspension (pl. 9, 2, *l*); part of the crown of a tooth of some graminivorous animal, possibly a deer.

The fifth vessel removed from chamber 3 was a large, shallow, polished black-ware dish, 38 cm in diameter and 7.5 cm deep. The sixth was a polished red-ware dish, 33 cm in diameter and 6.5 cm deep. It was decorated around the inner surface of the rim by a band of geometrical figures in yellow and red, outlined by thick black lines. The seventh vessel was almost exactly like the sixth, except that it was slightly smaller, measuring only 30.5 cm in diameter. The eighth was a polished red-ware dish measuring 35.5 cm in diameter by 7.5 cm in depth. The outer surface of the rim was decorated by a yellow band 5.5 cm in breadth on which the figures were painted in red and black. The last two vessels consisted of a pair of polished red-ware dishes each 33 cm in diameter by 6 cm deep, upon which no decorations were present.

The last six vessels stood upon low annular bases, and all were of composite silhouette outline.

In addition to the pottery the following objects were found scattered through the sandy filling of the chamber, at irregular intervals and depths:

A large hootie shell perforated with 11 round holes of varying sizes. A perfect obsidian knife, 6.5 cm in length. Part of the leg bone of some large bird (pl. 9, 1, *o*). A chair-shaped piece of red ocher, 2 cm in length, the surface of which exhibited marks all over of having been scraped (pl. 9, 1, *k*). A single tubular polished jade bead, 1.5 cm in length (pl. 9, 1, *r*). A cylinder of baked clay 2.5 cm in length by 1.25 cm in diameter (pl. 9, 1, *p*). The tarsal bone of a deer (pl. 9, 1, *h*). A section of bone, 2 cm long, evenly cut at both ends, which may have been taken from a human ulna (pl. 9, 1, *m*). A cylindrical object with very thin walls, 3.2 cm in length by 2.4 cm in diameter. It is smooth inside, but decorated outside by a number of incised oblique lines. Its present color is a deep black, but this had originally been covered by a white wash, over which was superimposed one of red. It is difficult to determine the material from which this object was made, and its use is unknown, though it may possibly have been a somewhat unusually shaped ear plug. Three round plaques of shell, the largest of which was 4 cm in diameter, and perforated near the margin by two small holes placed close together; the other two were not pierced (pl. 9, 1, *b*, *d*, *e*). Three

plaques of shell in the form of six-rayed stars, the largest 3 cm in diameter, each pierced through the center by a large round hole and ornamented on the upper surface by lines and indentations (pl. 9, 1, a, c, g). A similar object in the form of an eight-rayed star, perforated but not decorated (pl. 9, 1, f). The apex of a small conch shell which has been ground down, polished, and decorated with sunken lines. Three small triangular spear heads of flint. A flint knife, struck straight from the core, 20 cm long, which shows no indication of having ever been used. Two unfinished ax heads of flint, one 11.5 cm, the other 13 cm in length. An oval object, 7.5 cm in length, of hard limestone, shaped like an ax head with a blunted cutting edge, possibly used as a smoother. Four spindle-shaped objects of flint, varying from 13.5 cm to 10 cm in length and from 3.25 cm to 3 cm in breadth (pl. 1, 2, a). The ends were chisel-shaped, and they may have been used in this way, or hafted as small axes for fine work. These implements, on both back and front, had evidently been subjected to a considerable amount of attrition, as the projecting ridges of the flint were worn down and polished. The same condition is frequently found in flint axes and is probably due to friction against the withy or split-stick haft. A smooth oval flat piece of slate, 6.5 cm in length, possibly used as a polisher.

The second circular shaft opened in the roof of this chamber 9, and immediately below this opening was a well-like hole in the floor, 3 feet deep, filled with the same sandy material as was found in the chamber. In this were buried, at various levels, the following objects. Twenty triangular-bladed spear heads of flint, varying from 13 to 22 cm in length (pl. 1, 2). These have all been struck from a core, and except for a little finishing necessary in some cases to bring the implements to a fine point, and the formation of the handle by which to haft them, little work was required in order to fit them for use. They may have been employed as spear heads, or as daggers for hand use, for which purpose they were perhaps even better adapted. A single leaf-shaped spear head, 20 cm in length, and a flint knife struck straight from the core and unaltered, measuring 21.5 cm in length. A very large eccentrically shaped object of flint resembling a crescent, from the outer edge of which project three triangular spikes, one above and one on each side, the spaces between them being serrated (pl. 1, 5). It measures 34.25 cm in length by 35.5 cm in breadth and weighs 6 pounds. This, if not the largest, is probably the heaviest eccentrically shaped flint found in America.

Chamber 4 was 3 feet 8 inches in length by 3 feet 4 inches in breadth, and 2 feet 9 inches in height at the highest point of the roof, which was slightly arched. It opened into chambers 3 and 5 by very

narrow orifices, hardly admitting the entry of even a small man. It was filled with similar sandy material to that found in the other chambers, which reached nearly to the roof, and in which no artifacts of any kind were found.

Chamber 5 was cylindrical in shape and 3 feet 5 inches in diameter. It opened into chamber 4 by an oval aperture measuring 2 feet 5 inches by 1 foot 4 inches, and was filled with the same sandy material up to the level of that found in chamber 4. In it were buried four triangular flint spear heads or daggers and a single flint knife, all precisely similar to those found in the well-like hole in chamber 3 (pl. 1, *3, b, c*).

In removing the east side of Mound 22 there were found, scattered through the material of which it was compounded, the following objects. Thirty hootie shells, twelve small hammerstones of flint, varying from 5 to 7.5 cm in length, a triangular-bladed spear head of flint 7.5 cm in length, a section of the slightly curved long bone of some animal neatly cut in two longitudinally, each half well polished within and without. This mound represents certainly two and possibly three periods of construction. The series of underground chambers was first excavated in the marl. Next, the three openings to these were closed, and over them was built a solid substructure, on the truncated summit of which a small stone-walled building was erected, and finally this was partially pulled down and over its ruins was erected a solid cap of masonry.

The mound does not appear to have been used at any period for burial purposes, as no trace of human bones was found within it, and judging by the state of preservation of the bone artifacts discovered, human bones if present should have been at least recognizable as such.

The wide range of the artifacts in the chultunes, both in material and function, seems to preclude the possibility of their having belonged to a single individual, and the probability is that they constituted a ceremonial cache placed beneath a small temple, a practice not infrequent among the Maya. Some of the objects had evidently been in use for a considerable period before they were buried, notably the two tripod vases, the rough surfaces left by the fracture of the legs of which had been smoothed over. Others, and particularly the triangular spear heads and large eccentrically shaped flint, had probably been made especially for the occasion, as they showed no indications of ever having been used.

The final stage of the construction of the mound, the covering over of the original building and its substructure, almost certainly took place in Holmul V period, for the cylindrical polychrome vase found within that part of the mound is typical of this epoch.

Vessels of this type have been found at Holmul and Uaxactun, in Guatemala, at San Antonio, on the Rio Hondo, and at Pusilhà, in the south of British Honduras, with all of which sites Nohmul was not only contemporaneous but also in close trade communication.

Unlike the fragment of a polychrome cylindrical vase found in Mound 1, which almost certainly had been imported, this was probably a local product, as the figures depicted upon it are simpler in design and cruder in execution than those of similar vases from the other sites mentioned, and seem to resemble more closely those of Copan I, where apparently the type originated, than those of the more finished products of Uaxactun, Holmul, and Pusilhà, though it is possible that the crudeness of the Nohmul vase may be ascribed to provincialism rather than to antiquity.

The vessels found in the subterranean chambers belong undoubtedly to Holmul III period. The large bowls, black, polychrome and red, with compound silhouette outline, prominent flange and low annular base, are characteristic of this epoch. The counterpart of the round polished black-ware pot with spout for pouring out the contents (pl. 4, 2), was found by Merwin in Holmul, and ascribed by Vaillant to Period III. The tripod black-and-red ware cylindrical pots are found at Holmul in the same period.

At Tzimin Kax, in the Western District of British Honduras, Thompson found in Vault III a cylindrical black-ware vase with figures of the spider monkey etched upon its exterior, squatting with tail erect and legs drawn up in a quite typical attitude, which so closely resemble the monkeys etched on the panels of the vase in plate 7, 3, that they might almost be the work of the same artist. The spider monkey as a decorative motif on pottery is found at Santa Lucia, in Guatemala, Pusilhà, in southern British Honduras, and at Copan.

Large eccentrically shaped objects of flint are of rare occurrence in the Maya area, and the provenance of most of those now in various museums is somewhat doubtful. There is, however, some reason to believe that most if not all of them were manufactured in the neighborhood of Nohmul, though they may later have traveled considerable distances as trade pieces. The discovery of this one in close association with Holmul V pottery is particularly interesting as it seems definitely to fix them in this period.

Of the other objects from this mound, tarsal bones of the deer, shell disks and stars, carved bones, short sections of small long bones, and cowries were found at Holmul, while disks and stars of shell were found in the Cayo District of British Honduras, at San Antonio, San Andres, and many other Maya sites.

On the whole, it seems safe to date the temple and subterranean parts of this mound in Holmul III, corresponding to the Peten Maya Period, which, accepting the Thompson-Teeple correlation between Maya and Christian Chronology, lasted from about 300 A. D. to 700 A. D. Contemporaneous with this period at Holmul, Vaillant gives Copan I, Uaxactun II, Chukumuk II, and in the valley of Mexico, Early Ticoman, Mid and Early Zacatenco, and Gualupita I. The wrecking and covering in of the temple and substructure probably took place at a considerably later period, not less than a century intervening between the two, as is indicated by the cylindrical vase, the only artifact useful for stratigraphic dating found in this part of the mound. This is typical of Holmul V, corresponding to the Maya Great Period, dating approximately from 700 A. D. to 800 A. D. and contemporaneous, as Vaillant believes, with Copan II, Uaxactun III, Chama II, Valloch, Mounds 16 and 17 in British Honduras, Piedras Negras, and in the valley of Mexico with Late Ticoman and Gualupita II.

MOUND 23

Near the mouth of the Rio Nuevo is a considerable group of mounds; three of these were excavated, of which Mound 23 was the largest. It occupied the northeast corner of a small, nearly square terrace, 150 feet in diameter, and raised 4 feet above the level of the surrounding ground. The mound was conical in shape, and measured 24 feet in height along the side which abutted on the terrace, but rather more on that facing the ground.

The top of the mound, to a depth of 4 feet, was composed of earth, marl dust, and blocks of limestone. At this level a cement floor 2 feet thick was encountered, immediately beneath which, toward the east side of the mound, was found a small, very crudely constructed cyst, less than 2 feet in diameter by 18 inches high. Within were a few small fragments of human long bones but no other parts of the skeleton. Besides the bones were two vessels, the first of which was a shallow bowl, 34 cm in diameter and 8.5 cm in depth. It was of fine pottery, standing on a low annular base, of compound silhouette outline, and decorated with geometrical devices in red and yellow, outlined in thin black lines. The second vessel resembled very closely the first, except that it was 2.5 cm less in diameter. The first vessel was broken into a number of pieces, evidently before burial; the second had been "killed" by having a hole knocked in its bottom. Close to the vessels was a very fine triangular flint weapon 22.5 cm in length by 8.25 cm in breadth at the widest point. It was chipped with unusual skill and precision, and brought to a needle point, and judging by the length of the handle and the labor expended on its

fabrication, was probably a dagger for use in the hand rather than a spear head.

On continuing the excavation through the mound, at a depth of 1 foot below the first chamber, a second was discovered, much more carefully constructed, measuring 5 feet 2 inches in length by 2 feet in breadth. It was filled with marl dust and a little rubble, and lying on the floor were portions of a human skeleton evidently buried in the dorsal extended position, the head toward the north; the bones were in an advanced state of decay. Over the face was placed a polychrome vase measuring 28.5 cm in diameter by 7.5 cm in depth. It was of compound silhouette outline and stood on a low annular base. The rim was decorated both on its outer and inner surface with geometrical devices in red, yellow, and black, on a yellow background. Close beside this plate was a small round bowl 12.5 cm in diameter and 6.5 cm in height. It was of hard, well-made pottery standing on a low annular base, of simple silhouette outline, its interior colored red and polished, its exterior plain.

MOUND 24

This mound stood on the same platform as Mound 23, about 7 yards to the west of the latter. It was conical in shape, 8 feet high, and constructed of earth and rubble. It was dug down to the ground level, and at its base, about the center of the mound, portions of a human skeleton were found, the bones in a very bad state of preservation. Over the skull, which lay with the face looking upward, were the fragments of a small undecorated red-ware bowl, and close to the side of the skeleton a single small flint hammerstone showing numerous percussion abrasions, a large unworked nodule of flint, and a curious implement made of hard limestone, the use of which is not apparent. It is 11.5 cm square and 3.25 cm thick. From each upper angle a quadrangular piece 2.5 cm in length has been removed, leaving what appears to be a short handle in the center, around the base of which a narrow groove has been cut. Close to Mound 24, and on the same platform, was a small mound, 3 feet in height, built of rubble and earth. On digging it down a very much decayed human skeleton was found lying on the ground at its base. This was unaccompanied by grave furniture of any sort.

MOUND 25

Near the mouth of the Rio Nuevo the sea is encroaching slowly on the land, and has in one spot completely demolished a small mound, leaving exposed half covered with sand, upon the shore, some of the rubble and stones of which it was composed, and a few of

the artifacts which it contained. Among these was one very singular vessel, complete, and fragments of another almost exactly similar to it. The complete vessel (pl. 4, 8) was made of pale yellow porous pottery and was colored red and polished externally. It consists of two separate vessels joined together below by a short wide pottery connection. The larger vessel is a wide-bellied pot with a flaring rim, 10.5 cm in diameter, the pot itself being 15 cm in diameter by 14 cm in height. The vessel to which it is connected is nearly cylindrical, but slightly wider below than above; at its center it is 6 cm in diameter. Connected to the upper and outer surfaces of both vessels is a small loop, evidently for suspension. These two vessels are thoroughly un-Mayan, both in shape and texture of pottery. They suggest in some measure the Peruvian whistling vases, but these are unknown in the Maya area. They were evidently made for suspension, and were probably used to contain water, which owing to the porosity of the clay would be kept cool, and which could easily be drunk from the mouth of the smaller vessel by tilting up the larger one, without removing the jar from the cords by which it was suspended. These vessels may be a late development of what is known as the spouted chocolate pot. In the earliest type of this kind of vessel, such as was found in Mound 9, the spout projects above the rim, to which it is attached by a solid bar of pottery. In the second type (pl. 4, 7) the spout is expanded below and reaches only to the level of the rim, to which it is not attached. From this type to the double vessel here described is but a short developmental step.

Beside these two vessels, evidently also forming part of the contents of the mound, were a small pottery malacate, and a fiber cleaner of hard limestone, 7.5 cm in length, one surface of which was roughened and three of the edges grooved for hafting.

Close to the site of Mound 25 an Indian in clearing bush to make his milpa came across a small elevation on which lay a number of pieces of the clay figures which had been attached to large censers. They were partially buried in vegetal mold and with them was a single almost perfect bowl (pl. 3, 4). This was made of such hard, resistant pottery that its long exposure to the elements, before it had been covered with a protecting layer of mold, had damaged it but little. It measured 15 cm in height by 2.75 cm in diameter, and was nearly cylindrical in contour. It had evidently been used as a censer, as the interior was still black from the smoke of pom. Its outer surface was once covered with a white wash over which a coat of blue had been applied, but both these had almost entirely weathered off, except in very protected crevices. It was originally supplied with two loops for suspension, but that on the right side

had been broken off at some remote period, as the rough surface left by its fracture had worn quite smooth. On the front of the vessel was represented, in applique, a face so characteristically archaic in character that one would not have been surprised to learn that it had come from the archaic horizon in the valley of Mexico. The eyes are of the split almond type, the nose a mere triangular dab of clay, the mouth a horizontal line through a thin oval of clay, while the arms are represented by narrow curved projections on each side of the censer, and the fingers by parallel incised lines along expansions at the end of each arm.

This so-called archaic type is probably very late indeed in this region, as censers adorned with similar heads are found in considerable numbers among the ruins in the neighborhood of Tzibanchè, on the north side of the Rio Hondo, where they were left by Maya Indians of the Reoccupational Period, who came to worship in the ruined temples of their ancestors, leaving their crude censers behind.

The Laconton Indians still use similar censers when they go to worship the old gods among the ruined temples of Piedras Negras.

MOUNDS 26, 27, AND 28

To the east of Nohmul, and nearer the mouths of the Rio Hondo and Rio Nuevo, three large flat mounds were excavated, all of which proved to be multiple burial places. Each was roughly circular, 40 to 50 feet in diameter and 6 feet high. The mounds were built of rubble, fragments of marl, and a good deal of soil from the surrounding land. This material is easily washed down the sides of the mounds by heavy rains, consequently the exact lines of demarcation of their bases were not easy to ascertain. Burials in all these mounds were very irregularly distributed, at all levels from 2 feet below the surface of the ground level. With each interment some grave furniture was found, consisting of pottery, beads of shell, clay, and stone, ear ornaments of shell and clay, ax heads of flint and diorite, spear heads of flint, hammerstones in great abundance, borers, scrapers, and smoothing stones, henequen cleaners, knives and cores of obsidian, corn rubbing stones and rubbers, of Esquipulas stone, hard limestone, and flint, and stone mortars and pestles. The pottery vessels were for the most part of the undecorated rough domestic ware; many, however, were of polished red ware, and one was a rather handsome polychrome dish.

On reaching the ground level in these mounds it was found that a number of trenches had been dug beneath them through the underlying black earth and marl, which averaged 2 feet in depth and 2 feet in breadth, and branching off from the trenches were square offshoots, each about 2 feet in diameter. Both trenches and off-

shoots were filled to the brim with rubble mixed with quantities of potsherds, evidently picked up on the surrounding land, as they showed signs of weathering. In each of the offshoots and at intervals along the trenches interments were found, each containing grave furniture, including at least one pottery vessel. The bones found in the trenches and offshoots were less disintegrated than is usual among burials in this region and indicated that the corpses had been buried in a squatting position with the accompanying grave furniture deposited around them. Two of the skulls which were recovered in a moderately good state of preservation, though in transit the facial bones suffered considerably, were submitted for examination to the Royal College of Surgeons, whose report on them is appended.

These skulls both show artificial deformation, but the method employed was not the usual one, direct flattening of the frontal or occipital region, or of both, by means of boards or stones, as in this case some heavy object was applied at the obelion region, and tight bandages have left their mark on the sides of the vault, about the line of the coronal suture.

Fifteen of the pottery vessels from these mounds are figured.

Plate 4, 7.—A round, spouted vessel of the chocolate-pot type, of coarse red painted pottery decorated on the outside by depressions around the rim, with incised lines running from them down the body of the vase. It is 15 cm in diameter by 12 in depth.

Plate 10, 1.—A very remarkable vessel, its shape probably unique in Maya ceramic ware. It is of well-made yellow pottery, colored red and polished. Its diameter both at the rim and at the basal bulge is 18 cm, its total height 21 cm. It is incapable of standing upright on its convex base, but this has been roughened by a series of incised curved lines, evidently to afford a firm hold for the chuyub, or stand, which must have been used with it. The bowl shown beneath it in the figure was found close beside it and may have been employed for this purpose.

Plate 10, 2.—A nearly spherical vessel 13 cm wide by 10.5 cm deep, of polished red ware. Its base also is convex and the small round saucer found with it, and shown beneath it, may have served as a chuyub.

Plate 10, 3.—A polished red-ware vase, 12.5 cm in diameter at the rim by 11.5 cm high, and a very similar vase, but slightly larger.

Plate 10, 4.—A polished red-ware bowl, 13 inches in diameter, standing on four cusped cascabel feet. These tetrapod vessels on cusped cascabel feet are common among Holmul I pottery. The type must, however, have persisted long after this period, as the pottery recovered from these three mounds is probably late, some of it certainly belonging to the Maya Reoccupational Period.

Plate 10, *δ*.—An exceptionally large bowl of polished red ware standing on a low annular base. It is 24 cm in its greatest diameter by 16 cm deep.

Figure 10, *a*.—A round bowl, 19 cm in diameter by 9 cm in depth. It is covered externally by a pale yellow slip and the interior is red. Around the rim is incised in low relief an ornamental band of geometrical design.



FIGURE 10.—Various types of vessels from Mounds 26, 27, and 28.

Figure 10, *b*.—A small cylindrical vessel with a convex base standing on three short legs. It measures 6 cm in height by 3.5 cm in width, and is made of coarse, unpainted pottery; this type commonly is found in the graves of the poor, often containing beads of shell, stone, or clay.

Figure 10, *c*.—A spheroidal vase standing on a low annular base. It measures 11 cm in height and 16 cm in breadth. It is covered with a black wash on a yellowish red background.

Figure 10, *d*.—A cylindrical vessel, 12 cm high by 10.5 cm in breadth at the mouth. It is painted black within and without, and is decorated on its outer surface by oblique concave bands running from the orifice to the base.

Figure 10, *e*.—A cylindrical bowl, with wide opening and flat base, 9 cm deep, of pale yellow polished ware.

Figure 10, *f*.—A round, flat-bottomed bowl, 17.5 cm in diameter by 7.5 cm deep. The interior is colored black throughout. A band of this color surrounds the outside of the rim, below which the vase is colored yellow and divided by thin black lines into a series of lozenges in each of which is depicted in red a snail-like figure.

Figure 10, *g*.—A bowl of coarse thick pottery painted a pale yellow and polished. It measures 14.5 cm in diameter at the opening and 9 cm in depth. The center of the body, the most prominent part of the vase, is decorated with a series of small vertical lines incised in the clay.

Figure 10, *h*.—A round bowl of coarse pottery, painted red and polished within and without. It is 21 cm in its greatest diameter and 12 cm in depth. Prominent ridges surround the outer surfaces of the rim and of the center of the body.

Figure 11.—Polychrome bowl, 32 cm in diameter.

Several objects of considerable interest were found in the Nohmul district, usually by Indians cultivating the land or digging post holes for huts. The most interesting of these was a fine specimen, 14 cm long, of the shell *Spondylus americanus* (pl. 6, 1), which was exposed beneath the roots of a large breadnut tree which had been uprooted in a storm. It did not appear to have accompanied a burial, as no other artifacts and no bones were found near it. A portion of the lower shell had been removed at the back to admit of the two halves being partly opened on the natural hinge of the shell. They could not, however, be completely separated, and so formed a very effective box, protected by the long sharp spines covering the outer surface of both shells. Within the cavity was a rectangular plaque of jade, 5.5 cm in length, on which was engraved, in low relief, a human face with elaborate feather-decorated headdress and square ear plugs.

The second object was found buried superficially in the soil, close to the point on the Rio Nuevo nearest to Nohmul. It was a disk of shell, 3 cm in diameter, upon which was engraved a human head in profile (pl. 3, 3). The face, which is executed with meticulous care, is not the ordinary conventional Maya face, but might almost be a portrait from life. The headdress is a tight-fitting cap, decorated over the forehead by a double row of beads and surrounded by an elaborate design the details of which are difficult to recognize. Two long oval ornaments are attached to the nose, and behind the eye and angle of the mouth crescents are engraved which may represent ornaments, tattoo marks, or merely paint. A long-necked, large-billed bird with broad feet is depicted with its neck passed through a hole in the center of the round ear ornament. The disk is perforated near the margin by a small hole, evidently for suspension.

The third object was found close to Nohmul. It is a small ovate vase of rough unpainted pottery, 10 cm high by 7.5 cm in its greatest diameter. Its narrow round opening is covered by a flat stopper with a peculiar long handle ending in three branches. Within it was a small human head in jade, 2 cm in length, perforated for suspension.



FIGURE 11.—Polychrome bowl 32 cm in diameter. Device painted on the interior.

The mounds excavated at and in the neighborhood of Holmul may be classified as follows:

1. Sepulchral mounds unassociated with either burial cysts or stucco floors. These, numbering 10, constitute nearly one-third of the total number examined, and were probably the graves of poor persons, as the grave furniture in them was invariably scanty and of poor quality. Great numbers of mounds of this type are scattered over the whole area.

2. Sepulchral mounds in which the corpse was buried either above or beneath the former floor of a house. These number four, and con-

tain grave furniture of a better quality than that found in class 1. They were probably the burial places of householders of sufficient importance in the community to have their homes wrecked and converted into burial mounds after their deaths.

3. Sepulchral mounds containing specially constructed burial cysts. These, including the great mound at Holmul itself, are eight in number. They vary in height from 9 to 95 feet, and contain all the finest artifacts of stone, shell, and pottery, etc., found during the excavations. Though they comprise approximately one-third of the burial mounds excavated, their actual proportion to the total number of mounds of this type in the area is probably not 1 in 20, the relatively high proportion being due to the fact that many small mounds were not examined, whereas the larger mounds containing cysts were never left unexplored.

It will be noted that in some cases the cysts were constructed beneath the floors of houses, while in others the mounds were specially constructed to cover them; also that each cyst usually contained a single skeleton, though in some the burials were multiple.

4. Mounds constructed over the ruins of stone buildings and not used for sepulchral purposes. These, including the two long mounds or banks examined in the Holmul acropolis, were five in number. The mounds erected over the partially ruined stone buildings were in all cases flat topped and built of very solid masonry. In Mound 9 a second stone building had been erected on the truncated summit of the first enlargement, and two further additions were made subsequently on which buildings of some perishable material had stood. Considering their solid construction and usually truncated summits, it is reasonable to suppose that these mounds were all enlarged for the reception of new buildings.

5. Mounds built over the former floors of wood or adobe houses, not containing burials. There were two of these mounds, both of which appear to have been low stucco-covered substructures on which were erected houses of some perishable material. In one case the substructure had been enlarged once, and in the other no less than three times, in each case no doubt to increase its height and the area of the summit, for the support of a larger and more pretentious house.

6. Mounds containing only fragments of crude clay censers and the images which adorned their exteriors. Two of these were examined, both evidently sacred spots at which incense had been burned and prayers said to the gods, after which the censers were broken and the fragments left on the ground. Exactly this procedure may still be seen among some of the Indian tribes of the Guatemala Highlands.

7. The function of Mound 25 is doubtful, as it had been almost completely washed away by the encroaching sea.

There are several Maya sites, extending from southern Mexico to Spanish Honduras, with which Nohmul appears to have been in more or less direct contact over a long period, reaching probably from the Peten Maya to the Maya Reoccupational Epoch. In some cases artifacts in the form of ornaments and pottery vessels were brought in from outside as trade pieces to Nohmul; in others a new fashion in the fabrication and ornamentation of pottery vessels was introduced and generally adopted.

The closest contact appears to have been between Nohmul and Holmul, in Guatemala, nor is this surprising when it is remembered that the two are separated by less than 100 miles in a direct line, or about three days journey, and that Holmul is only about 30 miles from the nearest point on the Rio Bravo to which dugouts could find their way up the Noh Ukum River from Nohmul.

The engraved shell disk (pl. 3, 3) almost certainly came from Holmul, as the head engraved upon it is nearly an exact duplicate of a similar one found there by Merwin; indeed, so closely do they resemble each other that they appear to be the work of the same artist. The diameter of the Holmul specimen is one-fifth cm less than that from Nohmul. The nose and chin, in profile, are almost exactly alike, dependent nose ornaments and large round ear plugs are worn by both, as is the tight beaded cap with an octopus-like object above it, and the same crescentic object is seen behind the angle of the mouth in both.

The fragment of a polychrome cylindrical vase from Mound 1 and the three-legged vase of black incised ware from the chamber beneath Mound 22 not improbably came from Holmul as trade pieces, as both types are found in considerable numbers there, but do not appear to have been manufactured at Nohmul, where they were evidently more highly valued than a mere home product which could be easily duplicated, as a fragment of one was considered valuable enough for a burial cache, while the other, though badly broken, was sufficiently precious to include in a cache beneath a temple.

Black ware spouted vessels, polychrome compound silhouette bowls, and three and four footed vases are found at both sites, while small red shell beads, carved bone, small sections of long bone, and deer's tarsal bones are common to the two.

From Copan in Honduras it is not improbable that the jade model of a stela and very large spherical jade beads were imported direct, as both resemble very closely similar objects found in a cache beneath a stela in Old Copan. In both cases the jade figure is in the round, the hands are in the same position, the headdress, a serpent's head and upper jaw, is the same, the ear plugs of both are double and connected below by a string of beads passing over the chest, the belts are very similar, and beneath each is the same tripartite

ornament. In the same substelar cache at Copan was a *Spondylus americanus* shell containing, like that at Nohmul, a jade carving. Polychrome cylindrical vases, vessels on three feet, and pottery decorated with the spider monkey are common to both sites.

At Pusilhà and Lubaantun in the southwest of British Honduras, about 130 miles south of Nohmul, we find polychrome cylindrical vases, molded figurines, and the spider monkey design, also an *Ampullaria insularum* shell in which round holes have been drilled, and a cache containing a spondylus shell holding jade ornaments.

At Tzimin Kax, in the Western District of British Honduras, vases on four swollen feet and on three hollow pyramidal feet are found; also the spider monkey design incised on black ware. Superimposed stucco house floors are also present. At Yalloch, near the frontier between the Peten District of Guatemala and British Honduras, are found four-footed polychrome vessels and cylindrical vases with human figures painted on their exteriors. From a grave at Santa Cruz, Quiche, Guatemala, come two three-footed cylindrical vessels, one of red ware, the other of black, both decorated with incised designs very similar to the two vessels of this type found in the subterranean chamber beneath Mound 22.

At San Antonio, near the mouth of the Rio Hondo, the nearest site to Nohmul, from which it is distant by river about 20 miles, are found three-footed cylindrical vases in red ware and incised black-ware pottery. The nearest approach to the fine red-ware bowl the outside of which is ornamented with two human figures, from the subterranean chamber beneath Mound 22, comes from Quirigua in Guatemala, where two large censers were found each decorated with a human figure, the bodies and limbs in applique, the heads in the round.

With Tzibanche, to the west of the Baccaler Lagoon, and with Ichpatun on the Chatumal Bay, Nohmul was, at least in the Maya Reoccupational Period, in communication, as the figure-decorated censers found at all three places are almost identical. There must have been close contact with the seacoast and particularly the cays and the reef from whence were derived the conch, oliva, spondylus, and *Nephronais goascorenensis* shells, all of which were encountered in the mounds.

Nohmul was probably occupied from the Peten Maya Period up to the close of the Maya Reoccupational Period; indeed it was in all probability inhabited before the one and long after the other, even up to the present day.

The site presents everything that the Maya Indian could desire. The land is ideal for the cultivation of maize, there is an ample supply of good drinking water in the lagoons, and it is within reasonable distance of two rivers, in both of which fish abound. It seems prob-

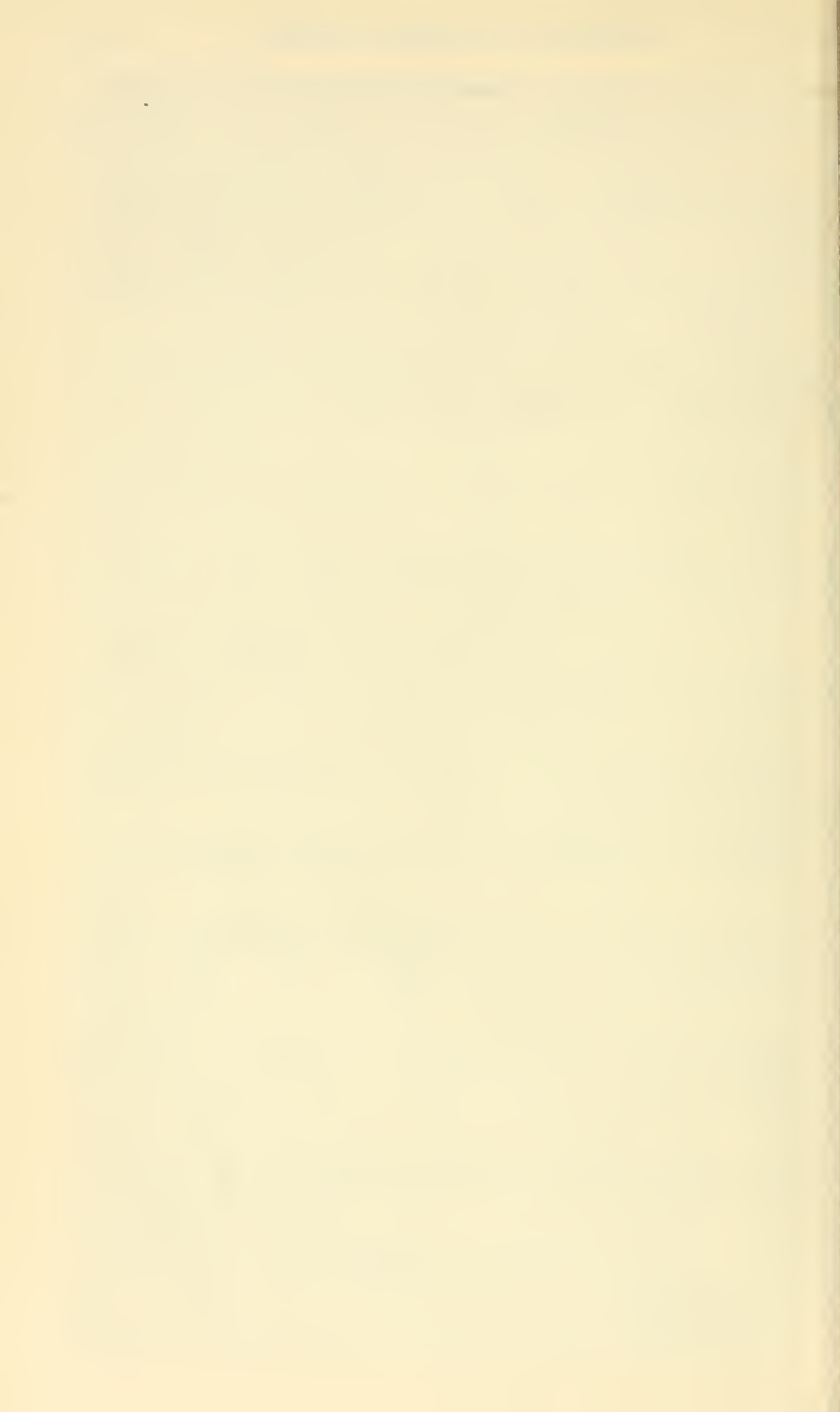
able, therefore, that it was inhabited without intermission from the earliest time to the present day, as numerous Maya villages are scattered in the forest over a great part of this area.

Characteristic pottery of the Holmul I Period is found, including spouted vessels, bowls on four cascabel feet, and pots with a wide annular base. These should belong to the pre-Maya period, and conform to the pottery of Lothrop's Q Complex, which is very early. As a matter of fact the specimens of all these types found at Nohmul are unquestionably late, sometimes indeed as late as the Maya Reoccupational Period, an apparent anachronism, due probably to the fact that all three types persisted long after the period in which they originated, possibly on account of some ceremonial significance attached to them.

Holmul III Period is represented at Nohmul by polychrome, composite silhouette bowls with an outside bevel; black lacquer incised ware; bowls with spouts for pouring out the contents; a scutate pot lid with parrot-head handle, and effigy bowls. This fits in approximately with the Peten Maya Period, which, accepting the Thompson and Teeple correlation, lasted from about 300 to 700 A. D. The Holmul V period is represented at Nohmul by two varieties of the polychrome cylindrical vase depicting human figures, one resembling the Copan type and some examples of these vases from Pusilhà, the other approximating more closely to the Yalloch vases, and the more carefully executed specimens from Pusilhà.

Holmul V corresponds approximately to the Great Period of the Maya Old Empire, which lasted from about the end of the eighth to the end of the ninth century A. D.

The Maya Reoccupational Period covered many centuries at Nohmul; indeed the region has probably never been without inhabitants from the close of the so-called "Old Empire" to the present day. This region was certainly inhabited by Maya Indians during the sixteenth century, and there is some reason to believe that they still erected stelae covered with plaster, on which figures and hieroglyphs were painted, as late as the middle of the nineteenth century, for one of these, now in the Museum of the American Indian, New York, was found at Indian Church on the Rio Nuevo. The stucco had been applied to an ancient stela in the form of an alligator's head, and upon it painted various devices, which at the time of its removal had all been obliterated by weathering except at the base of the stela, where the accumulated vegetal humus protected it. Seventy years ago, or about the middle of the nineteenth century, this stela was said to have been in such a good state of preservation that it was generally referred to by the natives as the "painted tombstone."



REPORT ON TWO SKULLS FROM BRITISH HONDURAS

BY A. J. E. CAVE

SPECIMEN No. 1.—A mutilated brachycephalic cranium, lacking almost the entire facial skeleton, and artificially deformed. Measurements:

- Auricular height, 111 mm.
- Maximum length (Glabella-inion), 150 mm.
- Maximum breadth (biparietal), 165 mm.
- Minimum frontal breadth, 92 mm.
- Nasal bone height, 22 mm.
- Width nasal bridge, 10 mm.
- Cephalic index, 110.

The cranium is that of an elderly subject (probably, but not certainly, female) in whom the coronal, sagittal, and pterionic sutures are long-closed and mainly obliterated. The basis cranii presents no remarkable feature other than its exaggerated breadth due to the artificial deformation. The very small occipital condyles and equally small mastoid processes, together with the absence of muscular markings in the temporal and occipital regions, strongly suggest the female. The glabella is flat and smooth, and flanked by very feeble supraorbital ridges. The orbits have been ovoid, and possibly of greater height than width. The strongly projectile bony nose was of narrow, delicate build: the single (right) zygomatic arch is of slender proportions. The whole calvaria is fairly symmetrical. It is curiously and quite artificially deformed, as follows: Mechanical flattening of the supra-inial occiput has produced an enormous lateral outthrust of the cranium in the mid-parietal transverse axis; the frontal region has not been directly compressed and merely shares in the general lateral bulging of the whole skull. (Indeed, a faint median heel may be detected on the frontal, evidence of the absence of any direct compression in that region.) At the obelion there is a distinct broad shallow depression on the vault, extending backward over the lambda. In each temporal fossa, an obvious and artificial groove ascends over the alisphenoid and anterior portion of the parietal to be lost above the superior temporal

crest: these grooves must be the product of tightly applied bandages of some kind. In norma verticalis, the cranium suggests an abortive "bilobed" appearance. There has been no fronto-occipital compression, but an obtrusive and distinctive flattening and downthrust of the obelio-inial area, with a consequent outspreading of the immediately anterior parietal regions, so that the cranium is actually of greater breadth than length.

SPECIMEN No. 2.—The artificially deformed calvaria of an adult middle-aged subject, presumably a male. Of the skull base, only the left petrous temporal remains; the entire facial skeleton is wanting, and the left moiety of the cranial vault has been restored from a handful of fragments. Despite its deformation the skull is brachycephalic and of corresponding type to specimen No. 1.

Its measurements are:

- Auricular height, about 100 mm.
- Glabella-inion length, 154 mm.
- Maximum (biparietal) breadth, 171 mm.
- Minimum frontal breadth, 101 mm.
- Cephalic index, 111.

Anatomically, the glabella is smoothly flat and the supraorbital ridges very feebly pronounced: the supraorbital nerves groove the frontal bone. The characters of the single (left) glenoid and mastoid region suggest a male individual. The occipital superior curved line is moderately developed, and the narrow strip of nuchal portion remaining below this exhibits no very vigorous muscular markings. The main vault sutures are closed and in process of obliteration. Frontal air sinuses moderately extensive. The (left) mastoid process is of the highly pneumatic type.

Artificial deformity has been produced by the pressure applied directly to the supra-inial portion of the occipital and to the immediately adjacent hinder portions of both parietals. In consequence the whole vault is squashed forward, resulting in the enormous exaggeration of the biparietal diameter, which exceeds the maximum length of the skull. The frontal region has not suffered directly applied pressure. It is full and vertical, the frontal bone sharing, however, in the general lateral outspreading of the whole vault. Ascending bilaterally from the temporal fossa, immediately behind the obliterated coronal suture, is a well-defined artificial groove, which is lost after it crosses the temporal line. These two grooves obviously result from the firm and continuous application of bandages, part of the mechanism whereby the cranial deformation has been produced. Like No. 1, this skull shows, in normal verticalis, a tendency toward the "bilobed" condition.

BIBLIOGRAPHY

[Including books dealing with British Honduras, and with dating by stratigraphy and the sequence in ceramic styles]

BLOM, FRANS.

- 1926 Tribes and Temples. 2 vols. Tulane University, New Orleans, La., 1926-27.

CHARNAY, D.

- 1887 The Ancient Cities of the New World. New York and London, 1887.

GANN, THOMAS W. F.

- 1900 Mounds in Northern Honduras. Nineteenth Ann. Rept. Bur. Amer. Ethn., pp. 655-692, Washington, 1900.
- 1914 Report on some Excavations in British Honduras. Univ. of Liverpool, Annals of Arch. and Anthrop., vol. VII, pp. 28-42, Liverpool, 1914-16.
- 1918 The Maya Indians of Southern Yucatan and Northern British Honduras. Bull. 64, Bur. Amer. Ethn., Washington, 1918.

GANN, THOMAS W. F., and THOMPSON, J. E.

- 1931 The History of the Maya from the Earliest Times to the Present Day. New York, 1931.

GORDON G. B.

- 1896 Prehistoric Ruins of Copan, Honduras. Mem. Peabody Mus. Amer. Arch. and Ethn., Harvard Univ., vol. I, no. 1, Cambridge, Mass., 1896.

GOODMAN, J. T.

- 1905 Maya Dates. American Anthropologist, n. s. VII, pp. 642-647, Lancaster, Pa., 1905.

HEYE, GEORGE C.

- 1925 Eccentric Clipped Objects from British Honduras. Museum of Amer. Ind., Heye Foundation, vol. II, no. 2, pp. 99-102, New York, 1925.

JOYCE, T. A.

- 1914 Mexican Archaeology. New York and London, 1914.
- 1926 Report on the Investigations at Lubaantun, British Honduras. Journ. Roy. Anthrop. Inst., vol. 56, pp. 207-230, London, 1926.
- 1928 Report on the British Museum Expedition to British Honduras. Ibid., vol. 58, pp. 323-350, 1928.
- 1929 Report on the British Museum Expedition to British Honduras. Ibid., vol. 59, pp. 439-459, 1929.

LANDA, DIEGO DE.

- 1864 Relation des Choses de Yucatan. Traduction Française par Brasseur de Bourbourg. Paris, 1864.

LOTHROP, S. K.

- 1921 The Stone Statues of Nicaragua. Amer. Anthrop., n. s. XXIII, pp. 311-319, Lancaster, Pa., 1921.
- 1927 Pottery Types and their Sequence in El Salvador. Mus. Amer. Ind., Heye Foundation, Ind. Notes and Monographs, vol. I, no. 4, New York, 1927.

LOTHROP, S. K.—Continued.

- 1927 A Nicoyan Polychrome Vase. *Ibid.*, vol. iv, no. 3, pp. 191-200, New York, 1927.

MAIER, TEOBERT.

- 1908 Explorations in the Department of Peten, Guatemala, and Adjacent Region. *Mem. Peabody Mus. Amer. Arch. and Ethn.*, Harvard Univ., vol. iv, no. 2, Cambridge, 1908.

MASON, G.

- 1928 Pottery and other Artifacts from Caves in British Honduras and Guatemala. *Mus. Amer. Ind.*, Heye Foundation, Ind. Notes and Monographs, no. 47, New York, 1928.

MASON, J. ALDEN.

- 1927 Native American Jades. *Univ. Penna. Mus. Journ.*, vol. xviii, no. 1, pp. 47-73, Philadelphia, 1927.
- 1927 What We Know about the Maya. *Ibid.* no. 4, pp. 251-380.

MAUDSLAY, A. P.

- 1899 *Biologia Centrali-Americana. Archaeology.* 4 vols. London, 1889-1902.

MORLEY, S. G.

- 1915 [Reports on work in] *Archaeology. Year Book, Carnegie Inst. of Washington*, nos. 14-28, Washington, 1915-29.
- 1915 An Introduction to the Study of the Maya Hieroglyphs. *Bull.* 57, *Bur. Amer. Ethn.*, Washington, 1915.

RICKETSON, O. G.

- 1925 Burials in the Maya Area. *Amer. Anthrop.*, n. s. vol. xxvii, pp. 381-401, Menasha, Wis., 1925.
- 1928 A Stratification of Remains at an Early Maya Site. *Proc. Nat. Acad. Sci.*, vol. xiv, no. 7, pp. 505-508, Easton, Pa., 1928.
- 1931 Excavations at Baking Pot, British Honduras. *Contributions to American Archaeology*, No. I, Washington, 1931. [Reprinted from *Publ.* 403, *Carnegie Inst. of Washington.*]

RICKETSON, O. G., and BLOM, F.

Index of Ruins in the Maya Area. Cambridge, Mass., 1925.

SPINDEN, H. J.

- 1913 A Study of Maya Art. *Mem. Peabody Mus. Amer. Arch. and Ethn.*, vol. vi, Cambridge, Mass., 1913.
- 1924 The Reduction of Mayan Dates. *Papers Peabody Mus.*, vol. vi, no. 4, Cambridge, 1924.
- 1928 Ancient Civilizations of Mexico and Central America. *Amer. Mus. Nat. Hist.*, Handbook Series, no. 3, New York, 1928.

TEEPLE, J. E.

- 1930 Maya Astronomy. *Carnegie Inst. of Washington, Cont. Amer. Arch.*, vol. i, no. 2 (*Publ.* no. 403), Washington, 1930.

THOMPSON, J. ERIC.

- 1927 A Correlation of the Mayan and European Calendars. *Field Mus. Nat. Hist.*, *Anthrop. ser.*, xvii, no. 1, Chicago, 1927.
- 1930 Ethnology of the Mayas of Southern and Central British Honduras. *Ibid.*, no. 2, pp. 31-40.
- 1931 Archaeological Investigations in the Southern Caya District, British Honduras. *Ibid.* no. 3.

TOZZER, A. M.

- 1907 A Comparative Study of the Mayas and the Lacandonnes. Published for the Archaeological Institute of America. Norwood, Mass., 1907.

FOZZER, A. M., and ALLEN, G. M.

- 1910 Animal Figures in the Maya Codices. Papers Peabody Mus. of Arch. and Ethn., Harvard Univ., vol. iv, no. 3, Cambridge, Mass., 1910.

VAILLANT, G. C.

The Chronological Significance of Maya Ceramics. [Manuscript.]

- 1928 The Native Art of Middle America. Natural History, vol. xxviii, no. 6, pp. 563-576, New York, 1928.

- 1930 Notes on the Middle Cultures of Middle America. Proc. Twenty-third Int. Cong. Americanists, New York, 1928, pp. 74-81, New York, 1930.

- 1932 Stratigraphical Research in Central Mexico. Proc. Nat. Acad. Sci., vol. xviii, no. 7, pp. 487-490, Washington, 1932.

VAILLANT, G. C., and MERWIN, RAYMOND E.

- 1932 The Ruins of Holmul, Guatemala. Mem. Peabody Mus. Amer. Arch. and Ethn., Harvard Univ., vol. iii, no. 2, Cambridge, Mass., 1932.

VILLACORTA, C. A., and VILLACORTA, J. A.

- 1927 Arqueologia Guatemalteca. Guatemala, 1927.

WILSON, DANIEL.

- 1862 Prehistoric Man. vol. i, p. 214. London, 1862.

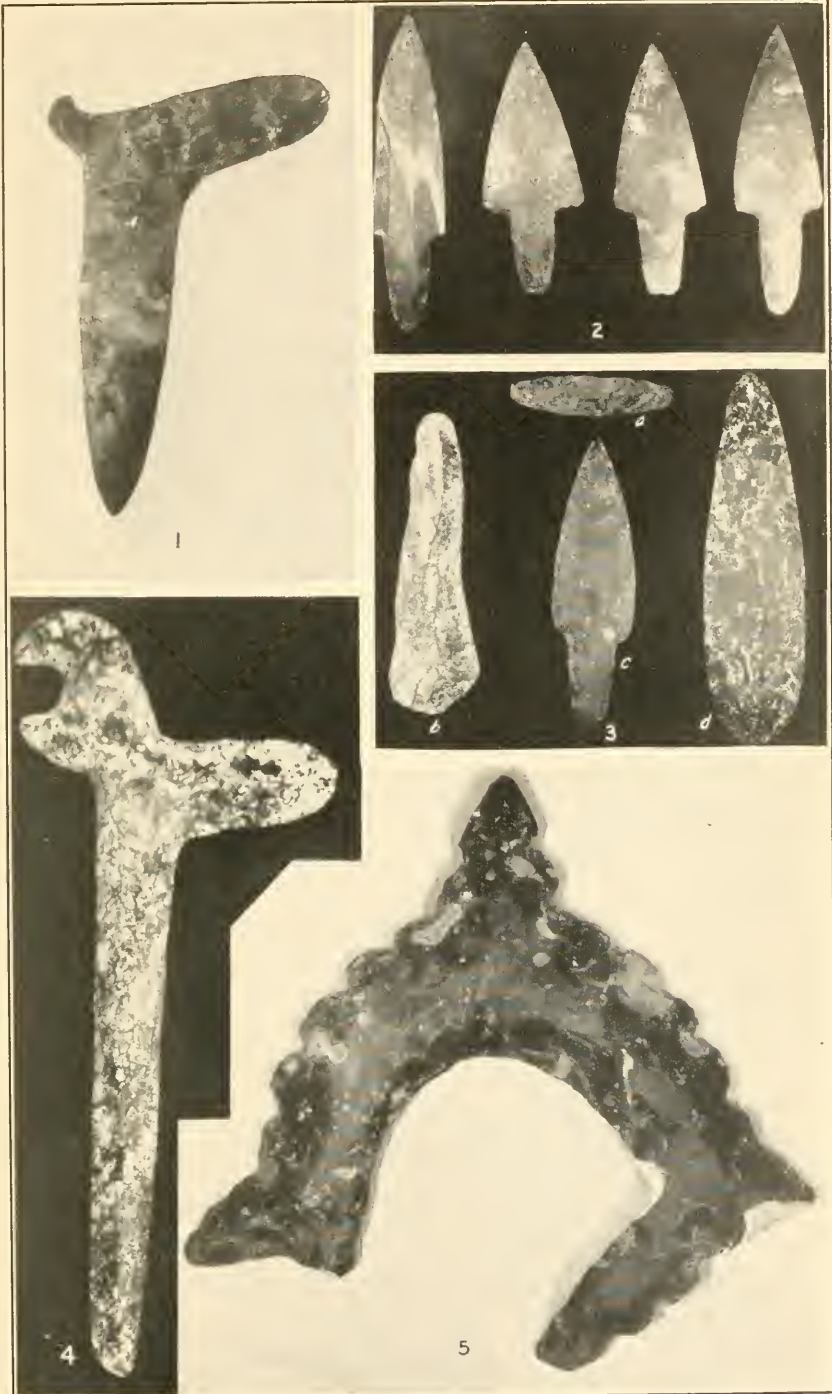


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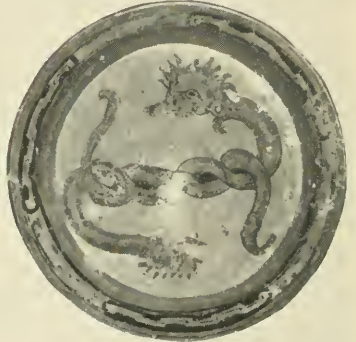
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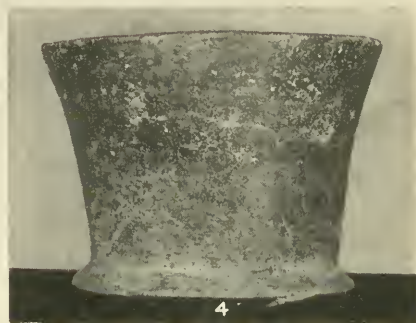


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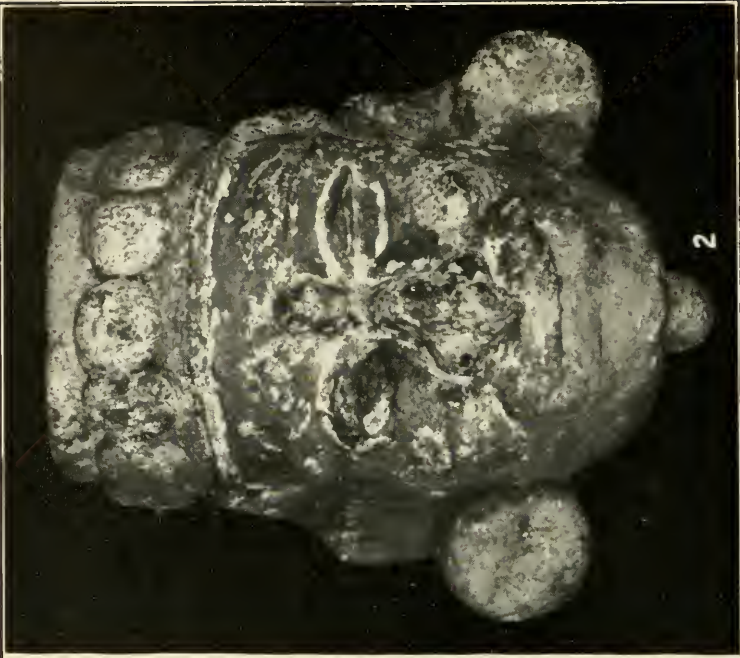


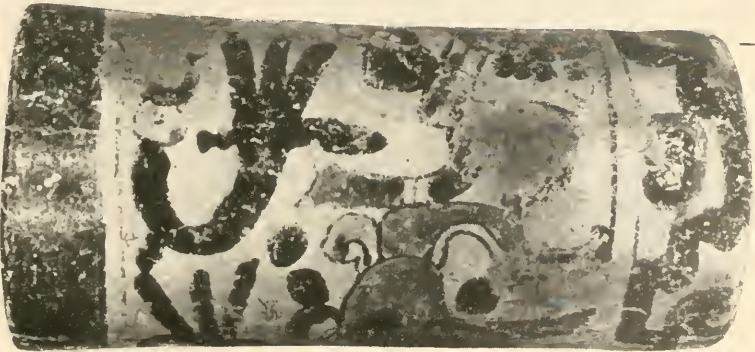
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