

A SUMMARY OF EXCAVATION AND RESEARCH AT TIKAL, GUATEMALA: 1962

Por WILLIAM R. COE.

University of Pennsylvania Tikal Project.

The year 1962 was the seventh in the ten-year program of excavation and study of Tikal, Guatemala, by the University Museum of the University of Pennsylvania. The overall results of the work from 1956 to 1961 have been recently summarized in technical and popular articles (Coe, 1962, 1962a, 1962b). These summaries, particularly the technical one (Coe, 1962) clarify the course of study, the general range of problems faced by the Tikal Project, and the degree to which such problems have been answered.

The opportunity is taken in this paper to bring the interim record up to date, realizing that full, proper presentation of the record in the form of *Tikal Reports* (in the *University Museum Monograph* series) cannot be expected for a number of years.

The 1962 season at Tikal was an incomparably full one, comprising a winter session from late January to mid-May, with restricted but steady fieldwork through December, 1962. The winter and spring months saw the following excavations: continued trenching and probing of the North Acropolis (by the writer, assisted by John McGinn); continued tunneling, recording, and consolidation of Temple I and initial consolidation of Temple II by Aubrey Trik, aided by Alfonso Mora and Bernard Walder; excavation in and about the West Plaza, by Peter Harrison; partial excavation of Structures 5D-50 and 5D-52 (Maler's "Palace of Five Stories") by Robert Dyson, as Field Director; excavation of minor features such as monuments and a chultun, by Christopher Jones; and laboratory study of ceramics by Patrick Culbert and of artifacts by Hát-

tula Moholy-Nagy. Marshall and Kathleen Becker continued investigation of "small structures" in the northeast sector of the site, completing their work in August. A major tomb was excavated within Temple I by Trik in November and December. Four Guatemalan students joined the Tikal Projects for field training from February to May, under the Rockefeller Foundation Training Program, administered by Edwin Shook. Noteworthy in 1962 was the start of construction of the Tikal Museum, a feature of the National Park of Tikal, the supervisor of which is Rafael Morales. Private and public funds, both in Guatemala and abroad were raised for the museum.

North acropolis

The 1962 excavations on the North Acropolis (Fig. 1), the presumed early ceremonial core of Tikal, succeeded in carrying the elaborate architectural record back to around 100 B. C. Within the limits of the 42 m. long north-south trench, it is estimated that about 5 to 7 m. of stratified construction remain to be excavated in 1963 before bedrock is struck. With the details of a prior summary in mind (Coe, 1962, pp. 501-02), excavation ceased here this past season on Floor 13 (back through time) which runs under and supports Str. 5D-Sub. 1, the building encountered in a large test pit in 1960. Floor 13 lies 8 m. below the mid-Classic Floor 1. Str. 5D-26-4th, the terminus of work in 1961 (*ibid*) is now known to be a long relatively narrow building facing south, with at least five rooms set in an east-west line (is it a palace or is it a temple, or what?). The central room directly overlies the building platform of Str. 5D-26-5th which, in turn, concealed some remnants of Str. 5D-26-6th, while other remnants (e.g., walls) of the latter survived in the later constructions. The stairs south of —5th and —6th were found to carry down to Str. 5D-Sub. 3 which consists of five stratified buildings, the earliest (Str. 5D-Sub. 3-5th) having been built on Floor 13, making it approximately contemporary with Str. 5D-Sub. 1 (see above). The architectural development at the Str. 5D-Sub. 3 locus occurred at the summit of an equally long series of stairways carrying down to the North Terrace. Str. 5D-Sub. 3-3rd was outstanding for the reasonably well preserved polychromed stuc-

coed mask, 4 m. long, flanking the west side of its stairway (a balancing one is presumed to the unexcavated east). The amount of polychromed stucco facade decoration on early North Acropolis buildings must have been staggering, judging from the amount of fragments found in the construction fills. Floor 9 of the Acropolis, which seals the architecturally complex Str. 5D-Sub. 1, sustained among other structures, a red painted round one, with a diameter of about 8 m. This round structure, Str. 5D-Sub. 1, sustained among other structures, a red painted than traces on Floor 9 of red paint from its substructure attested to its existence. Another structure on this floor had been so extensively demolished that only a few centimeters of its height remained.

To date, on the North Acropolis proper, 23 structures have been encountered underlying the final and mapped Early Classic temple-type structures. Following the laying of Floor 7, the north-south construction alignment of the North Acropolis shifted 5 m. to the east. Eventually Floor 5 was laid, and probably covered all prior buildings (requiring their extensive razing). Ceramically this floor marks the advent of Early Classic, Tzakol-related remains. Matzanel-Holmul I material does not make its appearance until after the laying of Floor 6. Below this floor, the construction fills evidence two sequent Tikal ceramic complexes that correspond to Uaxactun's Chicanel.

Burials and deposits recognizable as cached offerings have been conspicuously absent beneath Floor 5. The matter was somewhat altered in 1962 with the discovery of Burial 85. This important interment had been intruded through Floor 10, south of and in front of the central stair of Str. 5D-Sub 1. Floor 10 was the latest of three Acropolis surfaces that abutted this structure. Immediately following the installation of the burial, a small red painted two-level building platform, Str. 5D-Sub. 2-2nd, was built over the refilled grave pit. This platform is believed to have sustained a building of perishable materials. The building was eventually dismantled and a new platform, Str. 5D-Sub. 2-1st, (identical except in size to the earlier one), was constructed with a four-pole and thatched roof building on it.

Burial 85 (Coe and McGinn, 1963) contributed the following important traits: a rectangular chamber, masonry walled, its long axis north-south, and a crude but clearcut corbelled

vault spanned by large irregular capstones; a single adult individual who had been deposited in the chamber center in a textile wrapped bundle; the removal of his head and thigh bones prior to wrapping, presumably as relics; a large "offering" of 26 pottery vessels; a scorpion etched on the interior base of one vessel; with the body in the bundle were a hinge-perforated *Spondylus* shell with scraped interior, a stingray spine, a *Spondylus* bead, and a jade tubular bead; an extraordinary jade "mask" (Fig. 2) with inlaid shell eyes and teeth for which there is some evidence of its having been originally attached to the bundle, conceivably as a substitute for the head that was removed. Burned pieces of pine wood from between nested bowls in the chamber provided a radiocarbon date of around O A.D. (an original determination of some two centuries earlier has been cancelled by recent laboratory recalibration). The tomb vessels belong to the Cauac ceramic complex of Tikal, of Chicanel affiliation (see Ceramic Research, below). Two large polished red tomb vessels are typologically identical to certain vessels present in Kaminaljuyu, Arenal and Chiapa de Corzo Early Horcones (E. M. Shook, verbal communication; Lowe and Agrinier, 1960, fig. 53,g). The Tikal radiocarbon date is corroborated by other dates from contexts stratigraphically slightly later than the tomb itself. As regards the noted traits, the presence of a vault at the indicated date merely confirms what many have long suspected, namely, that the certain traditional diagnostics of "Classicism" in the lowland Maya area could well antedate A. D. 300. The implication of retention of sacred or valuable parts of the deceased brings to mind the late Early Classic Burial 48 in which something comparable was encountered (Shook and Kidder II, 1961). Stingray spines and scraped-interior *Spondylus* valves with suspension holes near their hinges are frequent in Tikal Classic interments. The position and specific elaborateness of the tomb argue that the individual interred was important and by extension he had operated in his lifetime in a class-structured society dominated by a priestly faction of which he had been a member. The point is that every social inference allowed by a Classic tomb should be equally permitted by Burial 85, assuming such inferences to be in fact valid. Very much apart from ceramics, what is there at about O A. D. on the North Acropolis that would give to or preclude meaning from the term "Preclassic"

or "Formative"? Although the vault was present in Burial 85, we actually have no good case for its use in buildings until the level of Floor 5 (estimated A. D. 200-300). This is really a moot point since all early room walls have been found razed below where a vault spring would be expected. Examination of masonry discarded in fills has yielded a great deal of information on prior constructions but no masonry can be surely identified as from vaults. There is a good deal of inconclusive argument over whether or not Str. 5D-Sub. 1 was vaulted. If not, its stuccoed, battered upper zone rose to some convenient level to support transverse beams which in turn carried a beam-and-mortar or perishable roof structure. Certain building platforms of this time are known to have carried no masonry whatsoever, simply corner poles and a thatched roof (e. g. Str. 5D-Sub. 2-1st). Some walled rooms are believed too large, the walls too thin, and the doorways too wide (up to 3 m.) to have been associated with a vault.

Beyond fragments in construction fill, the only known stone monuments on the Acropolis proper were Stelae 1 and 2, both Early Classic, incomplete, and almost surely where they were found because of "non-Classic" activity (see discussion of West Plaza, below). Two fragments of stone sculpture do come from sub-Floor 5 fills. One of these is from a small full-round sculpture of a squatting creature whose head is missing; it comes from the fill immediately overlying Structure 5D-Sub 1, 5D-Sub. 2-1st, etc. The other fragment is still smaller and cannot be certainly attributed to a stela or altar. Occasional sherds from early fills show incised elements that suggest glyphs; one appears to show a sky glyph. The fact is, then that the North Acropolis excavations have not as yet contributed proof of the existence at Tikal of stelae and altars and hieroglyphic writing during these relatively early times.

With about 5-7 m. of Acropolis growth still to be excavated, it would be premature to enter here into arguments of to what degree Tikal was an inovator, a recipient, a synthesizer, or an elaborator with regard to the hierarchical, theocratic, ceremonial complex so much a part of what is meant by "Lowland Classic Maya". It is anticipated that completion of the North Acropolis program should contribute many vital new facts in the controversy surrounding "origination". This would be particularly true were the remaining meters of construction to have

spanned, say, some 500 years. However, we tend to doubt that the record will carry back that far in time.

Temples I and II

In the midst of a long term program of tunneling and probing Temple I (Str. 5D-1) to pinpoint its construction sequence and all that preceded it at this locus, a major tomb was uncovered in 1962. The burial was located 8 m. north of the front rear axis of the final temple (Str. 5D-1-1st) and on the axis and base of the west oriented stairway of an earlier structure, 5D-1-2nd. The Great Plaza floors buried by the final temple were discovered in 1962. The burial was located 8 m. north of the front-disturbed area in November, 1962 revealed a north-south alignment of capstones shortly below the level of the plaza floors. The presence of a tomb had been suspected since initial axial tunneling in 1959 had revealed a mass of flint flakes in the west basal fill of the final temple. These were followed north in 1962 where they were found to directly overlie the razed remains of an early stairway and the tomb which had coincidentally been intruded through the stairway and the underlying plaza floors. Everything indicated the presence of a tomb "dedicatory" to the final Late Classic temple. The building itself has been dated by C14 as having been constructed around A. D. 700 (Statterthwaite and Ralph, 1960). The very large vaulted chamber of the burial was found to be oriented north-south. A masonry "bench" ran from end-wall to end-wall along the east side of the chamber. On it was the single individual, fully extended, on his back, with head to the north. A vast amount of jade jewelry accompanied this adult individual, including bracelets, anklets, and massive separate necklaces or collars. The objects accompanying the body included a polychromed alabaster vessel, a jade mosaic encrusted vessel and lid, the latter with an incised hieroglyphic text, a very fine polychromed vessel with life figure painting, many bones with incised scenes and hieroglyphic texts, and so forth. The associated pottery is in many cases identical to well known Uaxactun Tepeu 2 types. The burial shows many traits previously noted in Late Classic Tikal interments, suggesting a real Late Classic mortuary assemblage quite in contrast to one more or less apparent for late

Early Classic times at the site. Inasmuch as the burial is still in the process of terminal excavation, it would be premature to say much more about it at this time. A preliminary report on it is to be expected in the near future by its excavator, Trik. It is evident that further probing will be necessary in 1963 to realize the nature of the early structure into which this burial was intruded at the time of building the final Temple I. An effort will be made to locate any evidence of buried monuments or stela pits at the base of the stairway of the early structure.

Further work by Trik in 1962 involved the clearing of the building and roof comb of Temple II preliminary to consolidation. Numerous important details of construction and decoration were encountered in this work.

West Plaza

Work in 1962 in the massive West Plaza had various aims, the principal being to test it as a potential locus of extensive Preclassic construction underlying the easily removed Classic plaza floors. A resistivity survey here in 1961 (Coe, 1962, p. 504) had pinpointed a major buried feature. These indications were tested by excavation in 1962 with inconclusive results. What the instrument had been reflecting evidently was differences in stratified fill composition. This was disappointing as positive correlations between masonry construction and instrument readings are believed to have been gained on the North Acropolis. Generally speaking, however, the resistivity instrument seems ill-suited for use in limestone-based, constructionally dynamic Petén sites.

With a number of problems in mind, the excavations were then shifted to certain surface features. One outstanding problem has been to gain further data and chronological control on an exceptionally interesting local phase termed "non-Classic". We have previously outlined the known activities subsumed by this term (intentional disturbance of Classic caches and a burial, movement of whole and fragmentary monuments, with frequent "abnormal" resetting, etc.; Coe, 1962, pp. 484-87) and, further, have indicated the basis for assigning such presumably coeval activities to a post-10.2.0.0.0. time-span. One of the most impressive pieces of relevant evidence for this

phase had been encountered in the West Plaza at the locus of Altar P26 (*ibid*, p. 486). It was with this theme of "non-Classicism" in mind that the plain monuments in the west portion of the Plaza were investigated in 1962.

Three plain altars and two plain stelae, all typologically Late Classic (*ibid*, p. 493, for criteria), were studied to determine what had caused their peculiar positions (i.e., lack of alignment, separation of stelae and altars, etc.). It now seems clear that the monuments lie on a ruined floor, the latest of two Late Classic plaza floors. The two plain stelae were never erected where found lying, nor were there stela pits associated with the altars. An offering of eccentric flints and obsidians was found lying directly on the intact surface of the earlier of the floors. This cache lies some meters south of the position of the Early Classic Stela 15, as found in 1956. Considering that both Maler and Morley must have moved the stela fragments for study, one suspects that the cache marks where Stela 15 came ultimately to stand. The cache is believed to be of an offertory assemblage earlier than Late Classic times. Yet it lies on a Late Classic floor with the possibility that Stela 15, Early Classic, was intruded through a Late Classic floor with an earlier Late Classic floor forming the base of its stela pit. Sequential anomalies such as this have been frequently found at Tikal and have greatly contributed to the "non-Classical" theme. It remains a matter of speculation whether the Late Classic plain stelae and altars were, after transportation, abandoned where found, having been removed from original, "normal" settings elsewhere.

In order to position these two upper plaza floors in time, they were carried via a series of trenches to a nearby large mound, Str. 5D-11, on the west side of the plaza. The mound was axially trenched to its center, revealing two superimposed structures, 5D-11-2nd, the earlier, and 5D-11-1st, the latest. The earlier structure was long and narrow, plastered and painted red, its building (if any) completely razed, with a stair on the east side and running the total length of structure. The latest sherd material from its fill was identified as Late Classic. The earlier of the two upper plaza floors coincided by projection with the base of the stair of this structure. During the use of the building, a series of parapets was added to the west side of the plaza. The plaza became in Late Classic times a



FIG. 1. North Acropolis, general view looking north at Srt. 5 D-Sub. 1, underlying Str. 5D-22, a large Early Classic temple

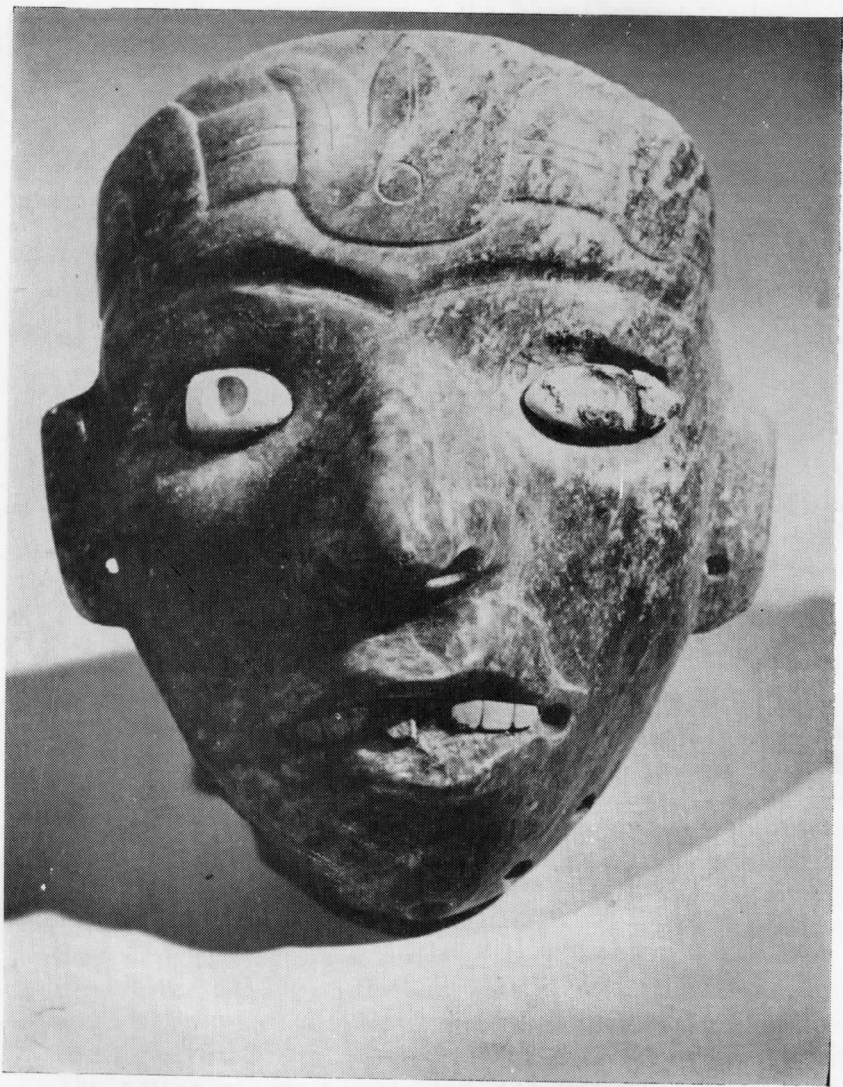


FIG. 2. Late Preclassic jade mask with shell inlay teeth and eyes, from Burial 85, North Acropolis. Height 12.3 cm.



FIG. 3. Late classic jade pendant from Burial 77, West Plaza. Height 9.3 cm.



FIG. 4. Column altar, carved top, from base of Str. 5 D-15. Stylistically Late classic. Diameter 40 cm.

large area leading north from the Tozzer Causeway (note that parapets independently had been determined to have been a Late Classic causeway feature at Tikal and Uaxactun; Coe, 1962, p. 502).

Razing of Str. 5D-11-2nd and construction of 5D-11-1st was marked by the installation of Burial 77 in a large bedrock cut just west of, or behind 5D-11-2nd (Harrison, 1963). This burial was noteworthy for the following features: a substantial rectangular chamber or tomb with plastered walls; a north-south long axis, despite the east orientation of both 5D-11-2nd and 1st; a roof of beams covered by petates, and, over the whole tomb area, a layer of flint and obsidian chips, this layer being a common local feature of important burials; a single extended, supine adult individual with head to north; powdered cinnabar among the skeletal remains; six pearls; an offering of six vessels of well known Tepeu 2 types; and a magnificent jade pendant (Fig. 3) in Late Classic style, the obverse of which carried a single column of four very effaced glyphs, suggesting an heirloom.

The burial marked, as noted, the construction of Str. 5D-11-1st which turned out to be a remarkably problematic feature. Its square summit was discovered to consist of a layer of loose large and small stones. Not a single trace of flooring, walls, or roof material were encountered, suggesting either total demolition of a building or that nothing formal had ever been built on the underlying substructure. The latter could not be proved to have a stairway; weathering and root disturbance of a stairway as a rule leaves one or two basal steps intact. No masonry in the east talus was found to account for either a stairway or facing masonry on the substructure proper. Testing of the other three sides of the substructure showed a complete absence of facing masonry, either fallen or in situ. The only substructure masonry present were occasional, oddly set cut stones which appeared to retain in a rough fashion the limestone block-wet mud hearting (a typical Late Classic fill).

All in all, Str. 5D-11-1st presented a picture of a temple-type structure that either had never been completed, despite the relatively important tomb that coincided with the start of its construction, or had been totally robbed. As regards the latter possibility, it seems unlikely that robbing would have been so thorough that some basal substructure facing masonry, or room

flooring, or floor turnups to walls, or wall stubs would not have survived. Why was the structure never completed? The tomb alone is an indication that Str. 5D-11-1st was scheduled for completion in as traditional a manner as governed the installation of the tomb itself. The condition of this structure obviously presents an opportunity for extravagant speculation. In 1963, more work about the structure is called for, particularly in regard to adjacent dumps (overlying the parapets) of Tepeu 2 sherd material and large quantities of censer fragments of types previously associated with "non-Classic" phenomena in the Great Plaza-North Terrace area. It is hoped that in 1963 the question may be answered of how the suspect West Plaza monuments fit into the problem-ridden sequence at and about Str. 5D-11. The bearing of these excavations on the nature of "terminal Classic" and "non-Classic" Tikal theoretically could be enormous.

1962 work in the West Plaza also involved investigation of a major "palace" type building, Str. 5D-15, which on the north side of the plaza dominates the whole local area. Masonry and sherd material from wall and vault cores indicate it to have been Late Classic. The selective excavation of this immense building was an initial step in a program of study of "palaces" in the central portion of the site, with the idea of balancing the work in progress on temples in this same area. The structure rests on the earlier of the two Late Classic floors previously noted. The building consisted of two parallel galleries, with the front gallery opening to the south through nine doorways. The front gallery is at a lower level than the back one. A stucco frieze occurred along the upper zone of the front of the building. A number of Fine Orange sherds (a major component of Tepeu 3 at Uaxactun) occurred on the room floors. Similar situated was an obsidian projectile point of a type previously encountered in San Jose V deposits (cf. Thompson, 1939, Pl. 25, b, 2). On the stair axis and close to its base was the first tapered, cylindrical "altar" (Fig. 4) encountered at Tikal (recalling the "column altars" of Piedras Negras, the "picotes" of Uxmal, etc.). The round flat top of the "altar" is paralleled by a carved rope, within which a bound captive with shattered features sits. Two columns of incised hieroglyphs flank the individual. The scene is comparable to that on Altar 8 with Stela 20(9.16.0.0.0). The new text contains a Calendar Round

date, 10 Kan 12 Pax. Had this altar been set on the stairway, it presumably would have been placed vertically. No sign of a pit in stair masonry was found. Thus, it is conceivable that it was originally made for a different location. It will be recalled that the Piedras Negras column altars were axial features of temples, not "palaces". Once again, it is a matter of specifying the relationships between the altar, Fine Orange, the projectile point, and the still confused data on Plaza monuments and Str. 5D-11, etc. The sorting out of all this constructionally unsealed material is surely going to prove as difficult as it has elsewhere at the site.

Structure 5D-15 was penetrated from the north and south on its front rear axis by still unconnected trenches. These probes indicate the presence of two earlier stairways that are linked with sequent plaza floors. Such probing was done in the hope of encountering signs of Early Classic stratified structures, hopefully of the "palace" type. It is expected that the trenches can be rapidly linked in 1963. One suspects that the results will be equivocal and that interest in Early Classic (and perhaps earlier) "palaces" would be rewarded more conclusively by excavation of Str. 5D-46 in the Central Acropolis. The latter, from masonry style, appears to have been built during Early Classic times. Parenthetically, it should be noted that the North Acropolis excavations do provide us with a glimpse of early architectural diffuseness out of which, during Early Classic times, temples and "palaces" emerged as distinct tradition-bound architectural expressions. The evolutionary picture is surely more complex than that provided by Str. A-V at Uaxactun where early Classic temples were submerged by Late Classic "palaces", as if "palaces" were an innovation of the times.

A final feature, Str. 5D-19, was excavated in the West Plaza in 1962. This relatively small, west oriented, plaza-based structure was frankly excavated out of plain curiosity. It was built on the locally latest floor. The two-stage substructure could not be shown to have sustained a building. The substructure top was a confused mass of small stones with no trace of plaster (recalling the summit of Str. 5D-11-1st). No cache or burial was located in the west to east axial trench carried to the mound center. A deposit of late Tepeu pottery was located on the plaza floor in the angle formed by the substructure base and the south stairwall of the west-oriented stair.

Central acropolis and palace reservoir

Excavation in 1962 in the Central Acropolis was restricted to limited clearing and penetration of the faces and rooms of Maler's "Palace of Five Stories", that is, the lower Str. 5D-50 and the upper Str. 5D-52. The objective here was to gain information on the composition of two related major "palace" type structures. This excavation was considered as an initial part of a program of major "palace" investigation at Tikal, particularly in the Central Acropolis. In 1962, work was concurrently carried out on a large West Plaza "palace".

Bearing out much that Maler had previously reported (Maler, 1911), Str. 5D-52 was found to comprise a three-story building, set upon the top surface of a massive substructure that carried partly down the north face of the enormous depression designated as the Palace Reservoir. Str. 5D-50, consisting of two stories, had been built against the sloping substructure of Str. 5D-52, and on a similar substructure of its own. The lower building thus was constructed after the substructure of Str. 5D-52.

The entire front gallery of both the first and second stories of Str. 5D-52 had collapsed anciently. Both stories consisted of two parallel galleries. The rear gallery of the first story was filled with about a meter of bat dung. A large bench (yielding sherds seemingly of Tepeu 2 affiliation), built against secondary partitions, and doorways were found in this rear gallery (it was the central original doorway of this gallery that carried the only carved lintel known for both related buildings; cf. Coe, Shook and Satterthwaite, 1961). A stair led up the eastern end of the building from ground level to the terrace fronting the second story while a west side stair led from the second to the third story (a single gallery now known only from a central excavation). The building was completely encompassed by an elaborate frieze along the upper facade zone of the first story. All rooms were free of occupation debris. However, the entire area fronting the front gallery of the first story was covered with a thick deposit of gray ashy soil containing a large quantity of restorable pottery vessels as well as small artifacts, some ostensibly domestic. The pottery appeared to conform to the Uaxactum Tepeu 3 phase and included Fine Orange pot-

tery. The whole deposit presumably resulted from a late occupation of the structure. One may only speculate as to whether or not this occupation was of a domestic nature. No hearths were indentified.

The area lying to the west between Str. 5D-52 and the substructure of "Maler's Palace", that is, Str. 5D-65, was occupied by an as yet little understood construction that was clearly secondary to 5D-52 if not to 5D-65 as well. Further excavation in this area would provide an opportunity to interrelate physically these two great structures. Of note was a small stairway proximate to the east end of the substructure of Str. 5D-65. This stairway had a "balustrade" (or, more properly, a stair-side extension) and is the first to have been found in the central portion of Tikal. A second and similar stair appears to be buried under the southeast corner of the structure intermediate between 5D-65 and 5D-52.

Structure 5D-50, the lower "palace", comprised two superimposed stories, each with two long parallel galleries. The outer gallery of the second story was left unexcavated and only that portion of the platform in front of the lower story to the west of the axis was excavated. The central portion of the building was so constructed that the front gallery of the second story directly overlay the rear gallery of the first story. The first story front gallery was divided by a secondary, crudely installed masonry partition into two rooms with one and two doorways respectively, while the rear gallery had been similarly divided, but had only two doorways, the three doorways having been replaced by a horizontal slot-like "window" spanned by a wooden lintel. Both galleries of the second story were subdivided by secondary partition walls the rear gallery into three rooms with a single door each, the front gallery, like the gallery in the lower story, into two rooms, one with two doors and one with one. A secondary bench with an addition was found against the end wall of the rear gallery of the second stairs. There is a possibility that another gallery had been built on the roof of the second story, as suggested by various peculiar masonry features on this roof. However any such gallery (that is, a third story) would have completely blocked the view from the first story of Str. 5D-52.

To the east and most of the central section excavated lie additions also consisting of two stories. The upper story consisting

of two parallel galleries each of a single room were cleared in the western addition. Both galleries were entered by a single central doorway. The front gallery contained two benches and the rear gallery one. All were secondary to the main structure.

In conjunction with this "palace" excavation, a most interesting exploratory excavation was made in the deepest point immediately below the palaces (but not the deepest point of the entire basin) of Palace Reservoir, at a point south of Str. 5D-50. The cut revealed a half meter of humus resting directly on bedrock. The expected clays and general sedimentary material, even stone slab paving (cf. Smith, 1950, Fig. 99b, section of Uxactun reservoir), were not encountered. More testing is probably indicated, but, on the basis of the present negative evidence, there are grounds for doubting that this enormous depression was in fact a reservoir. All observers have been impressed by the possibility of a natural dike on the east end of the depression, separating it from the so-called Hidden Reservoir. Investigation of this "dike" is obviously called for.

Miscellaneous excavations

The central area of the site saw various minor excavations among monuments. Three proximate but isolated monuments fragments south of Stela 29 were assembled as a new plain altar, Altar P25 (filling a previously vacant number; cf. Carr and Hazard, 1961, p. 22, footnote). The altar has been mentioned in print (Coe, 1962, p. 495) as being part of a possible Classic dump and as a potential example of what we have termed Classic "normal obsolescence". (ibid., p. 494). The nearby Stela P36, in a small plaza bound by elongate, potentially residential mounds, was excavated and proved to be a butt-less Late Classic monument for which no stela pit could be found. Stela 24 was further excavated, picking up where work was stopped in 1957. Newly discovered fragments of the still largely incomplete Stela 24 text does allow the probability of a 9.19.0.0.0 Dedicatory Date. This stela, thus, could be one of the "missing" monuments (i.e., 9.19.0.0.0, 10.0.0.0.0, and 10.1.0.0.0) in the uniform Late Classic series. A cache beneath the *in situ* butt fully conformed to the Late Classic monument offertory assemblage already described (ibid., p. 497-

98). To gain further data on the earliest known appearance of this assemblage, that is, the cache of Stela 16 at 9.14.0.0.0, Stela P 49 and Altar P 41 in front of the east pyramid of this Twin-pyramid Complex were excavated. The cache was most remarkable in that the eccentric flints and incised obsidians were of an offertory assemblage only encountered in Tepeu 2-related structures at Tikal. This find is further confirmation that 9.13.0.0.0—9.14.0.0.0 marks a very real and significant transition, only after which did the Late Classic structure-mo- nument bifurcation in offerings become rigid.

In a prior summary (*ibid.*, p. 504) it was reported that a chultun had been discovered which promised to contain an important collection of Matzanel-Holmul I pottery, if not a burial. This chultun (Ch. 5C-8) did in fact yield a mass of debris containing an important sample of this peculiar "horizon" but definitely mixed with Tepeu-related sherds, human skeletal material, etc. Directly over the multichambered chultun were floors and foundation walls of a structure not unlikely a house. These floors had once sealed the chultun.

Small structures

1962 saw a fourth season of so-called "small structure" investigation. Excavations were conducted among mound groups on a pronounced spur or peninsula jutting northeast into the Bajo Santa Fe. This peninsula occurs on the margin of the mapped area of Tikal and is located just southeast of the 500 m. wide test strip so heavily investigated in this northeast quarter of the site during 1959-1961 (Coe, 1962, pp. 502-04). The overall "small structure" program is intended to balance the concurrent emphasis in excavation on the central or ceremonial-administrative nuclear portion of Tikal. The term "small structure" has been used in preference to the overly presumptive or conclusive term "housemound". The program is oriented not only to eliciting data on the reality and nature of residence at Tikal but on the physical composition of the myriad of relatively small structures and their groupings that blot the mapped area of Tikal. The only factor that seems to limit their occurrence is bajo and then not always (e.g., Carr and Hazard, 1961, Square 3D).

With such minimal objectives in mind, the noted peninsula was chosen in 1962 for selective investigation. The peninsula was marked by the presence of what appeared to be the most distant "temple" type structure from the Great Plaza, a distance of some 1600 m. This structure (Str. 5G-8) occurred with a small, rectangularly arranged group of mounds. Eight other superficially similar groups had been mapped on this peninsula. In each architectural group, a comparatively small mound existed on the east side of a plaza, with generally larger and more elongate mounds on the other sides of the plaza. The noted temple, Str. 5G-8, was the largest of the structures occupying the east sides of the nine plazas. This particular assemblage occurs frequently on the Tikal map in other areas as well as the peninsula and it had been recognized as a pronounced feature in the course of mapping by Richard Wurman in 1958. However this mapped assemblage had not been excavated in any prior season of small structure work. The apparent frequency of this assemblage on the peninsula set the area apart from that previously tested to the northwest.

The problem as undertaken by Marshall Becker in 1962, was to specify the archaeological makeup of the structures comprising these seemingly patterned peninsular groups. Moreover, it was to be a matter of translating archaeological data into something of social and economic pertinancy, regardless of how tentative such might be. Were all or some of the mapped groups ceremonial in whole, or in part, or, for that matter, were they entirely residential? And, in any case, where in the social composition of Tikal (a basically speculative subject in itself) did the peoples responsible for these group occur? Gauging from the map and past excavations, how could one explain the diversity of details and structural groupings in the whole peripheral northeast sector of Tikal, if only for Late Classic times?

Thirty-three structures were excavated to one degree or another on this peninsula. These structures occurred as surface and buried features within 6 of the 9 mapped groups. The work additionally uncovered 43 burials. Eight chultuns were investigated. The total of structures excavated in the "small structure" program to date stands at 78, all in this northeast portion of the site, while burials from the same area now total 95. The full reports on all seasons of such work (1959-1962) are in active preparation. A summary of the 1962 work was presented

by Becker at the American Anthropological Association meetings, November 1962. This report has been combined with another, given at the Association meetings in 1961, by Ann Chowning and William Haviland on the 1959-1961 work. This combined paper, under joint authorship, should be in print in the near future as an overall statement of the program's results and the conclusions stemming from them.

The ceramics from the peninsular sites show a considerable time-span. An unsealed chultun contained over 50 smashed vessels belonging to the Mamon-related local Eb Ceramic Complex. Chicanel-affiliated sherd material was common in construction fills, while some late Preclassic architecture was uncovered. Most construction pertained to Early and Late Classic times. Relatively late occupation was indicated by a fair quantity of Fine Orange pottery in surface contexts and by a probable Ixpop Polychrome vessel in a chultun.

As a result of excavation, it seems quite certain that the previously noted temple-type structure, Str. 5G-8, was in fact the focus for ceremonial life on the peninsula. The architectural group of which it was a part appears to have been the principal one of the nine. This Str. 5G-8 is concluded to have been a temple on architectural grounds as well as for the presence of axial on floor burning and the association of distinct mortuary features. These diagnostics similarly apply to 5 other structures in this area, all smaller than Str. 5G-8, but each situated on the east side of its architectural group and facing west into the associated small plaza. Except for Str. 5G-8, none of these evident religious structures had been vaulted, nor were cached offerings generally found with them, these being common features of temples in the central part of Tikal. Each of six temples had evolved through superimposition of new construction on the old. The earliest construction at each locus comprised a platform that had been built over and after the installation of a burial in a grave cut into bedrock. The addition of a new structure over the old one frequently followed the intrusion of a burial into the floor of the old structure. The individuals within all original and subsequent single-body burials at each temple locus appear to have been males and usually quite old. Two of these temples had their beginnings in a late Early Classic times while the other four were begun in Late Classic times.

Many of the other mapped mounds in these 6 investigated

groups turned out to be lowlying, elongate, masonry walled buildings. Traits such as these are generally subsumed by the functionally indefinite, conventional term "palace". Group 5G-1, the site of the largest east temple, possessed two such elongate buildings, on the west and south sides of the plaza. Both buildings, as well as the temple, had been vaulted. Similar elongate vaulted buildings occurred in the three of the other five groups and were located on the north, west and south sides of their respective plazas. The remaining two excavated groups had plaza-oriented platforms (presumed to have had perishable buildings) in lieu of vaulted "palaces". However, it was only the two "palaces" in Group 5G-1 that failed to have masonry benches within their rooms. These same two buildings were also distinguished by the presence of three adjacent front doorways leading into a single large, long room. Moreover, the building platforms of these two buildings had three levels, two of which occurred as a stepped terrace in front of the building proper. The other "palaces" were marked by the presence of large, almost room-filling "benches" and by more than one room, each with its own doorway. These latter buildings were also distinguished by peculiar, specially made ceramic rings which were inset in wall masonry of the inner face of the front wall fairly close to the adjacent door jambs.

Masonry platforms were frequently uncovered in the work. Pole-and-thatch buildings on such platforms were proved in some instances and seem probable in others.

In short, excavation produced a great amount of valuable data on architecture, artifacts, and mortuary features. A distinct assemblage of architectural, mortuary and ceremonial specifics emerges from the work. This assemblage strongly contrasts with the general absence of clearcut patterning in the prior "small structure" work in coeval, adjacent remains.

Turning to the question of interpretation, the old dilemma of how to prove residence (Coe, 1962, pp. 502-3) has not been solved by the 1962 work. One is left with what is referred to informally as the "principle of abundance"; there are so many mapped (and now excavated) structures in peripheral Tikal that, if they cannot be reasonably shown to have served religious, ceremonial ends, or administrative ones, they might be properly concluded to have been residential (allowing that some domestic units could jointly have served as workshops,

etc.). Consequently a great variety of platforms with wholly or largely perishable buildings have been identified as residences (but of whom remains the real problem). The 1962 work allows that some, if not many, of the mapped "housemounds" about Tikal were ceremonial and, with some justification, identifiable as temples, however minor. But how did such temples relate to the proximate platforms and to the relatively small, elongate, low structures for which the term "palace" is applied in desperation? Other "palaces" have appeared in small structure groups that are concluded to have been otherwise residential. Were these elongate buildings functionally comparable to the great "palaces", say, in the Central Acropolis? The latter buildings, and ones similar throughout the Maya area, are functionally enigmatic. They have been variously thought of as reflective of the secular rather than religious domain, or as outright administrative units (essentially offices), or schools, storage depots, temporary residential retreats for the priesthood, and so forth. That "palaces" could not have been what amount to houses has been repeatedly urged ("too damp", "too uncomfortable", etc.).

With these points and the "palaces" on the 1962 peninsula in mind, the assumption is made that these structures did not necessarily serve the same ends served by the central major ones. To identify the minor "palaces" as consistently "administrative units" (whatever this term may mean) is to raise the serious question of what factors at Tikal required so many closely spaced units peripheral to the site center. Conceivably, social and economic, if not political control specifically emanated from "palaces" within such areas as the Central Acropolis. The question is whether it required that decisions, demands, etc. be mediated to the populace via minor officials whose offices were, among others, those "palaces" on the peninsula excavated in 1962. Did conditions necessitate formal organization of this magnitude and staging, given the social makeup of Tikal? However, it is this "social makeup" that remains the basic problem. The tendency has been to break out of this impasse by assuming that these minor "palaces" were truly residential, particularly those broken into rooms with "benches" and provision for curtains (the "ceramic wall inserts"). These vaulted residences were formally aligned about plazas, on the east side of which what amounts to a family shri-

ne was situated. Successive interments in the latter might be explained as of family male principals.

If these assumptions are in fact correct, a stage has been reached on which fundamental features of Tikal, if only for Late Classic times, may theoretically be considered. The problem is, however, that we share an increasing sense of not properly controlling the data available on the Maya of today and contact times. Surely it is this information that contains the significant interpretive clues to rationalizing the tremendous amount of "small structure" archaeological fact gathered at Tikal. Had we available, for instance, outlines of the constants and variables present in such features of the Maya as kinship, trade, land tenure, and political control, we might be logically and factually equipped to face the purely archaeological data from "small structures" so far accumulated. The historically inclined social anthropologist working among the Petén Itza, the Quintana Roo Maya, or the Tzeltal can provide the excavator with valuable interpretive leads. The excavator may balk, however, at accepting such clues and even outright archaeological interpretations, feeling that too much has historically intervened for Itza or Tzeltal phenomena to be valid within a 2000-year old archaeological context. Yet, the development of specific Maya "ethnographic universals" may carry with it the guarantee of their highly probable relevancy to such sites as Tikal. The problem is not only to establish such universals but, at the same time, to realize the significance of variables that might in fact have constituted the rule in the given archaeological situation.

Ceramic research

Considerable progress was achieved by T. Patrick Culbert in 1962 in defining local ceramic complexes. Despite wide and deep excavation at the site, no ceramic material equivalent to the regionally earliest Xe Complex of Altar de Sacrificios has been encountered. The Preclassic sequence of ceramic complexes at Tikal at this time consists of the Eb Ceramic Complex, the earliest, followed by and as yet to be filled gap, then the Chuen Complex, the Cauac Complex, and finally the Cimi Complex. Subsequent sequent complexes are of Classic and Post-classic nature. An outline by Culbert of the sequence and com-

position of Tikal ceramic complexes should be in print in the near future. It would be useful nevertheless to summarize briefly the Preclassic complexes and their bearing on the excavations.

The Eb Complex has been defined by materials recovered from a single chultun, which has been noted in connection with the 1962 "small structure" work. Eb ceramics are most closely paralleled at Uaxactun by the small ceramic sample from Pit 4, Stratum I which R. E. Smith considered to be the earliest of the Mamom samples. The Eb neckless jars, lack of Mars Orange ware (fairly) common in other relatively early Tikal deposits), and other such factors suggest that this Tikal complex was contemporaneous with the beginnings of Mamom at Uaxactun.

The Chuen Complex evidently did not follow directly on Eb. One or more complexes intervened. It remains to be seen whether the gap will be filled at Tikal. The Chuen Complex itself is known only from mixed samples from fills beneath the earliest of the Great Plaza floors. Radiocarbon dates on these fills suggest a second century B. C. date (cf. Coe, 1962, p. 500). The Chuen Complex differs in most of its characteristics from the preceding Eb Complex, the difference between the two complexes reflecting the difference between Uaxactun Mamom and Chicanel ceramics.

The Cauac Complex has been distinguished in various large Tikal ceramic collections. Burial 85 (see preceding discussion of North Acropolis) and stratigraphically early North Acropolis—North Terrace—Great Plaza fills have been the prime sources of evidence for this late Preclassic complex. The Cauac Complex shares many features with the Chuen Complex but the two differ in many modes of vessel form.

The Preclassic ceramic sequence concludes with the Cimi Complex, known from the North Acropolis and a few other deposits. All the types and forms which characterize the Cauac Complex seem to have continued in production through the Cimi Complex, but the latter includes several new features. The most important addition to form modes is the appearance of hollow supports, frequently of mammiform shape, though not always "swollen". Almost all of the form modes associated with Holmul I are present in the Cimi Complex, but are unaccompanied by the Protoclassic polychrome that was typical of

the eastern region. The degree of continuity between Cimi and prior complexes strongly argues against the introduction at Tikal of Protoclassic ceramic features as a result of a large-scale population movement or replacement at Tikal.

Radiocarbon controls on the correlation problem

During the year, seven samples of supposedly Maya-dated beams from Tikal were submitted by Linton Satterthwaite to the Institute of Geophysics, University of California, and have been reported upon by G. J. Ferguson and W. F. Libby in *UCLA Radiocarbon Dates II*. This welcome collaboration was arranged by Charles H. Smiley. Two samples were duplicates selected from a total of ten from Temple IV, which were previously processed by the University of Pennsylvania laboratory (cf. Satterthwaite and Ralph, 1960), yielding an average A. D. 712 ± 30 . This is in close agreement with Ralph's longer series which yielded an average C14 date of A. D. 746. This latter series, with still other samples of beams from Temple I, confirmed the 11-16 "Goodman-Thompson" correlation.

Fives samples from Structure 5D-52 (old "Structure 10"), the first "satisfactory" set from this "palace" building (see above), gave consistent results for individual beams, with the average result A. D. 625 ± 30 . This is about a century earlier than had been predicted, using the same correlation and 9.15.0.0.0 as the Dedicatory Date of the lintel, supposed to be carved on it.

Future work

Beyond concluding various projects underway (e. g. North Acropolis, West Plaza, stone monuments), various excavations are indicated in the coming seasons for the achievement of even a minimal sampling of the site within the 10-year program. Further small structure work about Tikal, particularly in now untouched areas, is scheduled for 1963. It is hoped that large "palace" investigation can be resumed in 1963, or 1964 at the latest. Further "Twin-pyramid Complexes" at Tikal will be selectively excavated in 1963 in order to specify their components, origin, changes, and so forth. Heavy ceramic testing,

along with investigation of chultuns, will be resumed in 1963. A substantial beginning of recording all standing Tikal architecture (beyond excavated structures) will be made in this same year. Where called for, minor excavation should follow this architectural survey. Further work that is indicated for subsequent seasons includes a through study of those features noted as reservoirs on the Tikal map. A potentially important area for research is the East Plaza (east of Temple I) in which a massive platform sustains some peculiar features designated on the map as Structures 5E-23 through-28; one wonders whether these are "structures" and the whole platform might not be the foundation area for a scheduled but never completed major temple or "acropolis". The odd arrangement of structures just to the west (Structures 5E-32 through-36) offer another puzzle of composition and function. There are numerous complex and relatively simple mound arrangements adjacent to or in the midst of major temple and "palace" groups at Tikal. A sample of these urgently require investigation through digging. There is also the question of the relationship between such theoretically separate sites as Uolantun and Chikin Tikal and Tikal itself. This problem is simply a part of one concerned with the physical and/or cultural limits of Tikal. Such considerations are, at least in part, aspects of the fundamental problem of delimiting the sustaining area of Tikal. The subject of milpas and milperos is basically moot at this time. It is hoped that some means may be found to make it less so.

REFERENCIAS

- CARR, R. F., y J. E. HAZARD: Map of the Ruins of Tikal, El Petén, Guatemala. *Tikal Reports*, N° 11, *Museum Monographs*, University Museum, Philadelphia. 1961.
- COE, W. R.: A Summary of Excavations and Research at Tikal, Guatemala: 1956-1961. *American Antiquity*, Vol. 27, N° 4, pp. 479-507. Salt Lake City. 1962.
- Maya Mystery at Tikal. *Natural History*, Part 1, Vol. 71, pp. 10-21; Part 2, Vol. 71, pp. 44-53. New York. 1962a.
- Priestly Power and Peasant Corn: Excavations and Reconstructions at Tikal. *Illustrated London News*, Part 1, Vol. 240, pp. 103-106; Part 2, pp. 135-137. London. 1962b.
- , E. M. SHOOK, and L. SATTERTHWAITTE: The Carved Wooden Lintels of Tikal. *Tikal Reports*, N° 6, *Museum Monographs*. University Museum, Philadelphia. 1961.

- , and J. J. MCGINN: The North Acropolis of Tikal and an Early Tomb. *Expedition*, Vol. 5, Nº 3. Philadelphia. (in press). 1963.
- HARRISON, P. D.: A Jade Pendant from Tikal. *Expedition*, Vol. 5, Nº 3. Philadelphia. (in press). 1963.
- MALER, T.: Explorations in the Department of Petén, Guatemala-Tikal. *Memoirs, Peabody Museum*, Harvard University, Vol. 5, Nº 1, Cambridge. 1911.
- SATTERTHWAITE, L., and E. K. RALPH: New Radiocarbon Dates and the Maya Correlation Problem. *American Antiquity*, Vol. 26, Nº 2, pp. 165-184. Salt Lake City.
- SHOOK, E. M., and A. KIDDER II: The Painted Tomb at Tikal. *Expedition*, Vol. 4, Nº 1, pp. 2-7. Philadelphia. 1961.
- SMITH, A. L.: Uaxactun, Guatemala: Excavations of 1931-1937. *Carnegie Institution of Washington, Publication* 588. Washington. 1950.
- THOMPSON, J. E. S.: Excavations at San José, British Honduras. *Carnegie Institution of Washington, Publication* 506. Washington. 1939.