

PRE-COLUMBIAN ART RESEARCH INSTITUTE

MONOGRAPH 3

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The Classic Maya City
Of Caracol, Belize:
1985-1987**

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Diane Z. Chase**

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with appendices by:

**Stephen D. Houston
Susan E. Jaeger
June D. Morton**

**Pre-Columbian Art Research Institute
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Preface

The work reported on within these pages forms part of a long term investigation of the ancient Maya city of Caracol, Belize. The current University of Central Florida Caracol Project is conceived of as a multi-year venture which will result in the recording and interpretation of this key Maya site and, hopefully, in the preservation of Caracol for posterity through its development as a premier Belize national park. The following volume is in no way intended as a final report; rather, it is meant to function as an introduction to the site of Caracol and to the investigations that have taken place there from 1985 through 1987.

Many individuals have participated in the first three seasons of the Caracol Project. The 1985 field season, perhaps the hardest in many ways, had a staff of 12 individuals and a support crew of 30 people at the site from January through May. The 1986 season blossomed to a staff of 14 and a support crew of 40 people and lasted from January through the beginning of June, at which time the remaining staff either had to walk or be helicoptered out of the Vaca Plateau because extensive rain had made the road impassable. During 1987, a staff of 11 and a support crew of 20 carried out research from early February through the end of April. The support crews were largely recruited from Soccotz in the Cayo District and from Xaibe in the Corozal District; all the project members from these villages are highly capable excavators and many have training both at Caracol and at Santa Rita Corozal. The staff members have come from the University of Central Florida, Yale, Pennsylvania, Southern Methodist, Toronto, New College, and the Belizean Department of Archaeology; many of the staff were veterans of more than one season at either Caracol or Santa Rita. Both the staff and support crews are sincerely thanked for the dedicated efforts they have made to archaeological research at Caracol. In particular, John Morris was instrumental in the day-to-day running of the project for the first three seasons. In Belize, the Departments of Archaeology and Forestry logistically ensured the success of project. Earl Green from the Department of Forestry in Augustine and Harriot Topsey and Winnel Branche from the Department of Archaeology aided in innumerable ways. The British Forces in Belize and John Crosby, the British High Commissioner during the first three years of the Caracol Project, have also lent considerable logistical support whenever called upon. Dr. Mary E. Miller of Yale University was a driving force behind the original creation of the project in 1983. Although never physically at the site, several people at the University of Central Florida became extremely cognizant of the difficulties in carrying out archaeology in the middle of the jungle; Joan Burr, David Fabianic, Rusty Okoniewski, and Jack Rollins know many of the mechanizations of the project and helped to keep things running smoothly. One individual, however, stands out in his support of the Caracol Project; without the assistance of Robert Schyberg, these three seasons at Caracol would not have taken place.

The following publication has directly benefited in its preparation by the aid of a number of people. Illustrations found within the monograph are by various individuals; all are based on in-field drawings prepared by project staff. Karen A. Kievit inked all of the vessel drawings within this volume; these are presented here at a scale of 1:4. The vessels are identified as to type; all varieties are understood to be "unspecified" until the completion of the ceramic analysis at Caracol. Rather than finalizing a ceramic sequence with all of its attendant groups, types and varieties after one or two seasons, we feel that this task is best left until near the conclusion of a project when all of the data are in. Stephen H. Houston did

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the in-field drawings and all of the drafting for the monuments portrayed within as well as all glyphic renderings with the exception of Figure 23, which was prepared by A. and D. Chase. The 11.16.0.0.0 correlation of Maya and European calendars is used within these pages for the purposes of dating. The Caracol map found in Appendix I was entirely inked by A. Chase, who also is responsible for mapping the majority of it; it is presented at a scale of 1:4000. Other in-field drawings have been inked by Sarah J. Ruch, Keith Sullivan, and D. Chase. The photographs which appear in this volume were taken by D. Chase and were printed by Richard Spencer, Marjorie Greathouse, and Cynthia Sapp of Instructional Resources at the University of Central Florida; these individuals also provided the linework reductions. Cindy Clenney and Chriss Earnest, both seasoned field veterans, have helped in much of the legwork necessary for preparing various aspects of this manuscript. The aid of Rusty Okoniewski of the UCF Division of Sponsored Research and of Court Clara and Jayne Barton of UCF Computer Services in the preparation of aspects of the text and linework are also gratefully acknowledged.

Stephen Houston wishes to acknowledge: Ian Graham for his generosity in providing the La Rejolla material for his purview; Karl Taube for his suggestions about Itzamna; A. and D. Chase for discussion of some of the ideas presented in Appendix II; and Dumbarton Oaks for providing support as a Junior Fellow, during which time an earlier version of this appendix was written.

Susan Jaeger received partial support for her investigations from National Science Foundation Grant BNS-861996 for dissertation research and from a smaller grant from The Institute for the Study of Earth and Man at Southern Methodist University.

Investigations at the Classic Maya City of Caracol, Belize: 1985-1987

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Deep in Belize's Vaca Plateau lies one of the largest sites in the Maya lowlands. Originally named "Caracol" because of the winding road that traversed the hilly terrain, the site could have as easily been named in honor of the many land snail shells that are found within its confines. Caracol is located on the western edge of the Maya Mountains and is "bounded" by the Macal and Chiquibul Rivers (Figure 1). The site epicenter is situated on a high plateau that falls away into a deep valley to the northwest and rises into very hilly terrain to the southeast. At an altitude of over 500 meters above sea level, Caracol is one of the highest sites in the Southern lowlands. Why Caracol is situated where it is cannot be answered with any certainty or simplicity. Fifteen kilometers away by air, and many more by land, lies the Macal River; eight kilometers south of the site's epicenter lies the Retiro sinkhole. No other permanent bodies of water are closer to the site nucleus. The Maya who once lived at Caracol instead constructed innumerable reservoirs. Today, it is one of these reservoirs that continues to comprise the main water source for the archaeologists and caretakers in residence at Caracol. The site is, however, in close proximity to resources prized

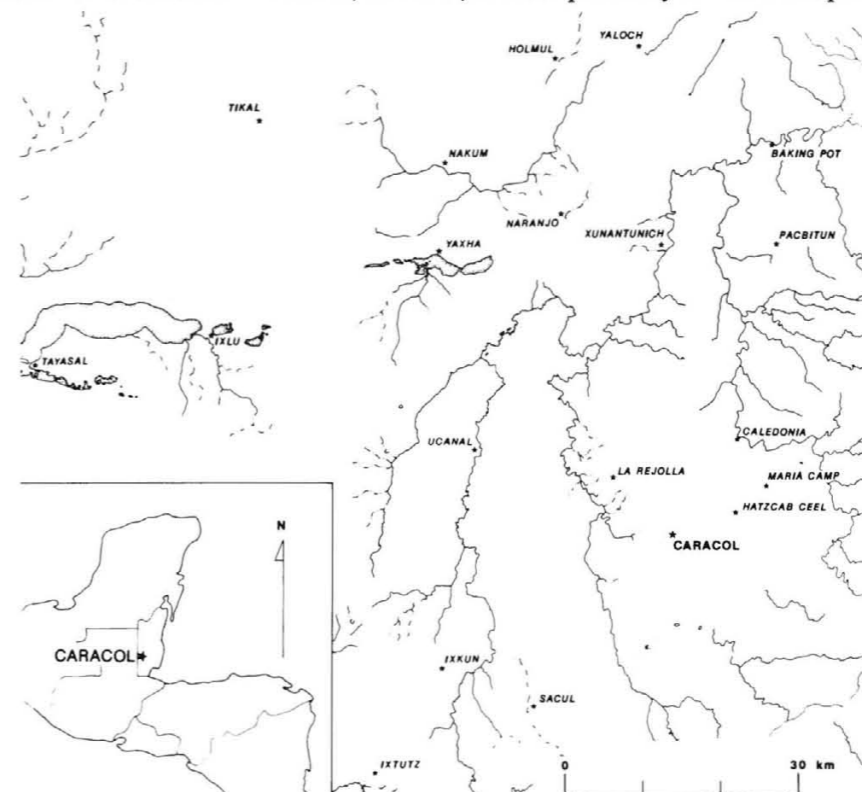


Fig. 1 Map of Maya area showing the location of Caracol and its neighboring sites.

by the Classic Period Maya; hard stone and copal are plentiful in the Maya mountains a short distance north and east (Johnson and Chaffey 1973a, 1973b), and the location and development of the site may have been related to its access to these materials. As the rivers that occur in the Vaca Plateau are much too rapid to have been utilized in the transport of goods, it is also possible that Caracol may have been located upon an old portage route.

Although work had been done at both architectural sites (Thompson 1931; Pendergast 1965; Awe 1985; Healy et al. n.d.) and caves (Pendergast 1969a, 1970, 1971) in the Maya Mountain area, relatively little was actually known concerning the archaeology of this region in comparison to the neighboring, and extensively worked, Peten area of Guatemala. Based on this previous work, however, it was clear that the Vaca Plateau had a long history of occupation by the Maya; it was also evident that Caracol was probably the key site for understanding this region. Research by Linton Satterthwaite (1951, 1954a; Beetz and Satterthwaite 1981) and A.H. Anderson (1952, 1958, 1959) clearly established the site as a major Maya center. Work with the monumental data, in particular, demonstrated that while breaks in the inscriptional records were known from other sites during the Maya hiatus from between A.D. 550 and A.D. 650, Caracol continued to be active in erecting and inscribing monuments (Beetz and Satterthwaite 1981:Table 3). This same record also indicated that the site weathered the initial stages of the Maya collapse (A. Chase 1985a) and continued into the Maya Postclassic Period or until about A.D. 1250 (personal observation based on collections at The University Museum in Philadelphia).

Interesting from a theoretical standpoint is the fact that the very positioning of Caracol in the foothills of the Maya Mountains indicated that the site could be viewed as straddling the traditional divisions between highlands and lowlands in Mesoamerica. The sharp distinction in ecology between these two regions had previously been utilized to develop opposing theories relating to the development of Maya polities: one stated that complex societies should first develop in areas where there are different zones for exploitation in close proximity (Sanders and Price 1968; Sanders 1977); and the other justified the development of such polities first in the resource-deficient lowland area (Rathje 1971, 1972, 1973; but see also Ball 1977: 111-112 and Sabloff 1986: 112-113). As Caracol is both in the lowlands and enjoys access to different zones of exploitation in the "highlands," a definition of its evolution was seen as having a bearing on these contrasting theories, particularly in relation to the notion of lowland-highland interaction. It was therefore expected that long-term research at Caracol would provide insight into the specific identification of a single polity as well as into the general rise of Classic Maya civilization.

Thus, from its inception the planned program of research at Caracol had three overall, long-term goals. First, the archaeological investigations were to define the chronology of the site by determining its ceramic, artifactual, and architectural sequence. Second, these archaeological data were to be related to data gained from art history and epigraphy to understand the development of the site's epicenter, core, and surrounding area in order to determine just how much reality is contained in the political texts and portrayals seen on the monuments of Caracol. Third, the project would attempt over its long existence to determine how a Maya realm was organized, how it functioned, and how it changed over time.

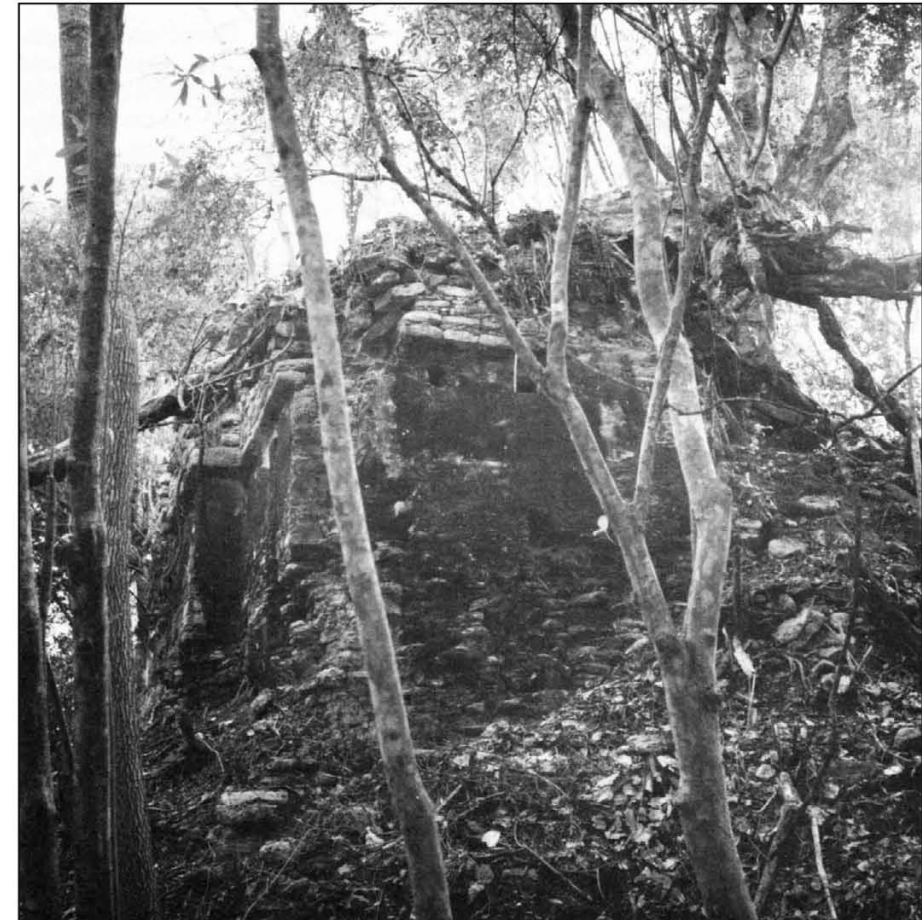


Fig. 2 The northern side of Caracol Structure A6.

Historical Background

A document prepared by A.H. Anderson (n.d.) indicates that the ruins of Caracol were discovered in 1937 by Rosa Mai, a logger searching the area for marketable mahogany trees. The remains were reported to the government of Belize in 1937 and Anderson was subsequently asked to investigate them. Anderson went into Caracol in September of 1938 for a two week stay. During this sojourn, he made notes on most of the structures bounding the main A Group plaza as well as on 9 monuments: 3 stelae and 2 altars in the plaza, Stela 1 behind Structure A1, Altar 17 near the summit of Structure A2, and Stelae 13 and 14 in front of Structure A4. Anderson also briefly visited the main reservoir at Caracol and recorded the existence of the drain into this body of water. Although he did not visit the area, Mai informed him of the existence of the South Acropolis. Anderson undertook limited excavations in two locales. With Mai, he exposed the intact wooden lintel and doorway in the northern room of Structure A6 (Figure 2). He also dug in the vicinity of Stelae 13 and 14, uncovering censer fragments. Although loggers continued to frequent the site and, in fact, placed a

road through the A Group plaza, no other archaeological investigations were undertaken at the site for some time.

In 1950, Linton Satterthwaite (1951, 1954a; Beetz and Satterthwaite 1981; Beetz 1980; Willcox 1954) of The University Museum of the University of Pennsylvania began the first of 3 field seasons at Caracol; Anderson (1952, 1958) aided him in his research during all 3 seasons. During 1950, Satterthwaite spent a total of 3 weeks at Caracol. He gathered wood samples for radiocarbon dating from the Structure A6 beam that Anderson had found a decade earlier. He also excavated around Altars 3, 4, and 7 as well as in the vicinity of Stela 1. His Stela 1 excavations resulted in the discovery of a buried giant Ahau altar, designated "Altar 1," and in the recovery of many stucco relief fragments, some painted "orange," presumably from the collapsed Structure A1 rear facade. Beneath the center of Altar 7, which was located in front of Structure A4 and Stelae 13 and 14, Satterthwaite uncovered a cache of 2 tripod plates as well as at least 10 and 1/2 pairs of thorny oyster shells and one piece each of coral and mica. While some mapping was done in 1950, the excavation and photography of monuments took up most of Satterthwaite's time.

Returning in 1951, Satterthwaite devoted himself to his primary task of that season - the removal of many of Caracol's monuments. Most of the work undertaken during 1951 centered around this task, although limited mapping was also done. Caracol Stelae 5, 6, 15, 16, and 17 and Caracol Altars 7, 10, and 13 were placed on permanent exhibit in The University Museum following this season and Stela 4 and a series of monument fragments went into permanent storage there. It is clear from Satterthwaite's notes that 2 other stelae, not formally anchored in the Caracol series, are represented in these fragments. The upper part of Stela 3 also went to The University Museum, but was transferred to the Denver Museum of Natural History in 1953 when the lower half of the monument, discovered in 1953, was presented to the Denver Museum by the Belize colonial government. Caracol Stela 1, Altar 1, and Stone 28 were also removed from the site and went on display at the Bliss Institute in Belize City.

With the exception of areal excavation at the base of the substructure of Structure A6 and on the stair and doorway for that building, all other major excavation during 1951 was undertaken only in relation to the removal or investigation of monuments. A number of these investigations located buried deposits. In addition to finding the buried Stelae 15 and 16, excavation about the base of Stela 14 uncovered worked and unworked conch and oyster shell, human bone and teeth, 4 seemingly complete flint points, and 3 jadeite celts. While a cache had already been recovered in 1951 under Altar 7, a second cache was found during its removal. This cache consisted of 3 vessels (2 large shallow flat-bottomed bowls lip-to-lip and an immediately adjacent slightly flanged bowl with a ring base), 7 possible obsidian eccentrics, 2 jadeite fragments, 12 shell fragments, 8 pieces of pyrite, 1 stone bead, and hundreds of oddly colored stones. Investigations around Altar 17 uncovered 7 fragments of an unslipped clay effigy vessel. Possible stela caches were found with both Stelae 5 and 6. Associated with Stela 5 were a conch shell (possibly a trumpet), 1 complete leaf-shaped point, and the base of another point. Excavations at the base of Stela 6 revealed an unslipped cylindrical miniature vessel, a tubular jadeite bead, a fragment of a flint point, a stone figure of a grotesque human, and two fragments of thin gilded copper. The removal of Stela 1 and Altar 1 occasioned the recovery of at least 14 vessels which had been placed at the base of the stela: 4 "flower pot" vessels, 2 large plates, 3 shallow bowls or plates (2 with ring bases), 1 straight-sided flat-bottomed bowl, 1 gourd-shaped bowl, and at least 3 other restorable vessels.

The 1953 University Museum field season was approached by Satterthwaite (1954a:24) as a "final 'wind-up' season." The focus was to be on completing the map and on finishing the recording of the monuments still at the site. In the course of this work, however, two open tombs were encountered and these were excavated near the end of the field season by Anderson. A large vaulted chamber with a southern entranceway was found in Structure D17. This chamber contained 9 pottery bowls and dishes, 4 jadeite beads, and a single individual. On the north side of the lower platform stairway leading to Structure A6, another open vault was found. This chamber was considerably smaller than the D17 tomb, but contained 26 pottery vessels and 1 jadeite bead. While the associated pottery clearly dates the interment to the Early Classic period, it is unclear how many individuals were present in this interment.

Anderson (1958) returned to Caracol in 1954 and was able to determine that another larger chamber existed beneath the A Group tomb. In 1956, he found support for the excavation of this chamber. With the lower burial he recovered the fragments of 2 basal flange pottery vessels, 12 jadeite beads, 96 shell beads, 1 pair of shell ear ornaments, a set of jadeite earplugs with associated pearls, 1 mirror, 1 greenstone bead, and 1 carved stone monkey skull with inlaid shell and obsidian teeth (Clancy et al. 1985: Figure 146). He also appears to have carried out minor work in the South Acropolis where the first tomb had been encountered. In 1958, Anderson (1959) returned to Caracol for one final season. He did areal clearing in the A plaza at the base of the lower platform in front of Structure A6 finding a new slate stela, now known as Stela 21; it would also appear that he recovered 2 plain monuments during this work, although this was not published. Under the butt of an unnamed stela, he also uncovered a cache consisting of a rectangular plaque, a shell, and a small lidded slate jar with 3 feet; the lid was carved with at least 3 hieroglyphs. Most of his excavations, however, focused in the South Acropolis where he cleared the buildings on the summits of Structures D17 and D18 and deeply trenched Structure D18. Inside an earlier construction in Structure D18, Anderson encountered the interment of 2 skeletons placed on a bench. Both had inlaid teeth, one of jadeite and the other of hematite. They were accompanied by 14 pottery dishes and bowls, some unslipped and some polychrome, which date the interment to the early part of the Late Classic Period; also included in the burial were 1 pottery figurine, 1 pottery whistle in the form of a bird, 1 monkey pot effigy, 2 obsidian blades, a multitude of shell and jadeite tiny flat beads, olivia shells, and "shell tinklers" (Anderson 1959:214-215). In 1961, Anderson's notes and drawings were largely destroyed when Hurricane Hattie struck Belize City. A full record of his work has, therefore, never been published.

More recently, Paul Healy (1983; Healy et al. 1980, 1983) of Trent University has investigated the Maya agricultural practices within the Maya Mountain area; part of this research focused in the core area of Caracol and resulted in the recording of several architectural groups and extensive terrace systems approximately 2 kilometers east of the central precinct. These systems were shown to date largely to the Late Classic Period, but to have been possibly begun during the Early Classic Period (Healy et al. 1983:409). An extremely high settlement density was also noted by Healy et al. (1983:409) for Caracol; this high density has been confirmed by work undertaken by the current project.

By the early part of the 1980's, then, tantalizing pieces of data had begun to emerge to suggest the importance of Caracol to the Classic Maya world, even though archaeological research at the site had been limited. Importantly, however, the monuments and their epigraphic texts had been published and analyzed (Beetz and Satterthwaite 1981; Stone, Reents, and Coffman 1985), thus

allowing preliminary interpretations to be drawn concerning what could be archaeologically expected in the prehistory of the site. This fact formed one of the basic reasons for beginning excavation at Caracol.

The Caracol Project: 1985-1987

The Caracol Project was conceived in August 1983, when a brief trip was made to the site in order to ascertain the feasibility of doing work there. This was followed by a second working visit to Caracol from late December 1983 through early January 1984, at which time limited mapping and reconnaissance were undertaken; specifically, the North Group (Structures A59, A60, A80-A91), the Machete Group (Structures L1-L4), and the wall southeast of Caana were mapped. The Caracol Project was formally initiated in January of 1985. The initial phase of research, of which the 3 seasons reported on here were all a part, was designed to attempt to define the spatial and temporal limits of the site, to establish the kinds and preservation of material remains which would be encountered, and to preliminarily place Caracol within the larger frame of Maya prehistory. During this first phase of research, investigations have also been directed towards defining the kinds of questions which further work at Caracol might answer and in developing a detailed strategy for future work.

At the onset of the Caracol Project in late January of 1985, nothing but jungle existed in the site's epicenter. Surrounding the central precinct of Caracol, however, were more than half a dozen looter's camps. The advance party of men for the project found campfires still warm in several locales. Had the current project not started in 1985, little would be left of the central area of the site. From 1985 through 1987 there has been a steady decrease in the amount of loot-

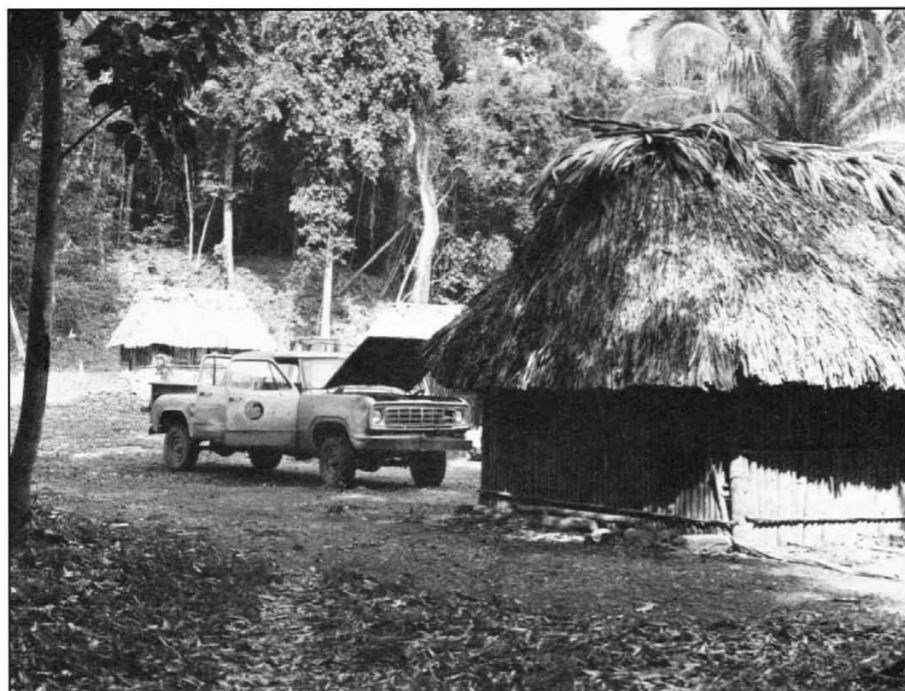


Fig. 3 Caracol Project Camp looking towards the Structure A37 Platform.

ing in the Caracol core area (see A. Chase and D. Chase 1987:15-17); however, looting still remains a problem.

The first order of business during the 1985 season was the construction of a permanent camp (Figure 3) in the plaza areas between the A and B Groups. For the first two months of the project, many of the men and staff slept in thatch lean-tos located northeast and southwest of the A Group ballcourt. Within the first six weeks of the project, four buildings were successfully erected: the two houses for the female cooks and the two kitchens that formed the mainstay of the project. Next came the construction of two staff houses. This was followed by the simultaneous construction of two larger buildings: the main laboratory with its zinc roof for catching rain water and the first large men's house. The camp was further elaborated in following years. A visitor's hut was built between the 1985 and 1986 seasons immediately south of Structure A13 by the two project caretakers. In 1986, a second men's house was constructed and a third permanent staff hut was built; two impermanent constructions were also built, one near the men's housing and one near the staff housing. The main laboratory was expanded to the north and a second permanent laboratory with a zinc roof was constructed. A communal building, colloquially known as "Club Caracol," was also constructed east of the staff kitchen. Thus, by the end of the 1986 season two zinc roof laboratories, eleven permanent buildings, and two impermanent constructions comprised the Caracol camp (along with separately located showers and out-houses). Tree-fall necessitated the rebuilding of the staff kitchen and the communal building during 1987. Until the installation of the zinc-roof laboratory and water tank, drinking water was scarce. During the first month and a half of the project, the British military forces aided us in obtaining drinking water by flying it in on a helicopter whenever one was in the area; subsequently it had been trucked in from the Macal River. By 1986, the drinking water supply had been augmented through the installation of zinc water-tanks capable of holding over 1000 gallons of rain-water. In spite of this capacity, however, the Department of Forestry in Augustine has graciously replenished our drinking water on three different occasions during 1986 and 1987 when no water was available due to long periods of drought.

In spite of all the effort that went into camp construction during all three seasons of the project, far greater energy was expended in survey and excavation at Caracol. Reconnaissance and mapping have clearly established that Caracol is one of the largest sites in the Maya area. The core area of Caracol minimally covered 38.5 square kilometers; its surrounding mantle of occupation was much greater. Some idea of how large this mantle must have been can be discerned by looking at the monuments of smaller sites which occur in proximity to Caracol. Twelve kilometers northwest of Caracol's epicenter, the Guatemalan site of La Rejolla records the existence and influence of a Caracol lord at and shortly before 9.12.0.0.0 or A.D. 672. Eleven kilometers northeast of Caracol's central precinct, the Belizean site of Hatzcap Ceel records the last known Caracol lord on its Altar 1 at 10.0.5.0.0 or A.D. 835. As reconnaissance by both the project and by Tom Miller of Eastern Washington University have revealed extensive settlement and terraces to the south of the site (personal communication), Caracol's area of direct influence can be postulated to have extended at least 12 kilometers out from the site's epicenter and to have comprised at least 314 kilometers - if not more, considering that La Rejolla and Hatzcap Ceel appear to have been directly under Caracol's sway.

Mapping and reconnaissance at Caracol have revealed that a series of intra-site causeways, now numbered at seven, connect various parts of the core (Figure 4); settlement is dense and continuous along and between these causeways. Ex-

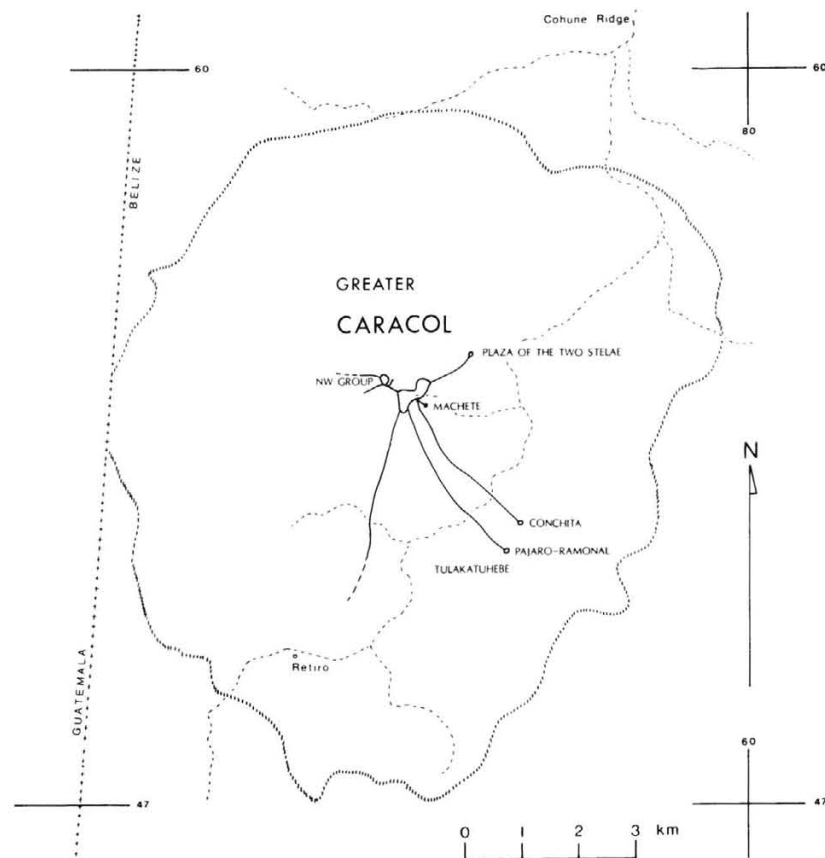


Fig. 4 Diagram of Greater Caracol illustrating extent of known causeways.

tensive terracing, presumably for agriculture (see Healy et al. 1983:409), also characterizes the areas through which these causeways run. The new survey program at Caracol has improved upon the 78 structures mapped by Satterthwaite (Beetz and Satterthwaite 1981: Figure 44). To date, over one thousand structures and a multitude of terraces have been placed on the new Caracol map, mostly to the southeast of the epicenter. Five of the known causeways have also been mapped in their entirety (see Appendix I).

Besides survey work, investigations at Caracol have centered on excavation within the epicenter and core. Many of the illegal excavations carried on by looters have also been systematically cleaned-up and recorded by Project members. During the initial 1985 field season, preliminary excavation was undertaken in Structure A6 and the previous investigations made by Anderson and Satterthwaite at the base of the platform west of Structure A6 were re-excavated and recorded. New excavation was also undertaken in the front of Structure B19 (Figure 5) and the looters' trenches in B20 were cleaned out and recorded. Additional looters' excavations were salvaged in Structures A5, A37, and A63. Finally, new excavations were undertaken in Structures F2 and B108. Much more excavation was initiated during the 1986 field season. At the summit of Caana, the highest man-made construction at Caracol, excavation was conducted throughout the plaza and particularly in relation to Structures B17, B18, B19, and B20. Two test excavations were also made on the south side of Caana. The



Fig. 5 Caracol Structure B19 before excavation.

northern side of Structure B6 was excavated and both ballcourts in the central precinct (Structures B8-B9 and A11-A12) were investigated. In the A Group, excavation took place at the summit of Structure A3 and in the platform core in front of Structure A6; the looters' trench in Structure A4 was also recorded. In the core area, an exposed, but unlooted, chamber in Structure K4 was excavated and new excavations were undertaken in Structures L3, C11, and C12. Extensive salvage work was also carried out on looted Structures F17 and 4L6 while collections were made from looted buildings 4L4, 4L5, 4P10, 4P11, 4P12, 6F7, 6G27, 6G30, 8F7, 8F8, 8F9, 8F11, and 8F22. As part of the 1986 monument program, test pits were also dug at the base of Stela 10, in the vicinity of where Stela 6 once was (the eastern side of Structure A13), and around a large stone slab which was found at the western base of Structure B28. The focus of the 1987 Caracol season was mapping and consolidation. During this year, the entire summit of Structure A3 was exposed and almost completely consolidated (Figure 6). Five hundred and seventy buildings were added to the map. During 1987, however, excavation also took place. Structures C13 and C14 were areally stripped and Structure C13 was trenched. Seven open tombs were also investigated and recorded during 1987: an unlooted chamber in Structure 8F8, a collapsed and open tomb in Structure N9, an open tomb in front of Structure P14,



Fig. 6 Caracol Structure A3 during consolidation.

two looted chambers in Structure C97, a looted tomb in Structure O4, and one other looted tomb in Structure 6G4. More than any other season, the data collected during 1987 clearly demonstrate the size of Caracol and the density of its prehistoric occupation. When the 1987 data are combined with that gathered during 1985 and 1986, the significance of Caracol in the Maya lowlands is clearly manifest as are the site's differences from many of its western neighbors. What also emerges is the fact that Caracol rivaled Tikal in power and influence during the Classic Period (A.D. 300-900) and must have formed the nucleus for a polity at least as large as that controlled by Tikal.

Epicentral Investigations: The A Group

From the onset of work, the A Group and its plaza were recognized as being a key area for understanding Caracol. The structures in this group are some of the largest at the site; Structure A2 rises over 20 meters above the plaza surface. Eight buildings are grouped about the A Plaza: three pyramidal structures on the south, west, and east sides of the plaza, and five structures based on the long platform which bounds the east side of the plaza. Nine stelae and six altars were located within the formal A plaza and an additional five stelae and three altars were found associated with the buildings in this group. Within the first three seasons of work, Structures A3, A5, and A6 have been systematically investigated, the looting in Structure A4 has been salvaged as much as possible, and Structure A3 has been largely consolidated.

Work in the A Group began in 1985 with the investigation of Structure A5, a building which had been ripped open by looters. Much of the summit and dry core fill had been spewed out the back of Platform A1 and formed a scree down its slope. During 1985, the looters' trench was cleaned out and a new excavation was made through the western part of the building. Deeper excavation revealed a



Fig. 7 The summit of Caracol Structure A5.

dry core fill which extended at least eight meters below the summit of the building. While Structure A5 faced east, an earlier, westward facing stair was uncovered beneath the substructure indicating some change in orientation for at least this part of the platform supporting Structures A4, A5, A6, A7, and A8. Although no special deposits, such as burials or caches were encountered in the Structure A5 trench, the sherd material was universally of an Early Classic date. In 1986, what little the looters had left of the summit of Structure A5 was areally exposed (Figure 7). These investigations revealed that Structure A5 had at one time been composed of two tandem rooms, the rear one being raised. Although nothing was left of the rear room, its northern door jamb was clearly visible. The northern half of the front room had at one time been modified by the installation of a second east-west interior wall, to which a still extant bench had been attached. During 1986, the entire summit of Structure A5 was filled with backdirt from excavations in front of Structure A6 and the remaining portion of the building was covered with a crude zinc roof to await future consolidation.

A short distance northwest of Structure A5 is located the comparably sized Structure A4. Extensive excavation was undertaken by Satterthwaite in 1951 immediately south of Stelae 13 and 14, which front Structure A4, but the building itself was never investigated by the Pennsylvania Project. Sometime before 1983, looters trenched the western summit of Structure A4 and broke into a tomb with a formal entrance on its southern side. A lower tunnel was also dug beneath the upper trench and it too encountered a plastered tomb deep in the core of the A4 substructure. This looted lower chamber was investigated by a crew from the Belize Department of Archaeology in May of 1984; they encountered two vessels dating to the Early Classic Period as well as a spondylus shell and a multitude of jadeite mosaic fragments, presumably from earflares similar in construction to those recovered from Santa Rita Corozal (D. Chase and A. Chase 1986a:10).

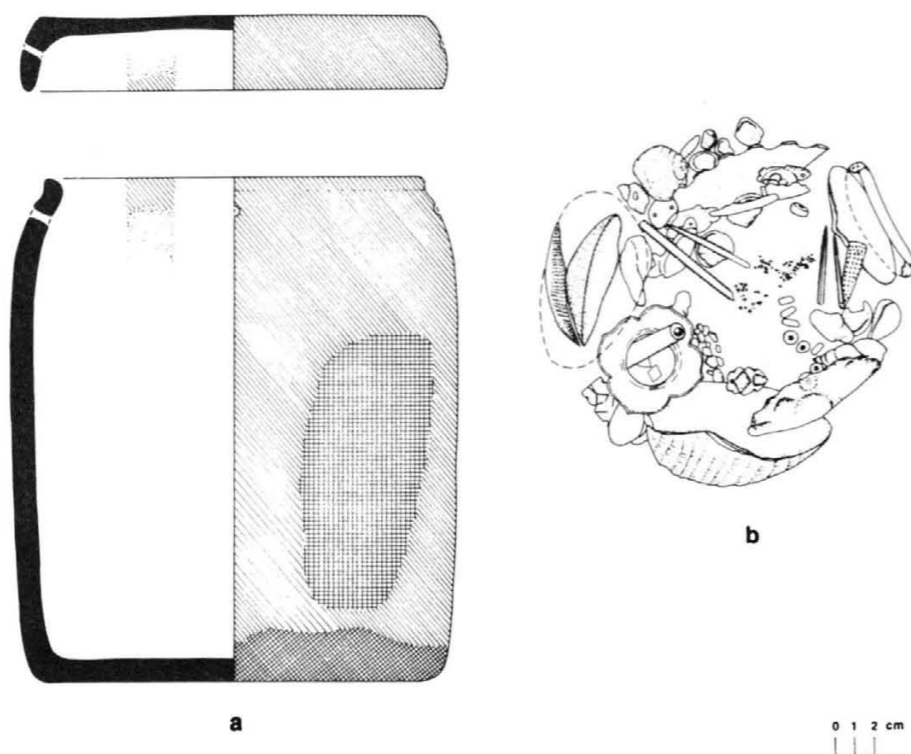


Fig. 8 Structure A6 cache: a. Tulaka Matte-Red vessel; b. plan of contents (north is to top of page).

During 1986, sections were drawn of both excavations and both chambers were excavated and recorded. More jadeite mosaic pieces were recovered in the lower chamber and the five teeth recovered from within the chamber all belonged to a single sub-adult. The much larger upper tomb produced pieces of two polychrome plates dating to the early part of the Late Classic Period, a carved shell hand, and a broken jadeite disc; based on the badly broken bone still in the chamber, it would appear to have been occupied minimally by one adult and one sub-adult.

The huge eastern platform in the A Group is dominated by Structure A6. Investigation here during 1985 included clearing off the previously excavated substructure steps, on which a spondylus shell was found, and re-clearing and recording the general platform steps in front of the structure. The superstructure was planned and revealed a linear series of three connected rooms with a single exterior doorway facing east. A small excavation was placed into the A6 substructure immediately east of the central doorway (which had been fully exposed by Satterthwaite in 1951) and west of the upper step for the large stone block stairway which ascends the substructure. This excavation cut through five successive plaster floors before encountering fill. One and half meters below the lowermost floor, an open air cist covered with three capstones was encountered; it was similar in construction to one found at Hatzcap Ceel by Thompson (1931:275). Within this cist was located a lidded urn filled to the brim with soil and artifactual remains (Figure 8). Within the urn, a still largely intact beehive had been placed over a series of other artifacts and ecofacts including: pumpkin seeds, fish vertebrae, stingray spines, sharks' teeth, coral, small natural shells, seaweed, pine

needles, a multitude of carved shell and jadeite, a large amount of unworked malachite, and the remains of what may have been a piece of leather attached to a shell backing. Surrounding these smaller artifacts were two decomposed hematite mirrors and larger shells (identified by R. Hamilton as one *Tellina fous-ta*, one *Lyropecten nodosus*, a pair of *Spondylus americanus*, and one possible *Spondylus princeps*) aligned to the four directions; a jadeite flower and large tubular bead were set central to the contents of the cache. Beneath the cache vessel, a series of natural shells had been placed on the floor of the cist. The symbolism of this cache and its similarity to Postclassic ones found at Santa Rita Corozal has been preliminarily dealt with elsewhere (D. Chase in press). A radiocarbon date on charcoal from within the cache vessel yielded a date of 1980 ± 80 B.P.; a date obtained from burning on one of the floors above the cache yielded a date of 1920 ± 140 B.P. (see Table 1), both somewhat earlier than the Early Classic date that would be expected. In 1986, the general platform west of the Structure A6 substructure stairs was trenched to bedrock. This excavation revealed a total of four superimposed sets of platform stairs and also encountered the remains of an earlier construction with a different orientation than the present platform and its earlier versions. A Late Preclassic midden was found beneath the basal fill for this earlier construction. Carbon recovered from this refuse was dated to 1870 ± 90 B.P. (see Table 1).

Structure A3 overlooks the northern edge of the A Group plaza rising sixteen meters above its surface. In 1986, the eastern half of the building at the summit of this structure was investigated. During 1987, the western half of the summit was excavated and the structure was largely consolidated. This clearing effort revealed much modeled stucco which must have attached to the collapsed roof facade of the building. In many cases, the deep relief stucco had been painted red; some of the stucco pieces were layered in such a way as to indicate extensive remodeling which had changed the existing design. When cleared, the building at the summit of Structure A3 proved to have a two-room tandem plan with a single, central interior doorway to the rear room. The front room had three doorways facing the A plaza. In its final version, a large raised bench protruded into the front room; its upper surface is the same height as and blends into the floor for the rear room. Two patolli game boards had been incised on the latest plaster surface of this bench, one on the floor between the two central jambs and another on the eastern bench surface in the front room. Clearing the floor in the interior of the building revealed the existence of two Late Classic smashed incensarios (Figure 9) and extensive burning on the plaster surface abutting the rear wall of the structure. The carbon associated with this deposit was dated to

Table 1 Radiocarbon Dates from Caracol.

Field Number	Lab Number	1-Sigma Date	Range In Years	Mean Date
C1C/18-2	Beta-18051	1220 ± 70 B.P.	630 - 900	765 ± 70 A.D.
C4B/26-15	Beta-18053	830 ± 120 B.P.	1025 - 1325	1175 ± 120 A.D.
C4C/17-6	Beta-18054	1320 ± 110 B.P.	575 - 585	730 ± 110 A.D.
C4C/21-29a	Beta-18055	1720 ± 110 B.P.	45 - 565	305 ± 110 A.D.
C4C/21-30a	Beta-18056	1310 ± 50 B.P.	600 - 865	733 ± 50 A.D.
C8B/21-2	Beta-18059	1920 ± 140 B.P.	-365 - 380	8 ± 40 A.D.
C8B/27-5	Beta-18060	1980 ± 80 B.P.	-185 - 225	20 ± 80 A.D.
C8B/60-5	Beta-18061	1870 ± 90 B.P.	-145 - 340	98 ± 90 A.D.
C12A/40-6	Beta-18062	1340 ± 60 B.P.	590 - 795	693 ± 60 A.D.
C12A/47-11	Beta-18063	1240 ± 100 B.P.	600 - 915	758 ± 100 A.D.
C18B/19-5	Beta-18065	1160 ± 70 B.P.	655 - 1010	833 ± 70 A.D.
C18B/25-2	Beta-18066	2440 ± 160 B.P.	-825 - -190	507 ± 160 B.C.

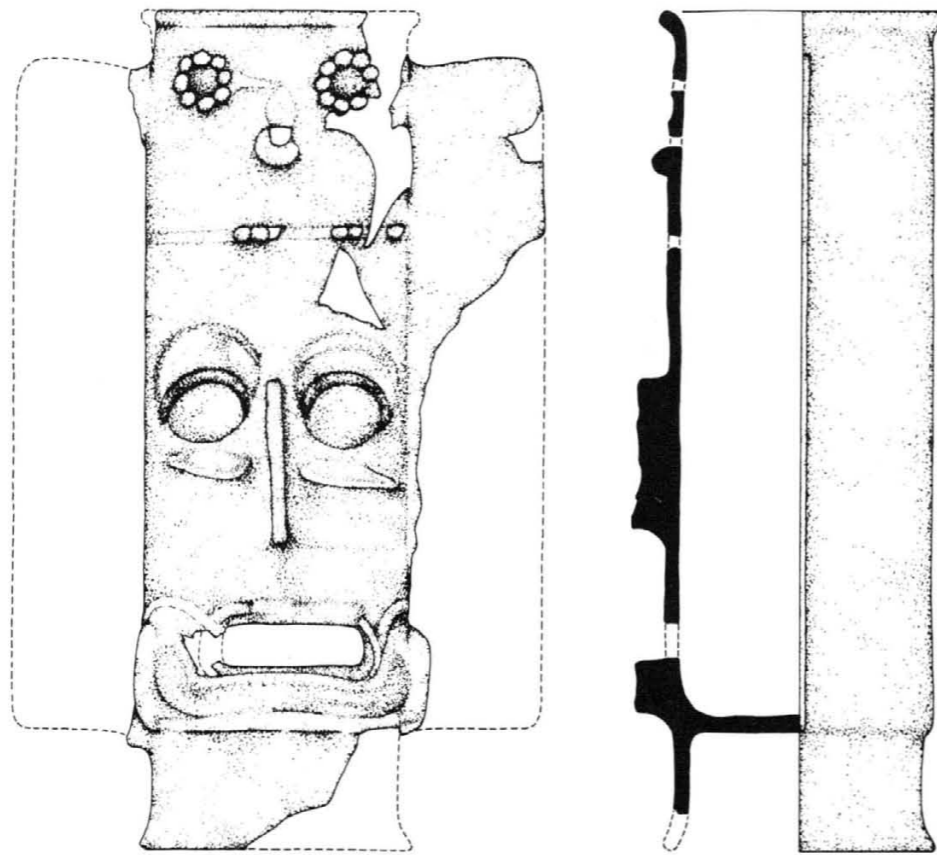


Fig. 9 Incensarios from the floor of Structure A3: a) Pedregal Modeled; b) Miseria Aplicada.

1340 ± 60 B.P. (Table 1). Excavation indicated that the interior bench had been a later addition to the structure to encompass and cover a tomb chamber that had been intruded through the central doorway. Digging into the cut for the tomb yielded 8,913 pieces of obsidian (8.1 kilograms) and 7,840 pieces of chert (40.1 kilograms), most of which was unretouched. The chert was distributed in several rough lens throughout the cut while the obsidian was concentrated above the southernmost capstone for the chamber. Carbon collected in association with the obsidian has been dated to 1240 ± 100 B.P. (Table 1). The wall stones of the tomb were shaped, but crudely fitted, and the wall itself was unplastered. Following the removal of two nests full of wood-lice, excavation revealed the supine burial of a badly decomposed adult accompanied by eight ceramic vessels of Late Classic date (Figure 11) located northeast of the head and torso and by at least thirteen bobwhites (see Appendix IV) located south and east of the feet. Although the rest of the individual was in correct anatomical position, the tibiae had been placed slightly east of the body. The southernmost capstone of the tomb was painted (Figure 10). Six black glyphs on a red background yielded a calendar round date of 13 Cib 9(10) Kayab (see Appendix II), tentatively placed at 9.13.3.15.16 or A.D. 695 based on the occurrence of the glyph 6 Ahau (presumably representative of the approaching katun ending 9.14.0.0.0) on the interior of three of the bowls within the tomb. The final hieroglyph in the capstone text is especially informative as it is the Caracol Glyph, suggesting that the individual within the chamber was from the ruling lineage at the site. One other deposit was encountered in Structure A3. This consisted of a nested cache of four "laurel-leaf" chert points and four obsidian blades set into the building core in front of the bench. Excavations to the immediate front of Structure A3 went to a depth of three and a half meters below the floor abutting the bench, revealing two formal floors and a dozen surfaced construction pauses. Subflooring in the A3 tomb showed that these surfaces continued beneath this chamber.



Fig. 10 Painted capstone from Structure A3 tomb: the frame of the text is 37 centimeters in height.

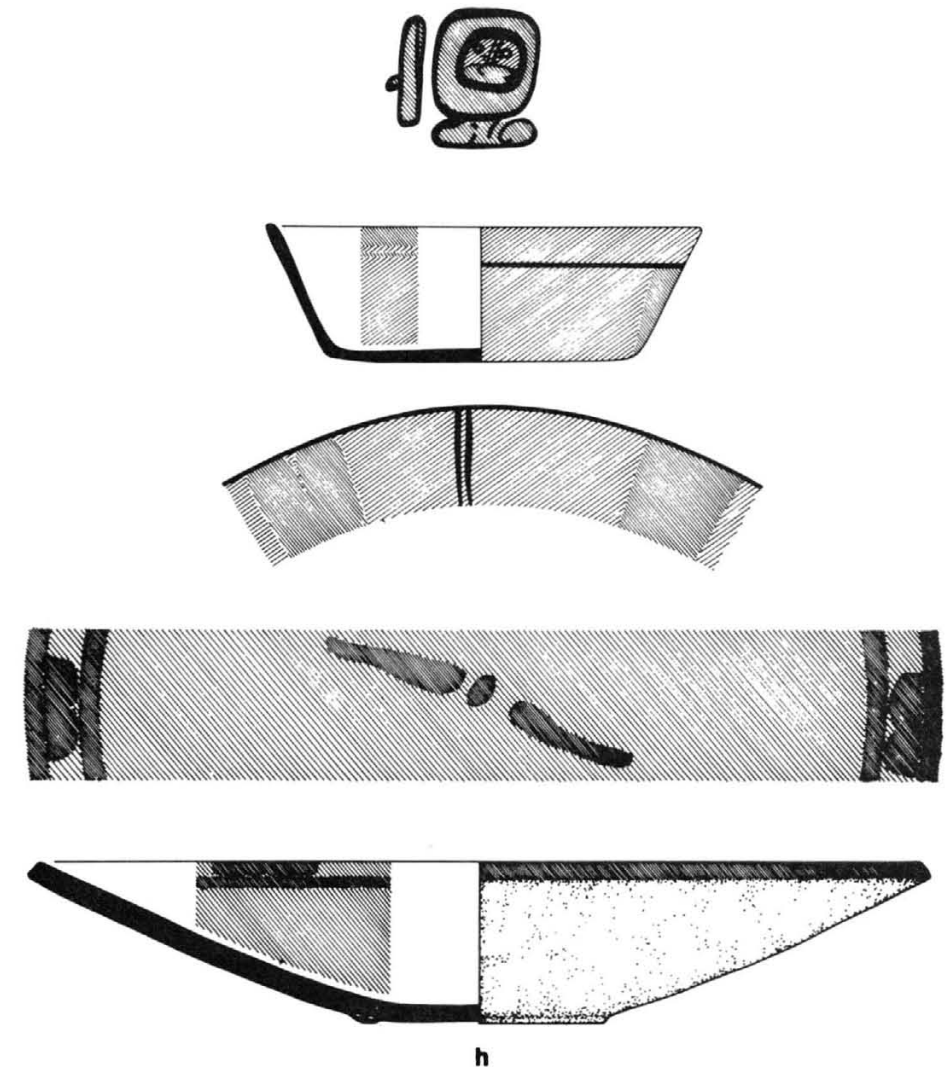
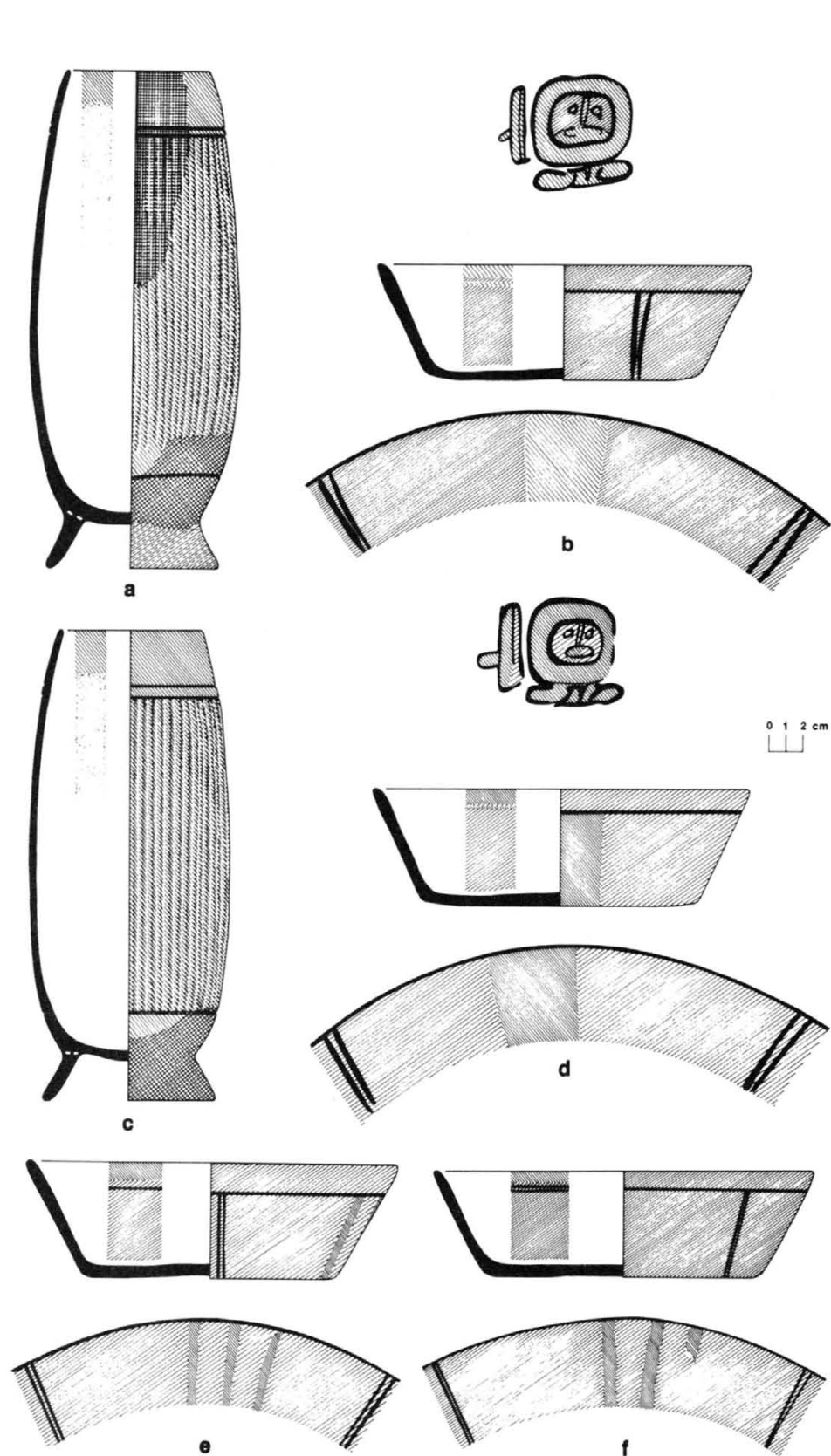


Fig. 11 Vessels from inside the Structure A3 tomb: a, c) Cohune Red; b, d-g) Benque Viejo Polychrome (note identity with Uaxactun type – R. E. Smith 1955: Fig. 37b2,4-5,7); h) possibly Fallabon Red-on-Orange.

Test excavation in the A Group plaza resulted in the rediscovery of Stela 11. A probe in front of Stela 10 documented the way in which this monument was set into the plaza surface. Significantly, no earlier construction or occupation was noted in this central plaza location. Both Stela 10 and Stela 11 were redrawn in the field by Stephen Houston (Figure 71) and Stela 10 was finally dated at 10.1.10.0.0 or A.D. 859, making it Caracol's latest known monument. Houston also redrew Altar 17 and was able to demonstrate that it dated to 9.11.0.0.0 or A.D. 652. The base of the huge eastern platform was also delineated from just in front of Structure A6 to the southern side of Structure A4. Most of this area had originally been exposed by either Satterthwaite or Anderson; this is the same area where Anderson found Stela 21. Two plain monuments were found here, one on either side of the platform stairway fronting Structure A6; one of these is misrecorded as a second Stela 2 on the Beetz and Satterthwaite map, but is nowhere discussed. A new piece of Stela 20's initial series was also recovered.



Fig. 12 View of Structure B18 stairs with Structure B17 to the left.

Other small fragments of carved slate monuments were found during the cleaning of the platform base and in association with Structure A5.

Epicentral Investigations: Caana

As the tallest man-made construction in Belize, Caana, which is Maya for “sky place,” dominates the B plaza by rising some 42 meters above it. The summit of Caana is not visible from the plaza floor, and only by climbing to the top of Structure B5 is it possible to partially view the triumvirate of pyramids that crown the summit of Caana. These three constructions are known as Structures B18 (Figure 12), B19, and B20; all have been the focus of at least some investigation by the current project. Caana measures over 100 meters by 120 meters at its base, which is integrated with a low platform supporting other constructions on three of its sides. The southern slope of Caana is broken halfway between its base and summit by a strip of tandem-plan rooms. Excavation on this intermediate terrace has shown that these rooms were vaulted and had benches within them. These rooms faced outward across the B plaza and inward toward the apron-molded face of the platform, which extended in a series of levels to the summit constructions. The platform face had been actively modified and rebuilt by the Maya. From the plaza surface, a central stair ascended through the medially located range of rooms, presumably through a vaulted doorway, and then continued to the summit where a roofed entrance with benches on either side was again passed through.

Excavation was undertaken on the summit of Caana during 1985 and 1986. When first viewed in 1985, looters had driven a massive central trench deep into the interior of Structure B20 on its western face and had additionally tunneled deep beneath this building on its eastern face. A basal tunnel had also been started on the north side of Structure B19, and the area between Structures B16

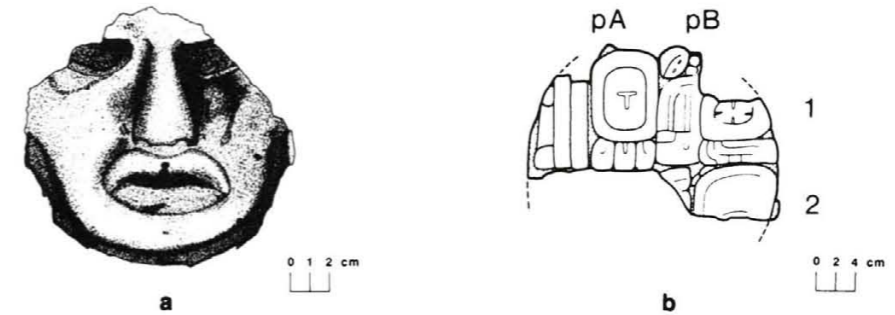


Fig. 13 Stucco from Structure B18: a) modeled face; b) cartouched hieroglyphic text.

and B20 had also been trenched. Much destruction had been wrought and the majority of the 1985 season was spent cleaning up and recording the B20 damage, although some excavation was undertaken to the front of Structure B19 and in the corner area between Structures B19 and B18. During the 1986 season, a deeper probe was dug in front of Structure B20, and the entire western half of the summit plaza was stripped. During 1986, as well, Structure B17 was cleared of debris and the adjacent entrance to the summit plaza, with its flanking benches, was also excavated and recorded. These latter investigations clearly showed the existence of another range of rooms facing the B plaza immediately south of and exterior to the summit plaza. The well-preserved stairway in front of Structure B18 was also cleared and recorded. This investigation revealed the remains of a free-standing stone mask flanking the mid-section of the central stairway of Structure B18 to its north (A. Chase and D. Chase 1987:19); it must have been matched at one point by a companion mask on its southern side. Extensive amounts of deeply molded stucco decoration were also collected from what had once been the B18 upper building facade; included among this stucco were human faces (Figure 13a), human body parts, deity headdress elements, and many pieces of a leafy border.

The summit building most seriously damaged by looters was without doubt Structure B20. The illegal digging into the building substructure had cut from the acme of B20 to a vertical depth of over eight meters in the western face and had exposed the remains of an earlier vaulted building, termed Structure B20-2nd a two-room, tandem-plan, black-painted building. On the interior front room wall of this structure, an elaborate procession scene, in which a bound captive and person being carried in a litter are shown, had been scratched by the Maya into the plaster (illustration: A. Chase and D. Chase 1987:20). The rear looters' tunnel penetrated the bowels of Structure B20-2nd. Three tombs had been broken into; the long axis of all three was oriented north-south and doorways and stairs entered each chamber from the western side. The looters' tunnel bisected all chambers, going through the floor of the first, both walls of the second, and entering the soffit of the third. Little in the way of artifactual items could be associated with the two easternmost tombs, with the exception of four stone spindle whorls found on the floor of the outermost tomb. Based on the human bone salvaged in each chamber, however, both outer tombs appear to have been occupied by a single young adult of undetermined sex. The tunnel had almost completely destroyed a painted text which had been placed on the eastern, or rear, plastered wall of the middle tomb. All that remained of this text was a small portion of the background red panel and the upper portion of a black-line ISIG hieroglyph (Figure 14b). Excavation at the base of the looters' west trench

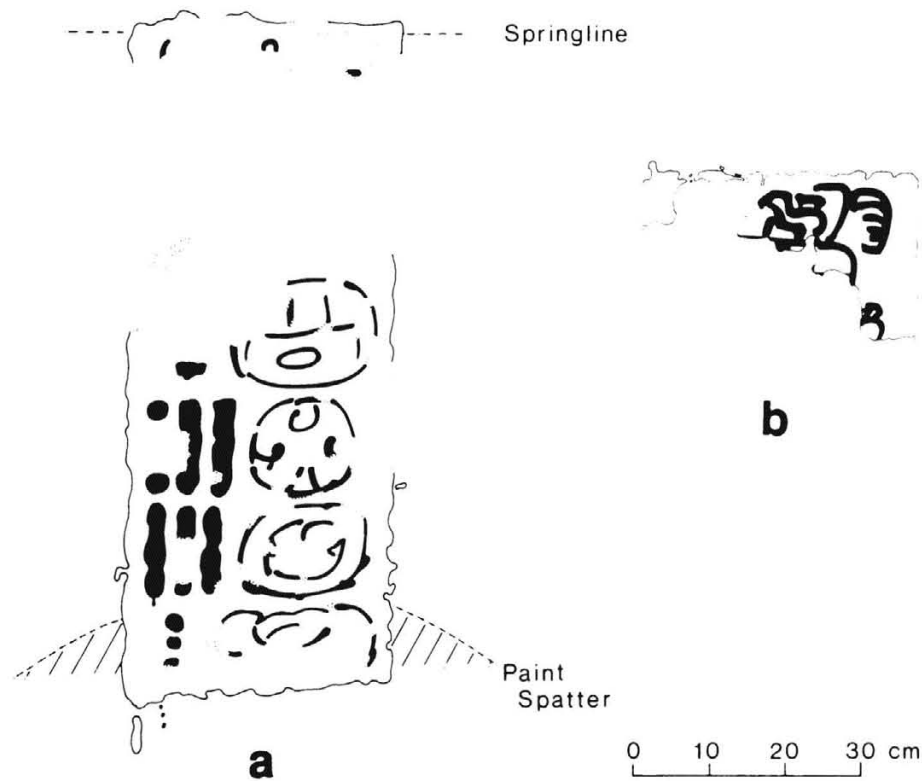


Fig. 14 Structure B20-2nd tomb wall texts: a) Tomb 3 (innermost); b) Tomb 2 (middle).

recovered the small secondary cut that had been made by the Classic Period Maya to find the entrance to this chamber and to place the body and now missing grave goods. Carbon in association with this cut was dated to 1220 ± 70 B.P. (Table 1). As the cut had never been formally sealed, it is likely that the middle chamber was the latest one to be used and that its use was immediately followed by the construction of Structure B20-1st. At the back of the rear tunnel, just before the small entrance hole that had been cut into the innermost tomb, a pile of broken vessels was found. Pieces from all of these vessels were also encountered inside the innermost tomb. Thus, it is certain that the 17 ceramic vessels and 1 calcite bowl (Figure 15) came from within this chamber. The majority of a painted text was also found on the back wall of this tomb. Like the one in the middle chamber, it consisted of fugitive black linework on a red background (Figure 14a). Although the upper part of the text was damaged, enough remains to place it with certainty at either 9.9.2.12.15 3 Men 8 Pax (A.D. 615) or 9.7.3.12.15 3 Men 18 Yaxkin (A.D. 576). The earlier date is favored based on the associated ceramic assemblage. The central capstone in this chamber was also painted red on its underside; close inspection by Houston revealed the existence of an extremely faint black-line text of at least sixteen hieroglyphs painted on the red background. Because of the location of this text as well as its fugitive nature, it could not be drawn during the first three seasons; however, new laser technology should be available to aid in recording this text in a future field season. The recovered skeletal remains from this westernmost tomb indicate that the cham-

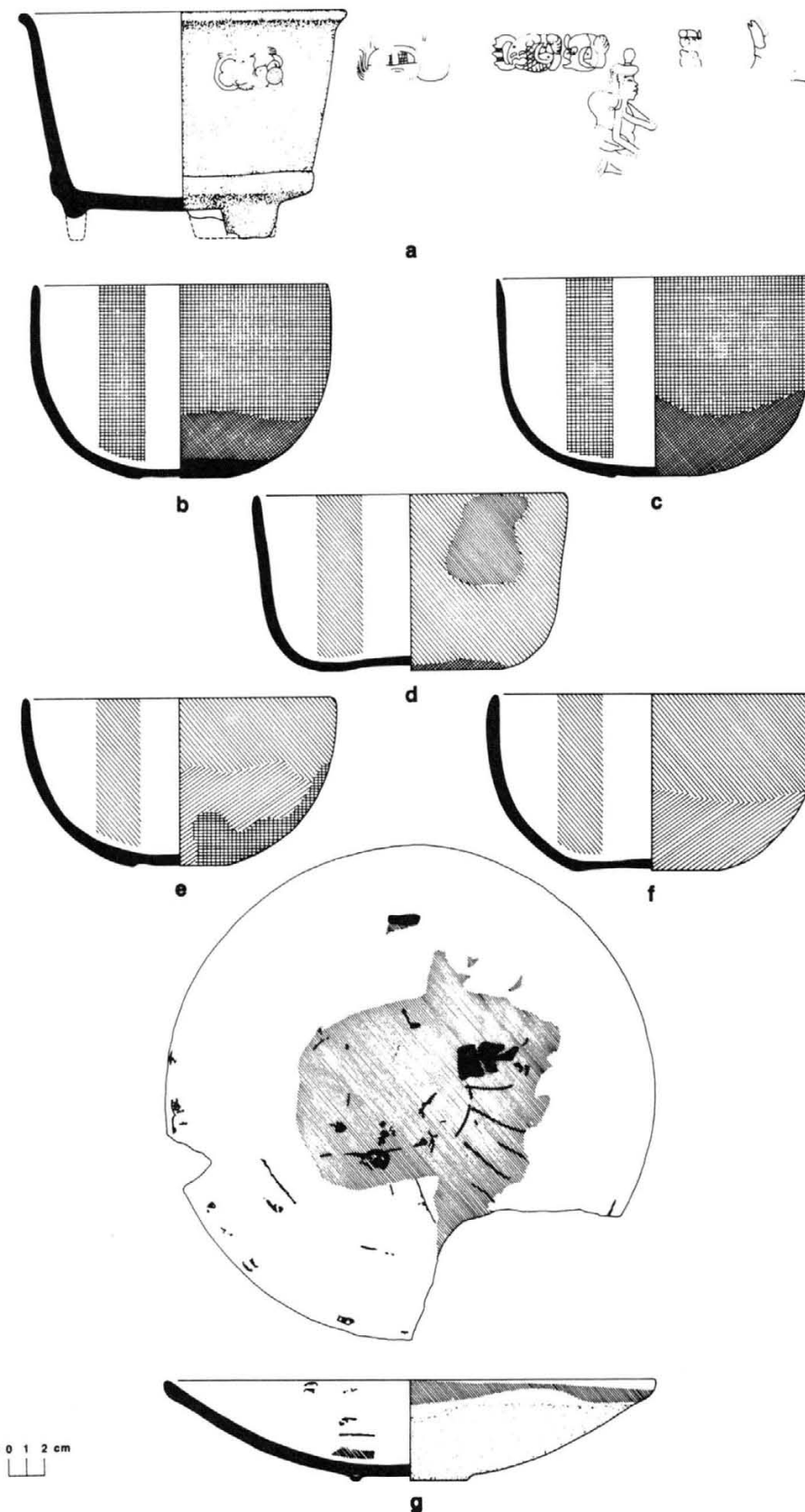


Fig. 15 Vessels from Structure B20-2nd Tomb 3: a) Calcite vessel; b,c) Molino Black; d-f) Veracal Orange; g) Pajarito Orange-Polychrome.

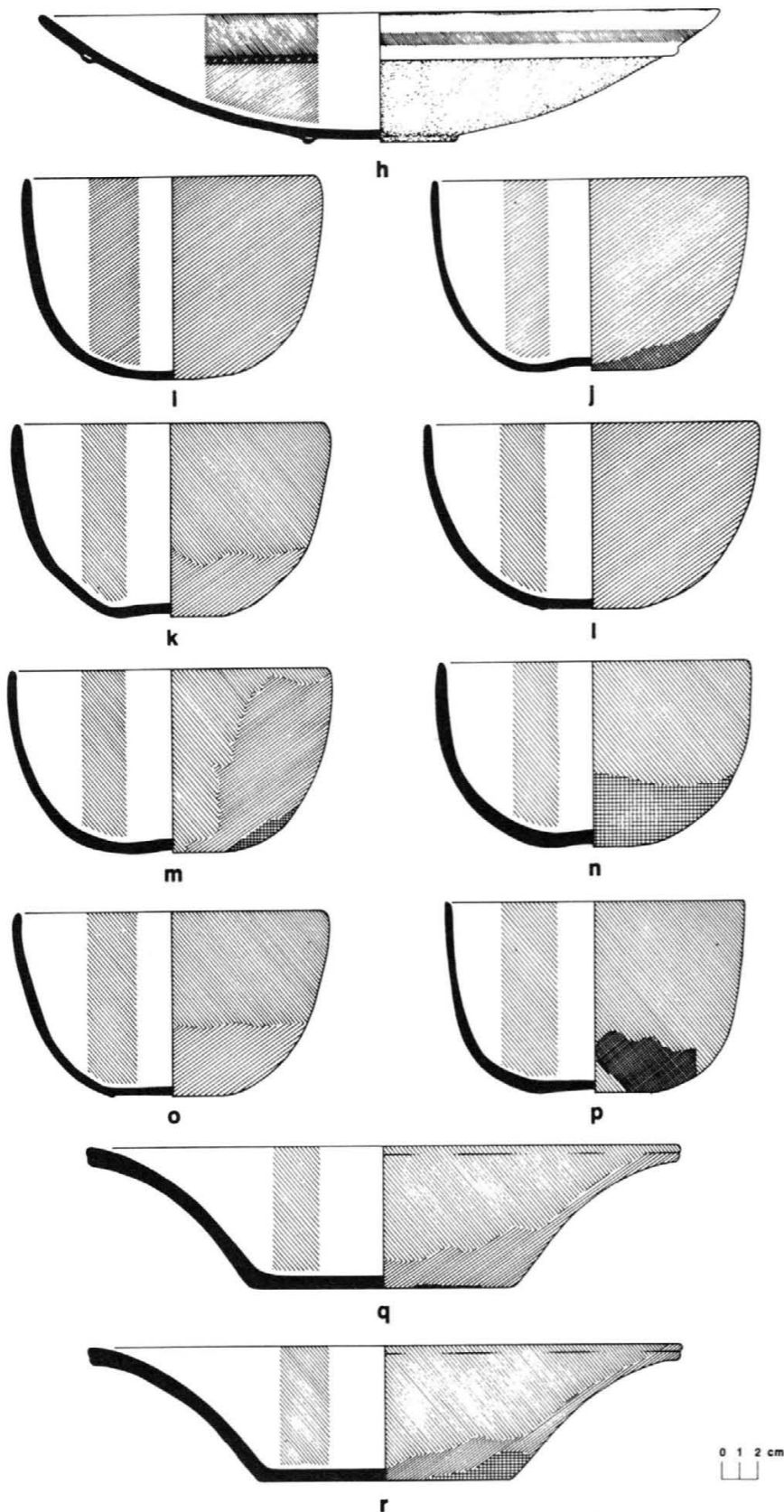


Fig. 15 (continued) h) Pajarito Orange-Polychrome; i-p) Veracal Orange; q,r) Aguila Orange.

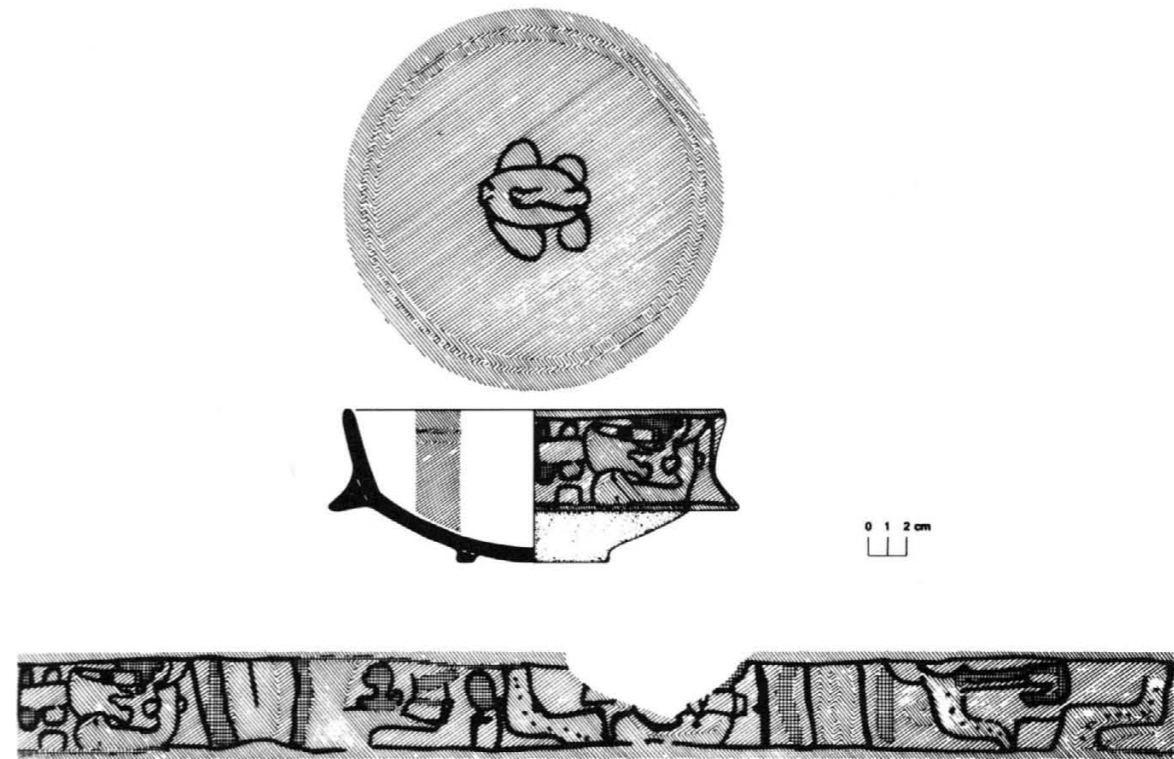


Fig. 16 Vessel from the core of Structure B20-2nd: Dos Arroyos Orange-Polychrome.

ber had been occupied by a single adult individual of uncertain sex. The individual had maxillary inlays: the recovered central right incisor had three pyrite inlays and a lateral notch; the upper left canine had an empty inlay hole. Other artifactual remains associated with this interment included a hematite mirror, jadeite mosaic fragments, and a partial stingray spine. Interestingly, it would appear that all three tombs had been intentionally constructed into the core of Structure B20-2nd at the time of its initial construction. The looters' rear tunnel had also exposed the southern side of an even earlier building platform with an impressive outset apron molding, termed "Structure B20-3rd." The eastern side of this construction was followed north to a point where it had been ripped out by the Maya. Its coring was tunneled in 1986, but revealed no earlier constructions. Inspection of the side wall of the looters' tunnel through the core of Structure B20-2nd revealed that an almost entire Early Classic bowl (Figure 16) had been carefully placed deep within the building fill during construction. In the front of Structure B20, the looters' trench was cleaned and recorded and some deeper penetration was made. A small piece of a carved slate monument was recovered from the core of Structure B20-1st. A deep axial probe into the plaza revealed the front stairway for Structure B20-2nd. This stairway had a central stair balk with an almost three meter high stone mask of an earth-monster or, following A. Miller (1986:41, 43), the "skeletal face of the sun in the Underworld" (Figure 17). The Caracol Structure B20-2nd mask is extremely similar, both in general location and in iconography, to a pair of masks which once flanked the substructure stairway on Tikal's Structure 5D-33-2nd (see A. Miller 1986:39). The Caracol mask, however, had open eyes and mouth and was vaulted interiorly

to form a small room. While a human figure was figuratively portrayed in the mouth of the Tikal masks, a body was actually placed in the mouth of the Caracol mask before it was deeply buried within the fill for the last plaza surface of Caana. Clearing out the mouth produced a very disturbed human burial, parts of which had been burnt. The symbolism incorporated in the Structure B20-2nd mask is striking not only for its imagery and content, but also for two other reasons. First, the identification of the mask as the skeletal underworld sun is appropriate given its context at the base of the eastern building on the summit of Caana, over which the sun rose from its nightly sojourn in the underworld. And second, the mouth of this skeletal underworld sun “literally swallows the dead lords” located in the three tombs in the core of Structure B20-2nd “into the belly of the Maya underworld” (A. Chase and D. Chase 1987:12).

Although the building which formally comprises Structure B19-1st was not investigated, the base of its substructure was (Figure 18). Structure B19-1st had a broad stairway with a central stair balk, into which was set Altar 16, dated by Beetz and Satterthwaite (1981:98) to-10.0.0.0.0. or A.D. 830. To the west side of this stairway, and presumably to its unexcavated east side as well, was positioned an oval dias composed of an oval backrest covered with modeled stucco and a polychrome design featuring jaguar markings. Flanking this dias was a small vaulted room which had either been set into the face of or, more likely, encapsulated by the B19-1st substructure. The basal excavation of Structure B19-1st succeeded in finding the pit in the stair balk that had been dug for the placement of Altar 16; a series of unslipped vessels (Figure 19) and broken chert pieces were found associated with this pit. Excavation into the four and a half meters of dry core fill (placed as a single massive construction effort for the latest plaza surface of Caana) in front of B19 led to the delineation of an earlier building, Structure B19-2nd. Structure B19-2nd apparently consisted of a single-room vaulted



Fig. 18 Basal portion of Structure B19-1st.



Fig. 17 Mask set into front stair for Structure B20-2nd.

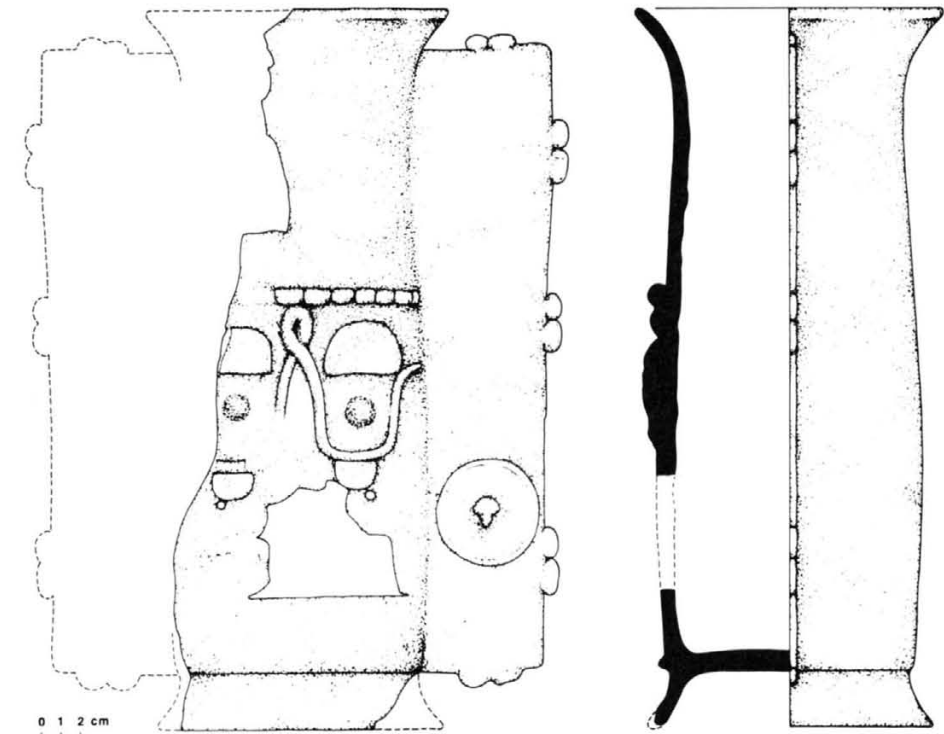


Fig. 19 Incensario from deposit associated with Altar 16.

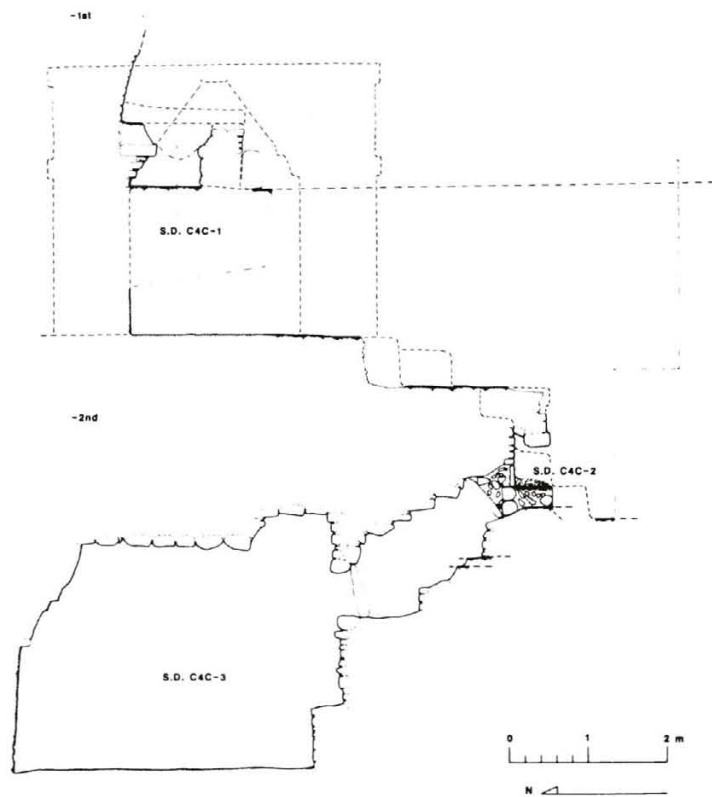


Fig. 20 Diagram of the basal portion of Structure B19, showing the location of the tomb within Structure B19-2nd (S.D. C4C-3).

construction (Figure 20); its substructure was elevated above its associated plaza floor, although not as much as the B20-2nd substructure, and a central stair balk had been positioned in front of its known central doorway. Within the center of this balk, a small vaulted niche had been placed; excavation within this niche yielded pieces of unslipped vessels and evidence of burning. The carbon yielded a date of 1320 ± 110 B.P. (Table 1). Investigation proved that the rear wall of this niche was a later addition. Its removal led to the discovery of two large slabs blocking a crude open-air stairway leading into the bowels of Structure B19-2nd. At the base of this stairway two other slabs blocked the entrance to a large tomb (Figure 21); the stair ended high up in the northern wall of this chamber. The remains of an adult female accompanied by eight ceramic vessels (Figure 22) and some jadeite beads and ear ornaments were recovered inside. She appeared to have been seated upright at the time of her burial, perhaps as part of a bundle. All of her maxillary teeth from first premolar to first premolar had inlay holes; the only recovered inlay was of jadeite. The north wall of the tomb was covered with a hieroglyphic text containing black painted glyphs on a red background (Figure 23). A single horizontally painted red band emanated from each side of the text and continued around the east and west walls of the chamber to the

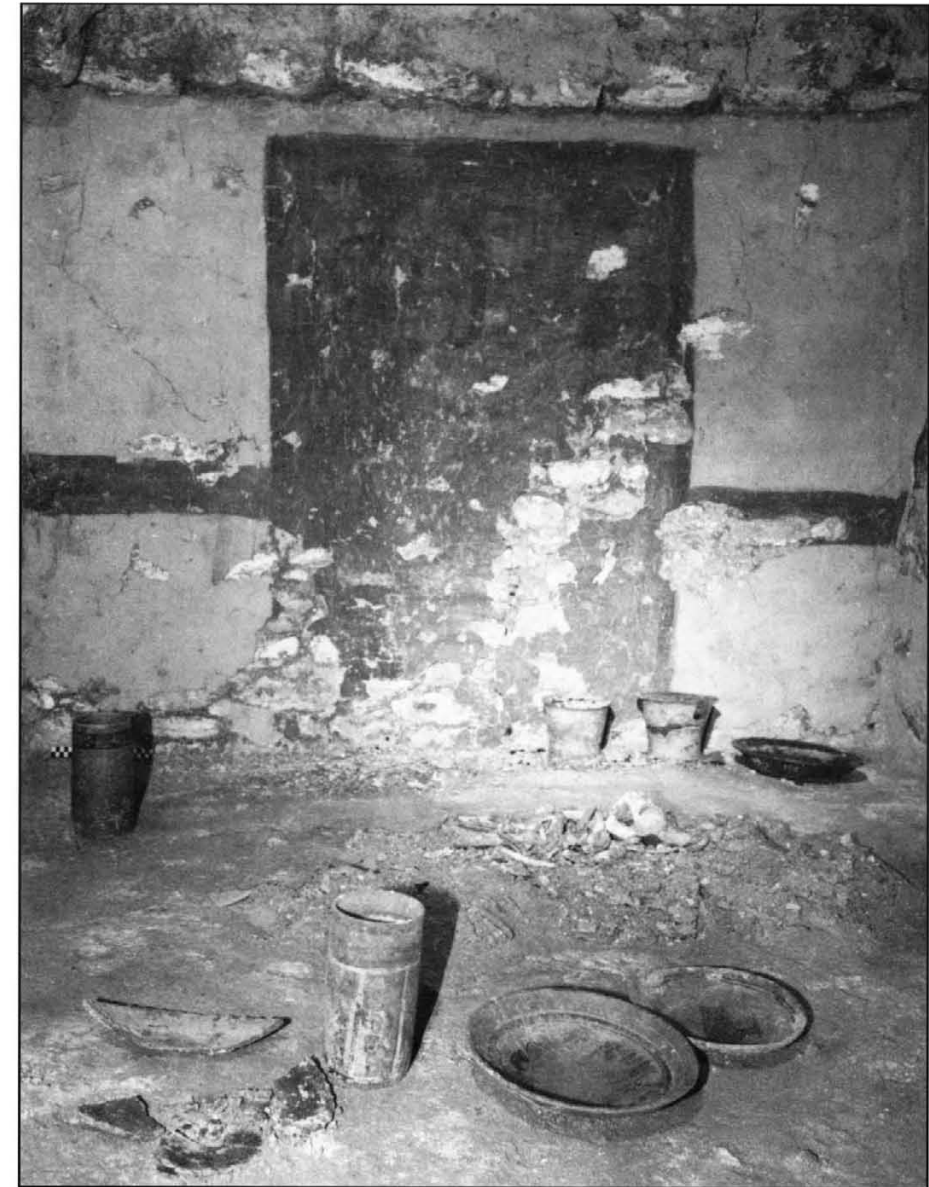


Fig. 21 Photograph of the Structure B19-2nd tomb, looking north.

north wall where it shifted axis and vertically climbed the exterior corners of an inset bench. Detailed examination of the text produced a long count date of 9.10.1.12.? or A.D. 634. Two of the vessels from within the tomb were filled with ash which produced dates of 1720 ± 110 B.P. and 1310 ± 50 B.P. (Table 1). The central capstone in the chamber was also painted red and contained a black-line drawing of what appears to be a skeletal head. The interment of this woman is the most elaborate burial thus far encountered at Caracol. Its location inside an earlier version of what must surely be one of the most important structures at the site indicates the high status enjoyed by at least some women at Caracol.

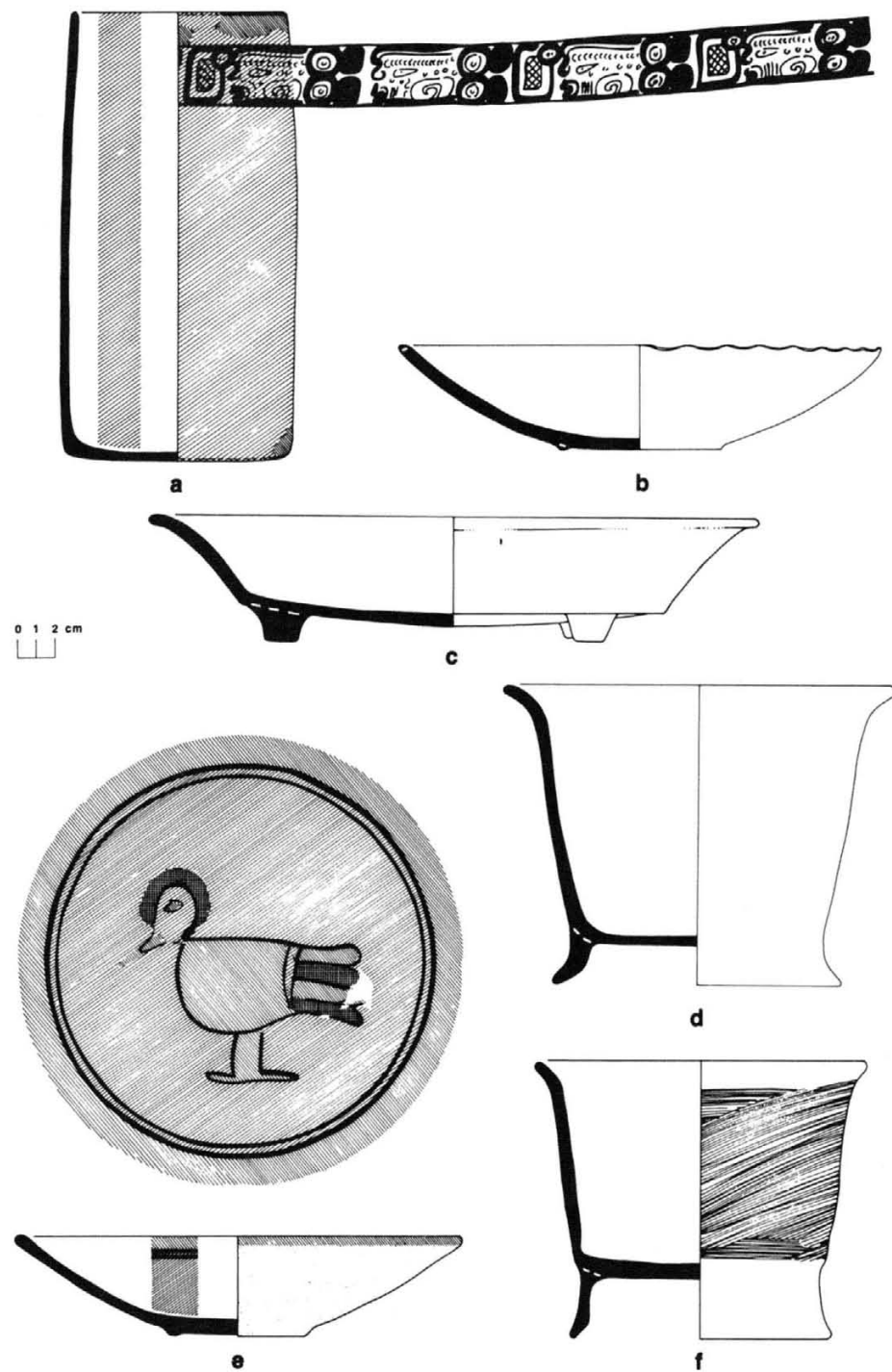
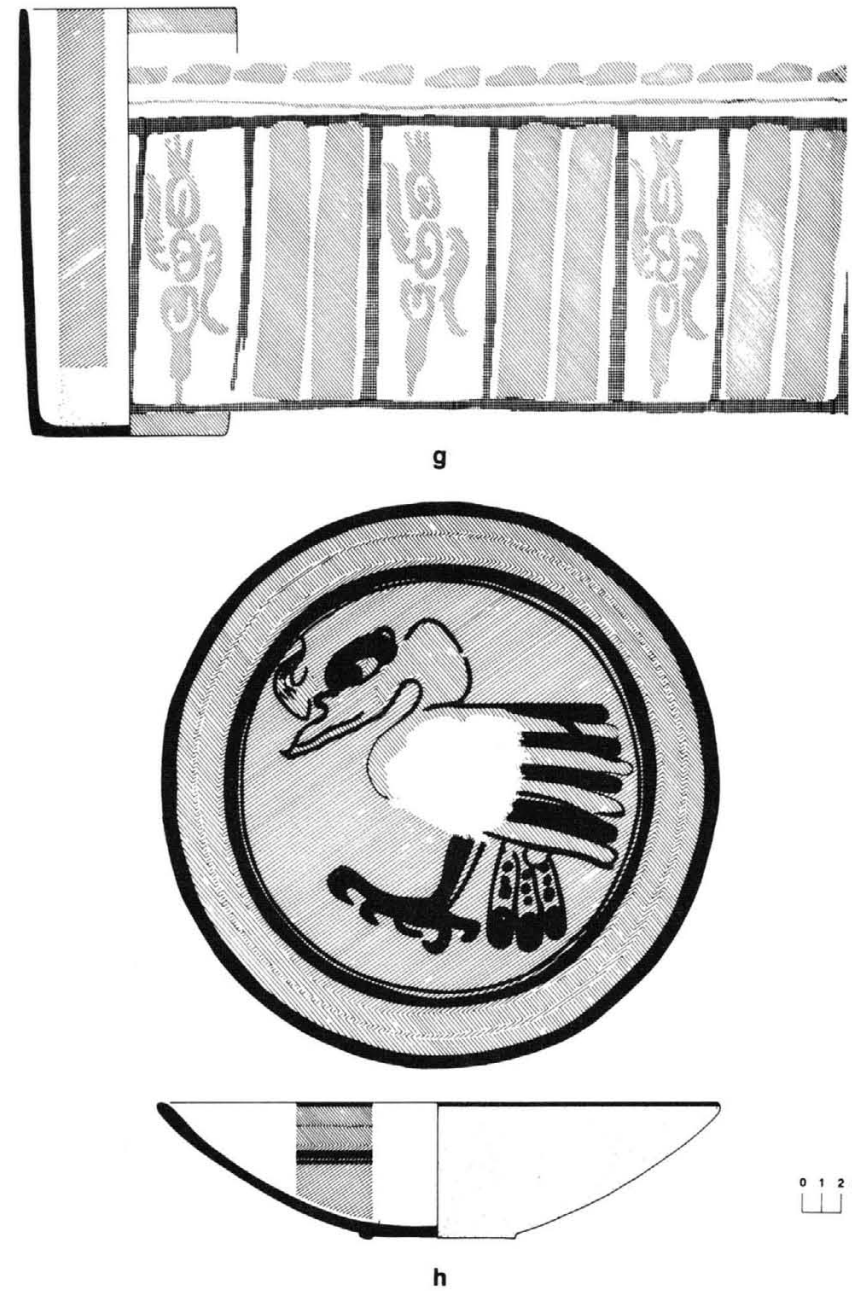


Fig. 22 Vessels from within the Structure B19-2nd tomb: a) Saxche or Palmar Orange-Polychrome; b,c) Infierno Black; d) Valentin Unslipped; e,h) Machete Orange-Polychrome; f) Caana Striated; g) Juleki Cream-Polychrome.



Further excavation of the western front corner area of Structure B19-1st revealed a second room which had been partially engulfed by Structure B18-1st. The room surmounted a drain and formed the only passage for a suite of rooms to the west of Structure B19. A large number of fragments of hieroglyphic texts were recovered here. Cartouched glyphic texts appear to have been placed in relationship to the southern door of this room. One of these cartouched texts (Figure 13b) contained a calendar round date of “2 Ik end of Yaxkin (0 Mol)” or 9.11.9.16.2 (A.D. 662), identified by Houston (Appendix II) as the same date as

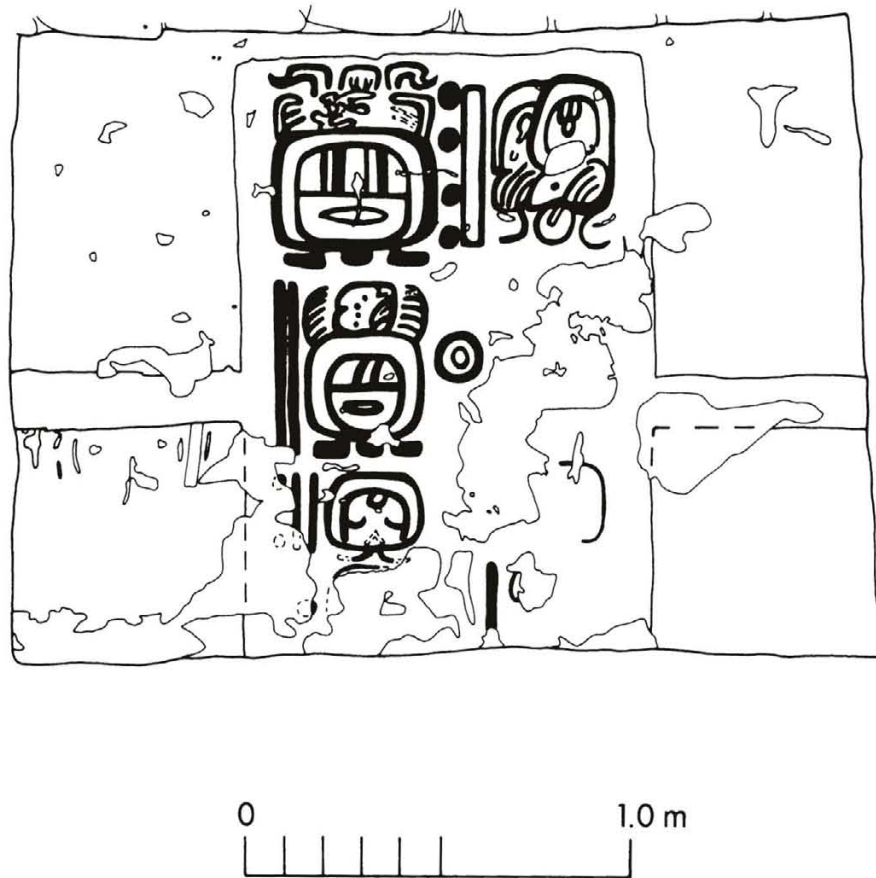


Fig. 23 Painted text on the north wall of the Structure B19-2nd tomb.

that recorded on La Rejolla Stela 3. Additional excavation north of this room produced remnants of a large banded text which once graced the western cornice of the B19 flanking room. Also in the corner area between Structures B18 and B19 were the remains of a crude wall which was meant to block access to the corner rooms, probably in preparation for a new construction effort. A mass of broken censers, similar to those encountered in the pit for Altar 16, were associated with this late wall. Carbon from these censers was dated to 830 ± 120 B.P. (Table 1). This material represents the last activity documented at the summit of Caana.

Other Epicentral Investigations

Within the epicenter of Caracol, several smaller investigations were also undertaken between 1985 and 1987. As previously mentioned, the monument program reinvestigated the area in which Stela 6 had once been located and also tested a large slab of stone immediately west of Structure B28. Stela 18 was redrawn by Houston (illustration: A. Chase and D. Chase 1987:8) and found to date to 9.19.0.0.0 or A.D. 810. Night-time examination of Stela 7 also revealed that its front surface had once been carved to portray one of Caracol's lords. Between the 1985 and 1986 field seasons, digging was also undertaken in the Main Reservoir, found in Map Quad D, when the waterhole was almost dry and when the caretakers were in need of water; this was placed near the reservoir's junc-



Fig. 24 Altar, presumably from the B Group ballcourt; found near Structure A24: diameter = 61 centimeters.

tion with a drain that gathers run-off from the plaza in front of Structure A13. The excavation resulted in the documentation of substantial silting in this waterhole and in the recovery of a number of small artifacts of jadeite and carved shell, probably washed into the reservoir from the adjoining plaza. Investigations were also undertaken in both the A and B ballcourts as well as in Structures A37 and B6.

A surface find near Structure A24, immediately east of the A Group ballcourt, was a carved monument portraying a human and rabbit head entwined in vegetation symbols (Figure 24). While out of context as found, it probably once came from the B Group ballcourt based on the discovery of an extremely similar altar there. Structure B9, the eastern structure in the B Group ballcourt, had been looted on its western side prior to 1985. In 1986, a centerline east-west trench was placed in the playing field between Structures B8 and B9; this encompassed the looted area in Structure B9 and additionally exposed the eastern face of Structure B8 (Figure 25). The court itself was seemingly built in a single construction effort and was poorly preserved, perhaps partially due to masonry stealing by later inhabitants of Caracol. An in-situ monument was found centered in the playing alley. Excavation beneath it and to its sides disclosed that no earlier constructions had existed in this locus prior to the construction of the ballcourt. The iconography found on this B Group ballcourt marker (Figure 26) is almost an exact duplicate of that found on the isolated monument near the A ballcourt. Its slight differences include the reversal of the human and animal heads and the



Fig. 25 Center excavation in the B Group ballcourt looking west at Structure B8; the centrally placed altar is seen in the foreground.

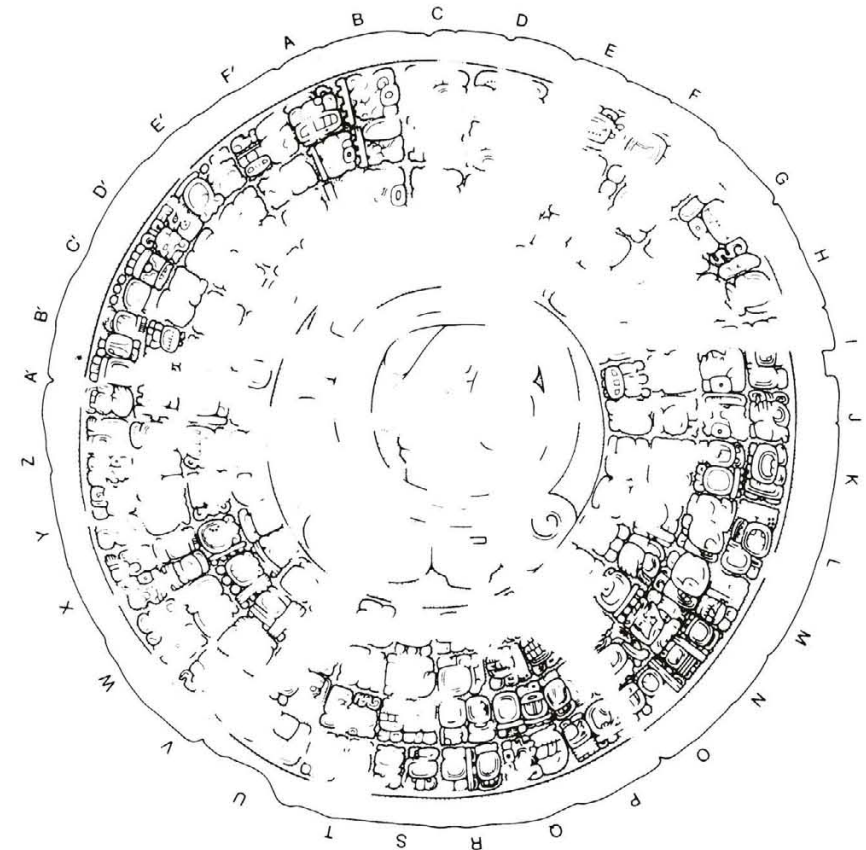
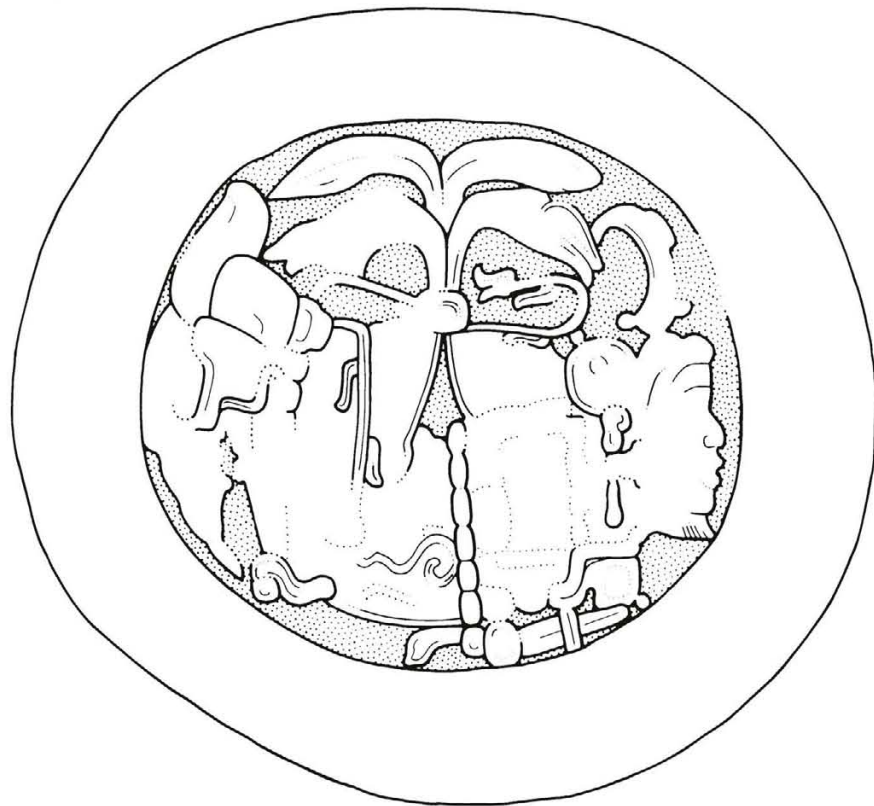


Fig. 27 Caracol Altar 21, which was centrally placed in the playing alley of the A Group ballcourt; diameter = 126 centimeters.

substitution of a deer's head for the rabbit head. Surely, a third altar will be discovered at Caracol to complete this set of monuments.

A central trench was also placed over the east-west axis of the A ballcourt and resulted in the exposure of the vertical slab facings which bounded its playing field and in the recovery of a fragmented altar, termed "Altar 21." Altar 21 (Figure 27) proved to be especially crucial for understanding Caracol's history and its seeming success during the hiatus (A. Chase n.d.). Although a ballcourt monument, the altar contains a hieroglyphic text composed of 128 glyph blocks, one of the longest in Belize. It records the exploits of Caracol Rulers III and V (Appendix II) and is dated by Houston (n.d.) to 9.10.0.0.0 or A.D. 633. Although containing a lengthy text, Altar 21 is also a "giant ahau" altar as its center carving records the date "1 Ahau," the day of the 9.10.0.0.0 katun ending. Importantly, the text records a successful war event by Caracol's Ruler III against the ruling lineage of Tikal in 9.6.8.4.2 or A.D. 562. The altar was perhaps placed in the A ballcourt in relation to accession ceremonies for Caracol's Ruler V, who had celebrated an equally successful war event against Naranjo in 9.9.18.16.3 or A.D. 631.

Fig. 26 (opposite page) Carved altar found in the center of the B Group ballcourt; diameter = 68 centimeters.



Fig. 28 One of four vessels from the Structure A37 tomb: Machete Orange-Polychrome.

During the first week of the 1985 season, a very recently dug trench was found in the western slope of Structure A37. This illicit excavation had broken into a tomb within the core of this building. The vaulted chamber for the interment aligned north-south and was quite sizeable. It had a central entranceway on its western side, much like the Structure B20-2nd tombs; it differed, however, from the Structure B20-2nd chambers in having a full length bench abutting the eastern wall of the room. The chamber itself was crudely constructed and did not appear to have been plastered, although the plaster could have disintegrated long ago given the tomb's placement in a dry core fill. Four early Late Classic vessels were recovered from the clean-up of the chamber: two were Molino Black bowls reminiscent of those found in the Structures L3 and the B20-2nd innermost tomb; the other two were polychrome ring-base plates, one of which portrayed a seated figure (Figure 28). The bone from within the looted tomb was badly preserved, but based upon the teeth that were present, a minimum of 3 individuals were within this chamber; at least one individual was a subadult. Four canines show evidence of either inlay holes or pyrite inlays.

New excavations were undertaken in 1986 into Structure B6 (Figure 29), the western wing of Structure B5. The northern half of this building was areally cleared except for a medial balk and its north-south axis was trenched. These investigations revealed a two-room tandem-plan building with a narrow passage on the extreme western side for access between the southern and northern rooms. Two doorways opened into the northern room and a corniced central bench had been placed against the medial wall. A patolli game board (A. L. Smith 1977) was incised upon the upper surface of this bench and an additional one was found on the floor of the room immediately west of the bench. The deep central



Fig. 29 Photograph of the Structure B6 excavations looking south.

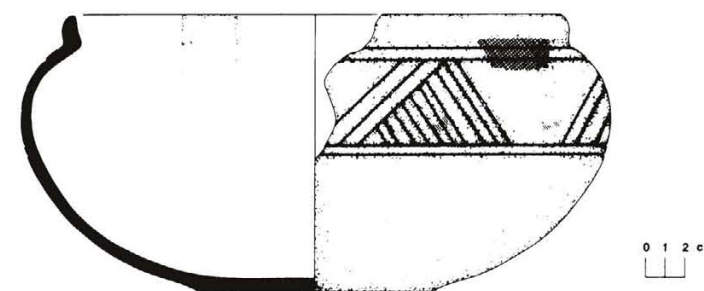


Fig. 30 Utilitarian vessel from the floor of Structure B6-1st: Conchita Incised.

cut revealed a complex history for this building with at least four earlier phases for this wing. Excavation also clearly showed that Structure B5 had once existed in isolation and that Structure B6 had been tacked onto its side. Use of the latest phase of this palace-like structure could be dated to the Terminal Classic Period based upon the recovery of a partial grater bowl in front of the bench and another incurving domestic-ware vessel (Figure 30) north of the bench. A layer of ash was recovered from on top of the latest floor in the eastern and central part of the northern room. Two radiocarbon dates were run on carbon obtained from the Structure B6 excavations. One sample was gathered from a carbon deposit sealed within the bench and dated to 2440 ± 160 B.P. (Table 1), which is obviously too early for the associated construction. The second date was run for ash resting on the latest floor of Structure B6 in association with the partial



Fig. 31 The Structure K4 interment.

grater bowl; this sample yielded a date of 1160 ± 70 B.P. (Table 1), consistent with the relative date inferred from the ceramic type.

Investigations East and Northeast of the Epicenter

On the last day of the 1985 season, two plain monuments were discovered in front of Structure 2A3 at the end of the Northeast Causeway; this causeway was mapped during the 1986 field season. During this mapping, an open chamber was found in Structure K4, the southernmost building in an elaborate group located south of the Northeast Causeway. This north-south chamber was not on axis to its associated construction. The small vaulted tomb had a stepped entrance on its southern side, which had collapsed and left the chamber open (Figure 31). Excavation produced an intact supine burial of a woman with

two Late Classic blackware vessels near her head.

During 1985, one of the buildings located in the walled area southeast of the B Plaza was partially stripped of its overburden to reveal its plan; it was then axially trenched. Structure B108 is the eastern building of the easternmost group within the walled compound (Figure 32). A collapsed tomb was visible in the surface tumble. It was crudely vaulted and was oriented north-south with a bench attached to its entire eastern wall; a small, blocked entranceway was visible in its southwest corner. Although no complete vessels came from within the chamber, the several partial vessels that were recovered dated the use of the tomb to the Late Classic Period. Five individuals were within the chamber; one adult was articulated in supine position on the floor at the foot of the bench and was accompanied by a perforated slate bead. The remains of two sub-adults were found scattered around this individual while two other adults were located on top of the bench. Excavation into the core of Structure B108 showed it to have been a single-unit, multi-level construction associated with two other burials. The simple burial of a prone child of 3 or 4 years of age accompanied by three beads was found deep in the core of the building. Under a row of slabs adjacent to the front steps for Structure B108 the supine, head-to-the-south interment of an elderly woman was encountered; she was accompanied by a bone shuttlecock and two spindle whorls. The extensive refuse located outside of Structure B108 included a large amount of slate and some raw jadeite, suggesting that the building was utilized by artisans involved in the working of stone.

Investigations West and Northwest of the Epicenter

In 1983, a plain round altar had been found northwest of the site epicenter in a plaza fronted by Structure A86. Sizeable architectural concentrations were discovered west of this area early in 1985. Several of these buildings had been recently looted, including Structures F4, A61, and A63. Two groupings of structures in this northwest area were especially impressive. The first consisted of Structures F1-F4, the "Northwest Group," and was located on a huge platform



Fig. 32 Excavations in Structure B108; an interment lies below the stone slabs directly in front of the substructure steps.

built onto a natural knoll to which a causeway ran from the back of Structure A2. The second group was northeast of the first and was located on the same hillside; it was connected to the main causeway by a "via" (Hellmuth 1971). The second grouping effectively utilized the hillside to produce the illusion of great height for its winged acropolis. In the main plaza immediately east of this acropolis, a smaller eastern structure was perched on the edge of the built-up platform. Structure A63 had been axially probed and a small vaulted tomb with a southern entranceway had been cut into; a full-length bench was appended to the eastern wall of the chamber. Four broken vessels dating to the Late Classic Period were piled at the mouth of the trench. Clean-up excavation within the chamber at the foot of the bench revealed the disturbed bones of an adult and a fifth vessel still in situ. The total salvaged bone suggests that the tomb had been occupied by 2 or 3 adults, at least one of which was male and one of which was female.

The Northwest Group was not only was connected to the epicenter by means of a causeway, but was also connected to groups to its southwest by means of another roadway. An additional causeway was found on the west side of this group leading out into the core; during 1986 and 1987 this causeway was followed for more than 500 meters into an area of extensive terracing before its route became obscured by extremely steep terrain. It is not as wide as the

causeway between the epicenter and the Northwest Group and is likely a long-distance causeway much like those leading to Conchita and Pajaro-Ramonal.

Prior to 1985, the eastern building in the Northwest Group had been axially looted on its northern side; no material, however, was associated with the spoil heap from this excavation and the trench walls had already collapsed, thus precluding inspection of the building's interior. The western building in the group, however, revealed a collapsed and open tomb near the summit of its western slope. It had an entranceway through its roof which consisted of a specially built shaft connected with the latest version of Structure F2. Detailed excavation of this chamber took almost two months as the tomb proved to be filled, almost to the spring of the vault, with human remains. Although largely a jumbled ossuary, these remains were sometimes partially articulated and many bones showed signs of burning, some of it in situ. The associated artifacts, including five very large, but shattered, jadeite beads, also illustrated burning after breakage had taken place. The seven partial vessels from the chamber indicated that the deposit spanned the late part of the Early Classic Period and the early part of the Late Classic Period. A preliminary count of individuals based upon patella indicated that a minimum of 25 were represented in this chamber. In order to better place this deposit in context, the summit of Structure F2 was partially cleared and an axial trench was placed into the construction. Structure F2 proved to be a single room with base walls and lateral interior benches on its southern and, probably northern side. Excavation within its core revealed that the tomb was associated with the last substructure raising of Structure F2 and that ripped-out earlier constructions had existed at this locus. The simple interment of an approximately 20-year old individual had been placed in the core of the stairway for Structure F2. The skull of an adult was found immediately in front of the latest steps of Structure F2. A cist covered with large slabs was located directly beneath the fragmented skull. Within this cist was the flexed body of a sub-adult accompanied by 2 obsidian lancets.

Structure F17 is the eastern building in a small plaza group set amid and physically joined to terraces west of the Caracol epicenter. It had been looted prior to its discovery in 1986. In spite of the small size of the structure, its presence in the middle of presumed agricultural fields, and what would have appeared to be an "insignificant" group based upon surface inspection, a sizeable benched tomb with a northern entrance had been encountered by the looters. This chamber was cleaned-out and recorded during 1986 and revealed 2 shell beads and 2 Late Classic vessels; the remains of only a single adult individual were found.

Investigations South and Southeast of the Epicenter

Extensive reconnaissance has been undertaken in the area southeast and south of the epicenter, for this is the portion of the site through which three causeways pass. Investigation within this area began in earnest during the 1986 season when these causeways were discovered. The materials found at the ends of these causeways are discussed in subsequent sections. It should be noted that the end of the causeway leading to Retiro has yet to be found even though this causeway has been followed for over 2.5 kilometers. Closer to the epicenter, investigations have taken place in a series of loci. During the 1986 season, Structures C11 and C12 were excavated by Susan Jaeger as part of the Conchita Causeway Program (Appendix III). Both buildings were located on the north side of an elevated platform located in between the intersection of the causeways running to the Conchita and Machete Groups. Her excavations revealed earlier constructions and dated both of these structures to the Late Classic Period. Two simple burials were uncovered in Structure C11: one was a jumbled mass of bone minimally rep-

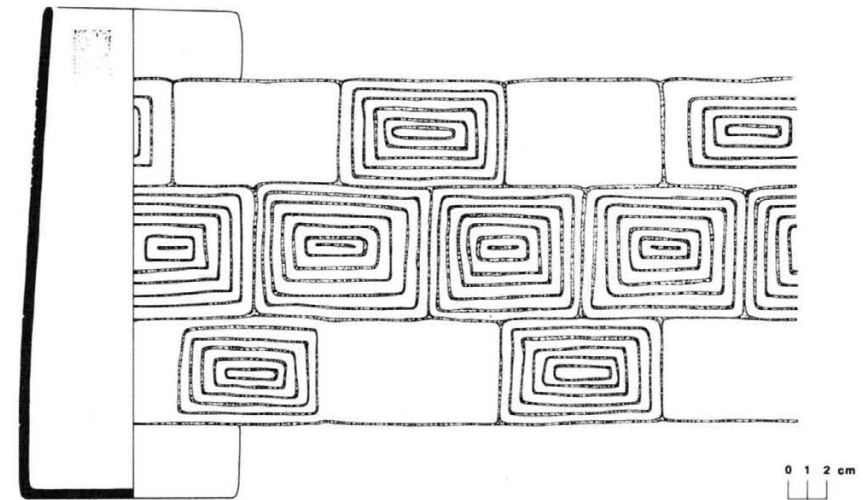


Fig. 33 One of three vessels from an interment in Structure C13: Carmelita Incised

resenting the remains of an adult and a child; the other was of a prone adult woman accompanied by a single partial vessel. During 1987 further work was undertaken by Jaeger in Structure C11 and Structures C13 and 14 were also investigated. A cache consisting of a single effigy vessel was found in the core of Structure C13 and an interment consisting of at least 4 individuals, 3 vessels (Figure 33), and a pyrite inlaid shell ring was encountered beneath the front part of this building. One individual's teeth were extensively inlaid with jadeite and pyrite.

Other investigations in the vicinity of the Conchita Causeway have recovered 2 Late Classic vessels from looting into Structure M2 and also resulted in the recording of two chambers in Structure C97, a looted eastern building (see Appendix III). The western chamber in Structure C97 contained a single supine adult male associated with 2 vessels of Late Classic date, a mano, and a pair of carved shell ornaments; the lower eastern chamber produced 3 vessels of late Early Classic date, two shell earplugs, and the remains of at least 1 adult and 1 subadult.



Fig. 34 One of fifteen vessels from the tomb in Structure O4: Monstera Orange-Polychrome.

During 1987 investigation was undertaken in 3 loci between the 2 causeways leading to Pajaro-Ramonal and the Retiro areas. An open tomb in Structure N9 was investigated and found to contain no human bone; it did, however, yield 2 partial vessels dating to the Late Classic Period as well as a complete mano. A looted chamber had been noted in Structure O4 during 1986 and several partial vessels had been collected at this locus. In 1987 the Structure O4 tomb and the cut into the eastern slope of this building were fully recorded. The chamber was large, measuring 2.56 meters in height by 1.78 meters in width and 2.65 meters in length; in total volume, this chamber is larger than those found in Structures A3, A37, and B20-2nd (westernmost tomb) in the epicenter and is exceeded in total volume only by the Structure B19-2nd tomb and the easternmost two tombs in Structure B20-2nd. Fifteen vessels of Late Classic date (Figure 34) and some carved shell were in association with this chamber. The recovered human bone indicated that at least 8 adults and 1 subadult had been placed in it. Flat filing and some inlays were evident in the teeth; one upper central incisor contained 3 jadeite inlays. Another collapsed chamber investigated during 1987 was located in the substructure platform to the front of Structure P14 and was unusual in having an east-west primary axis; a crudely constructed bench, which contrasts with the finer wall construction, was attached to the north end of this chamber. Considerable jadeite and shell artifacts were encountered during the excavation of this tomb, but only 3 fragmentary vessels were found. Of these three vessels, the most complete one is a pedestaled, vertically grooved black cylinder similar in shape to those from the Structure A3 tomb; the other two are fragments of a ring-based plate and an temporally incongruous orange mammiform tetrapod. The recovered human bone from this tomb belonged to one adult and two subadults.

Two small plain stelae have also been noted in groups south of the epicenter. One is set in the plaza in front of Structure P15 and was associated with an almost complete footed bowl, probably of Terminal Classic date. The other miniature plain monument was found in 1987 and is set in front of the southern portion of Structure C17. One other possible plain stela was noted during reconnaissance of an area about 500 meters north of Caana.

Causeway Termini Investigations: Machete

Southeast of the B Plaza a broad causeway terminates. As it enters the epicenter, it has parapets on either side. These parapets extend along the causeway to the point at which it splits into two roadways, one running to Conchita (Grid 4L) and the other running to a hilltop group called "Machete." The northern branch of the causeway runs through terraces and then climbs the steep side of the hill which supports the Machete Group. Entrance into this group was through the western structure. The northern, southern, and western structures are all long rectangular, low-lying constructions under 2 meters in height. The eastern building, Structure L3, differs in presenting a squarish pyramid approximately 4 meters in height. As Structure L3 apparently formed the focal point for the group at this causeway termini, it was selected for axial excavation during 1986. Little remained of the final phase of this construction and it is in fact doubtful if a formal building ever surmounted the substructure summit. An earlier phase of this construction, complete with a central stairbalk, was better preserved beneath the dry rubble fill of the later phase; it too, however, showed no signs of a building on its summit. The excavation into Structure L3 recovered a series of deposits, all dating to the early part of the Late Classic Period. Two special deposits were found in front of the building: one consisted of a cache of three paired sets of vessels (illustration of one set: D. Chase in press: Figure 2b)



Fig. 35 Upper crypt in Structure L3.

sealed by the latest plaza floor and with a human phalange in one of the vessel sets; the second was the burial of a poorly preserved adult with pyrite and jadeite inlaid teeth, which had been cut through the latest plaza floor. A series of five burials were further encountered in the core of Structure L3. Similar to the simple interment found in Structure F2, an adult male had been placed in the fill for the latest L3 stairs. Three other burials in crypts had been made beneath this stairway. The lowest one was of an unsexed supine adult with jadeite and pyrite inlaid teeth; this interment was accompanied by two vessels. The intermediate crypt contained a supine adult female with no associated grave goods. The uppermost crypt (Figure 35) contained a minimum of three individuals: two adults and one subadult. One of the adults was a male and exhibited at least one pyrite inlay. One eroded Late Classic cream-polychrome cylinder vessel accompanied the interment as did a modeled pregnant "monkey" flute and a red-slipped three-chambered ocarina. One other interment, a tomb, was encountered in the core of Structure L3-2nd, probably having been built into the earlier construction. Prior to its interment in Structure L3-1st, a small central excavation had been made through the floor to re-enter the chamber. In order to accomplish this, two capstones had been lifted and then replaced incorrectly (and unstably) along the

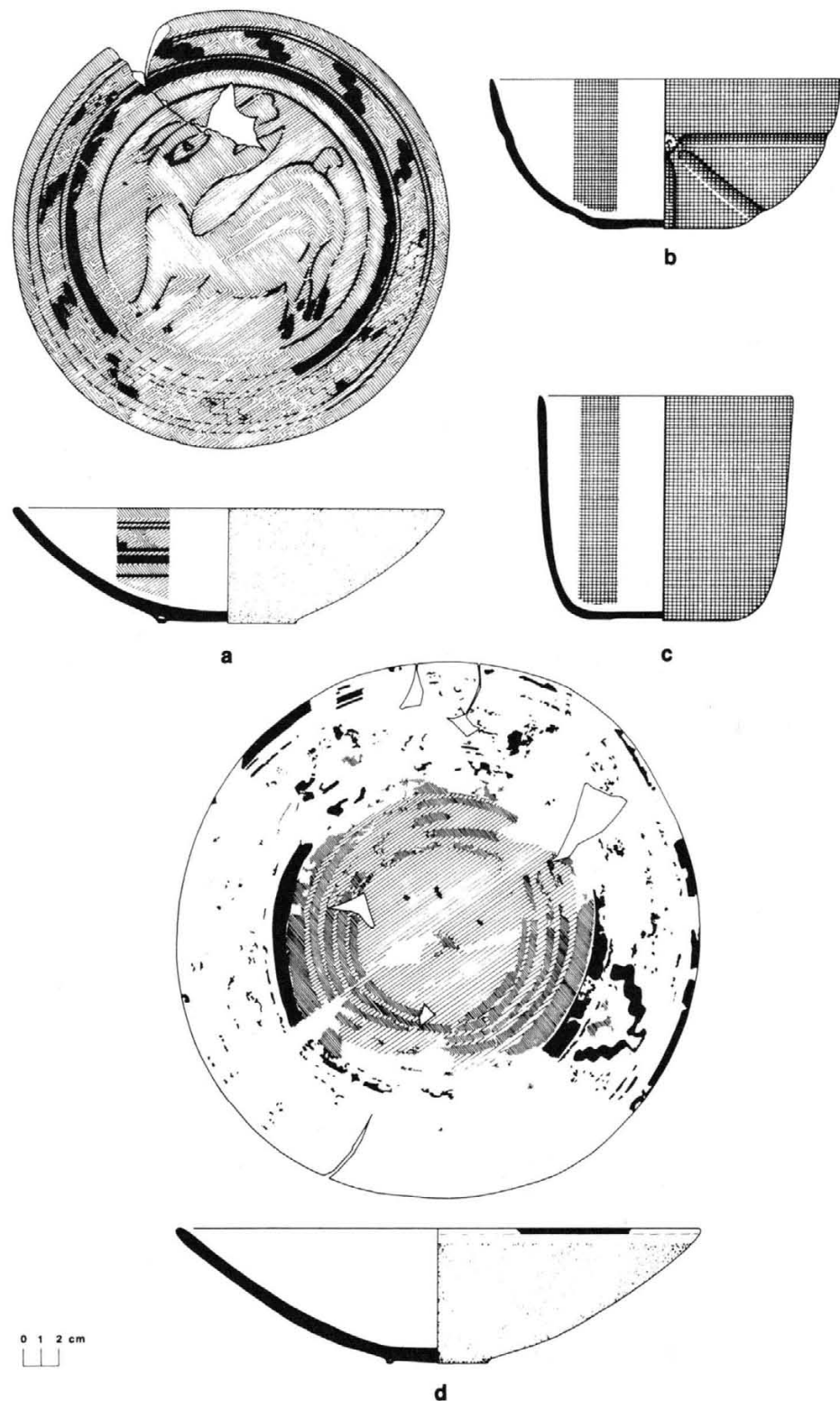


Fig. 36 Vessels from the Structure L3 tomb: a,d) Machete Orange-Polychrome; b) Hormiguero Modeled; c) Molino Black.



Fig. 37 Painted capstone from the Structure L3 tomb; text frame is 32 centimeters in height.

north-south axis of the chamber; one of these capstones was painted red and had a black-line hieroglyphic text which recorded the date of 9.9.0.16.17 2 Caban 15 Uo, or A.D. 613 (Figure 37). The contents of the chamber were broken and strewn about its entire length. The tomb, however, proved to contain the remains of a single adult male, four pottery vessels (Figure 36), and a multitude of jadeite mosaic pieces. Red pigment was noted on the frontal bone of the individual. In the cut above the capstone, 435 pieces of obsidian were recovered; an additional 179 pieces of obsidian were within the tomb. Thus, the pattern of depositing freshly struck obsidian above the painted capstone which was noted over the Structure A3 tomb is also found, albeit on a smaller scale, in association with the Structure L3 tomb. This pattern has also been noted for Burials 24 and 116 at Tikal (Coggins 1975:373); the Caracol example in Structure L3, however, predates the appearance of this trait at Tikal by at least 60 years.

Causeway Termini Investigations: Conchita

After splitting from the causeway leading to the L3 Group, the second roadway traverses a distance of over 2.5 kilometers before entering a special function plaza. Passing through this plaza, one reencounters the causeway on the other side of Structures 4L37 and 4L38; from this point, the causeway climbs directly up the side of a steep hill, again going through the center of another plaza area, before terminating in a final group dominated by Structures 4L5 and 4L6 known colloquially as "Conchita." The Conchita plaza is over 61 meters above the initial plaza level; Structure 4L6 rises an additional 8 meters above this. When discovered in 1986, Structures 4L4, 4L5, and 4L6 had been freshly looted. All told, a sample of 33 vessels were recovered from these illicit excavations; all date from the Late Classic Period, although several of the cache vessel forms may be slight-

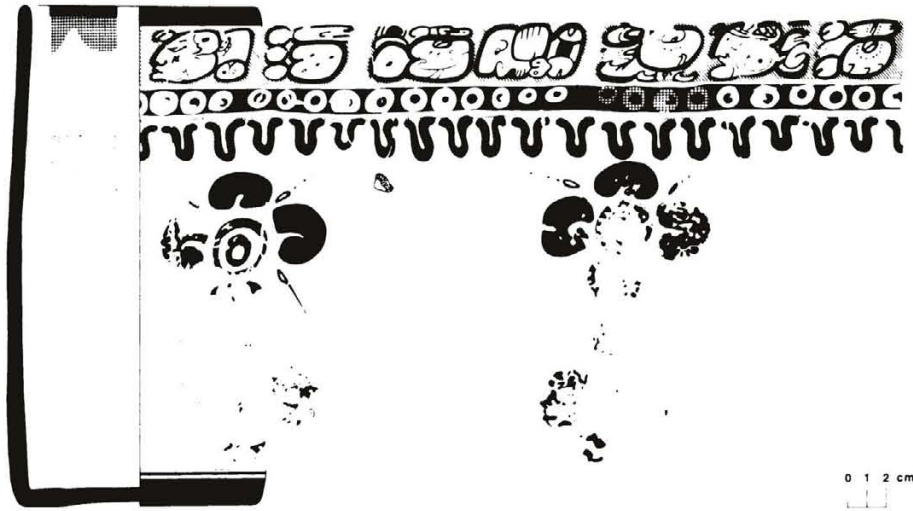


Fig. 38 Vessel from the Structure 4L6 group: Zacatel Cream-Polychrome.

ly earlier. Two vessels were found on the backdirt in front of Structure 4L5. Twenty-five vessels were found in association with Structure 4L6: 6 to its front; 10 on its summit, and 9 within the two tomb chambers (7 in to the north and 2 to the south) in the central part of the building. The other 6 vessels (Figure 38) were found in the looters' camp located northwest of the Conchita Group near two natural aguadas. Little was learned from investigation of the Structure 4L4 looters' cut, which ultimately tunneled into the core of that building; based on



Fig. 39 Clean-up work at Tulakatuhebe Structure 8F8 with looters' trench visible in the background.

the large slabs in the backdirt, however, a crypt of some sort must have been encountered. No chambers were visible in the Structure 4L5 trench. The deep furrow into Structure 4L6 recovered no evidence of an earlier construction at this locus. At the summit of Structure 4L6, the cut had exposed a vertical shaft which led down to a landing located between two separate tombs. Re-excavation revealed that these two chambers had minimally housed 7 individuals. Based on an analysis of teeth, six individuals were located in the northern chamber while one was in the southern chamber; 3 of the individuals in the northern tomb had filed or inlaid teeth while the individual in the southern tomb had pyrite inlays. The formal entrance to a third open tomb was found on the northern side of Structure 4L6. Excavation within this chamber showed that it had contained at least 1 individual although very little bone was preserved. Pieces of three extremely fragmentary vessels were also in this chamber. These consisted of: the body sherds of an unslipped jar, an almost entire rim of an elaborately modeled-carved thin walled vessel (possibly a drum), and several pieces of a modeled efigy censer which had much of its elaborate surface painting still extant.

Causeway Termini Investigations: Pajaro-Ramonal & Tulakatuhebe

Two causeways lead out from either side of the epicenter's South Acropolis. One of these runs toward Retiro to the southwest while the other runs over 2.5 kilometers to the southeast of this group. This latter causeway and the groups at its far terminus were mapped during 1987. Extensive looting has taken place at the end of the southeast causeway in an area generally referred to as "Pajaro-Ramonal." While extensive collections of looted materials from this area were made in 1986, clean-up and recording operations began in earnest in 1987. A large hilltop acropolis, which may be the formal end of the southeast causeway was discovered during the 1986 season. Its 15 meter high east building and 11

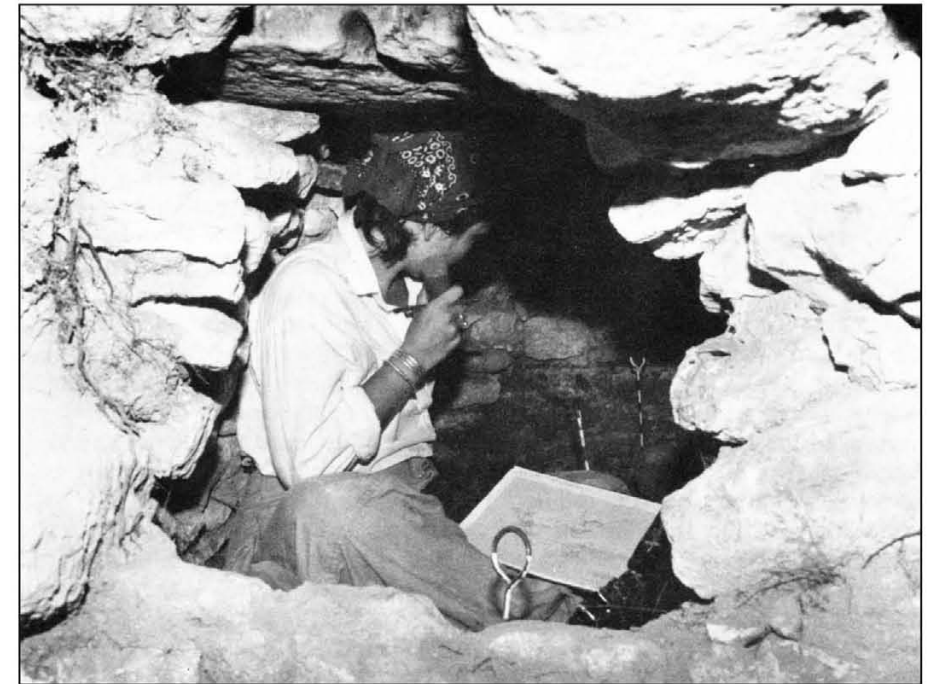


Fig. 40 Intact chamber in Structure 4F8 excavated during 1987.

meter high south building had been gutted. A north-south axis tomb with a western entranceway and an eastern bench had been encountered in Structure 6G27; this chamber was finely finished and the bench had been painted red. No bone or artifacts were found in association with the tomb or the 6G27 backdirt. While no chambers could be found in the trench cut into Structure 6G30, at least 5 fragmentary Late Classic vessels can be associated with this excavation as can what appear to be 3 obsidian eccentrics. One of the recovered vessels is a scalloped-edge blackware dish similar to the one found in the Structure B19-2nd tomb; part of pedestaled censer like those found in the B19-2nd tomb was also found in association with Structure 6G30.

Southeast of the Structure 6G30 acropolis was another looted group. Structure 6F7, the eastern building, had been trenched on its western side and tunneled on its east. The western excavation had encountered two chambers. Five vessels were found in association with the western trench; all are Late Classic in date. A diagonally grooved cylinder and an incurving gadrooned bowl were recovered from the upper chamber; an analysis of the recovered teeth showed that a minimum of 3 individuals had been placed in this chamber. A blackware tripod plate was found in the lower chamber. On the sides of the trench, two other vessels of early Late Classic date were found.

Perhaps the most badly looted portion of Caracol is an acropolis group 200 meters south of the 6G30 acropolis. This acropolis, known as "Tulakatuhebe," Maya for "buildings with many openings," has been extensively cut into by looters. It is connected by a via to terracing in the valley and one of these terraces acts like a via to connect the acropolis to the main causeway. Minimally six tombs were encountered by looters in the main eastern buildings (Structures 8F7, 8F8, and 8F9) of this acropolis. Four of these tombs were finely plastered and exhibited black slate slabs as capstones. In 1986, a series of vessels were collected from these various trenches. One vessel of early Late Classic date was recovered in the backdirt from a tunnel into the western slope of Structure 8F9; 4 other vessels were found in the black slate-roofed tomb at the end of the tunnel; two of these could be dated to the "Protoclassic" and two were of Late Classic date. While no chambers were noted in the excavation into the western slope of Structure 8F7, the looters' cut into the western slope of Structure 8F8 had encountered three chambers, the innermost of which had a black slate roof. In 1987, a return visit to this central trench revealed that it had partially collapsed, covering the innermost tomb, but also exposing a new chamber (Figures 39 and 40). As two vessels were visible inside, it was excavated and the western section of the looters' trench through Structure 8F8 was drawn. The section reveals an extremely complicated construction history involving many additions and modifications to the substructure of 8F8. The excavation of the intact chamber produced 11 vessels of Late Classic date, a partial shell ring, and a multitude of jadeite, shell, and malachite beads. At least 5 adults and 2 subadults were present in the chamber; the majority of these bodies were articulated and indicated that they had been bundled at the time of interment. Two other early Late Classic plates were found in the backdirt pile in front of this building. The eastern slope of Structure 8F8 had also been trenched. During 1986, two lidded cache vessels (Figure 41) and two other Early Classic vessels were found on the scree from this rear probe. One of the cache vessels (Figure 41a) was crudely painted in black line on a red hematite background. The interior of its lid (Figure 41b) portrayed a figure of a winged Itzamna or "muan bird" similar to that found on a vessel in Tikal Burial 72 (Coggins 1975:330-333; Clancy et al. 1985:175) while a dead corn god was portrayed on its interior bottom (Figure 41c). The opposition of the "heavenly" bird and the "underworld" dead corn god

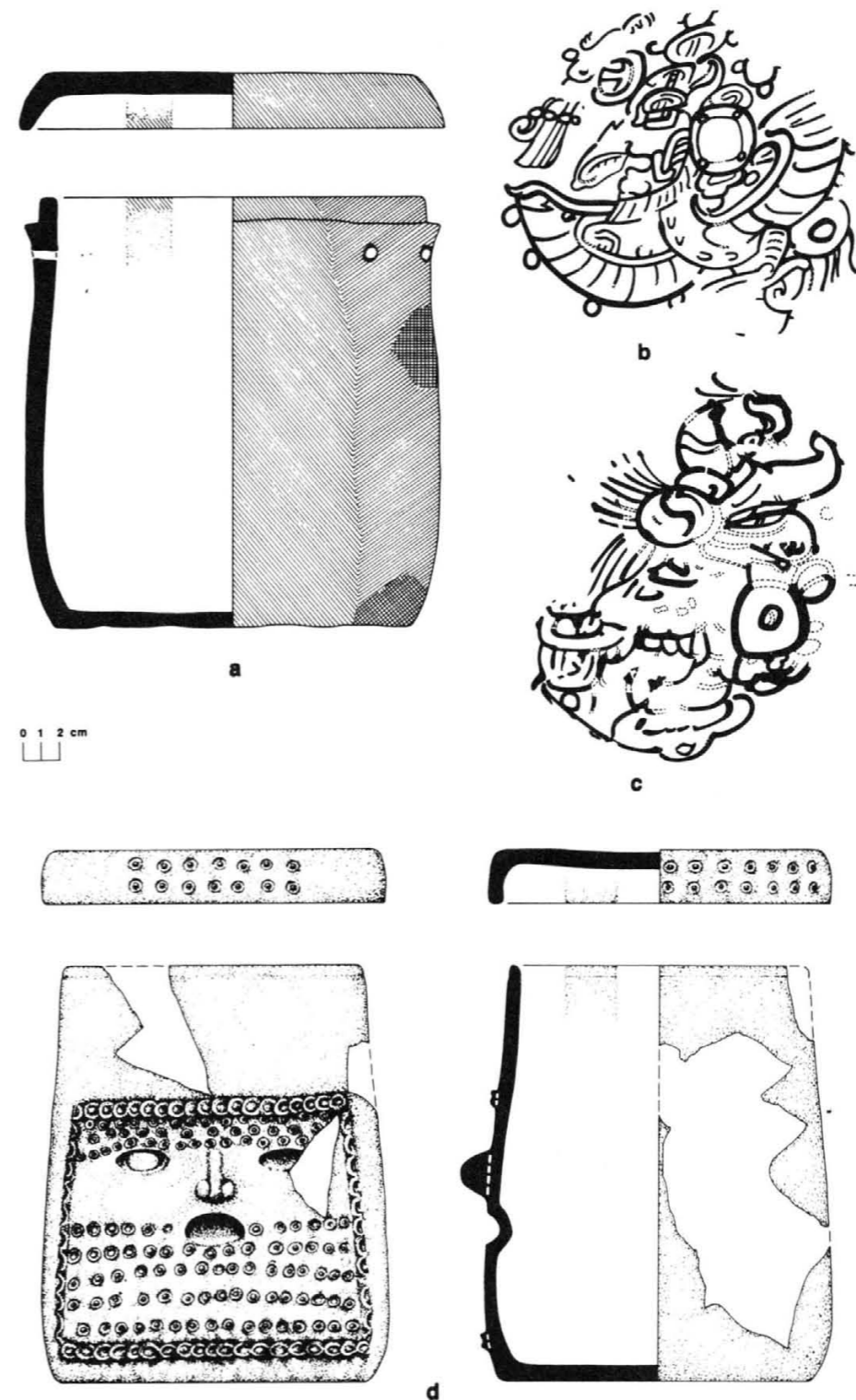


Fig. 41 Cache Vessels associated with Structure 8F8: a) Tulaka Matte-Red; d) Hebe Modeled; b) interior lid design on a; c) interior base design on a.

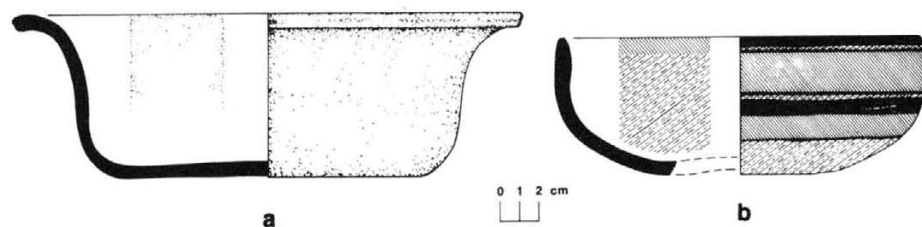


Fig. 42 Early Classic Vessels from Tulakatuhebe: a) Puchituk Unslipped from Structure 8F9; b) Caldero Buff-Polychrome from Structure 8F22.

clearly had cosmological significance; it is likely that the contents of the cache, placed between these two figures, would have represented the symbolic order of the Maya universe (D. Chase in press). During 1987, two other looted tombs were recorded: one found in the eastern tunnel into Structure 8F9 and, one of the two black slate roofed chambers encountered in the eastern tunnel into Structure 8F7. Excavation of the rear 8F9 chamber resulted in the recovery of an unslipped Early Classic bowl (Figure 42a) and the remains of a single adult individual. One additional chamber was found by the looters beneath Structure 8F10. A tunnel into the adjacent Structure 8F22 exhibited no visible chambers, but produced a series of partial polychrome vessels dateable to the Early and Late Classic Periods (Figure 42b). In general, the Tulakatuhebe Acropolis area exhibits a long and complex construction history, going back minimally to the Protoclassic era.

Although the main plaza through which the causeway passes had not been disturbed, looting had taken place in two groups linked by their own causeways to this specialized plaza area. Structures 4P10, 4P11, and 4P12 in the northwestern group had been dug. Structure 4P12 had been tunneled completely through

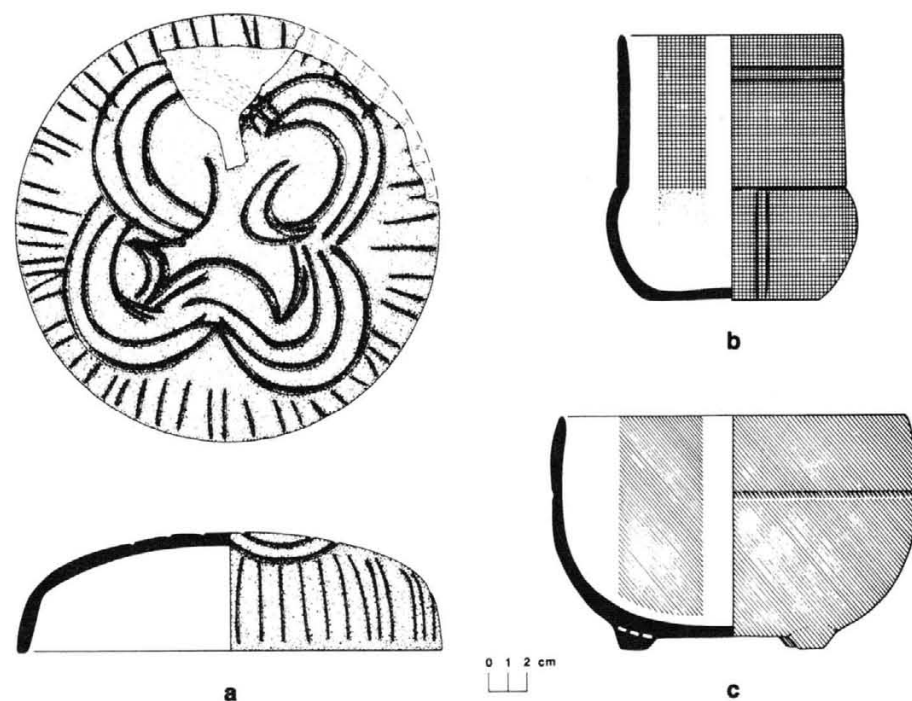


Fig. 43 Vessels associated with Structure 6G4: a) Mujer Incised; b) Canoa Incised; c) Pala Incised.

revealing an extremely well preserved earlier plastered building. A trench into the western slope of Structure 4P11 had passed through a small crypt, which still contained two vessels of Late Classic date. A trench and tunnel into the western slope of Structure 4P10 had bisected two chambers. Nothing was left in the uppermost chamber which exhibited a blocked entranceway on its northern side. The lower chamber held the major parts of 12 vessels, all Late Classic in date. The recovered human remains indicated that at least one adult and one child were present in this chamber; the adult's teeth were inlaid with jadeite and pyrite. A second group with a connecting causeway was located southwest of the special functional plaza. The eastern and southern buildings in this group had been looted between the 1986 and 1987 field seasons and a deep excavation had also been made into the center of the plaza. An incised lid (Figure 43a) was found in the backdirt of this central excavation. Structure 6G4, the eastern building, had been completely tunneled through, revealing a tomb beneath its western slope. A section was drawn of this excavation and the tomb area was cleaned-up resulting in the recovery of 15 more vessels, all of Late Classic date. Three vessels were found at the summit of Structure 6G4, including pieces of an elaborate figure polychrome on black background. Parts of 7 other vessels were found in the backdirt of its western slope, including a portion of a pedestaled censer similar to those found in the Structure B19-2nd tomb. Five other vessels (Figures 43b,c) were recovered from inside what was left of the tomb. At least two individuals with filed and inlaid teeth had been present within this chamber. Within the vicinity of the platform supporting Structure 6G4, a single Late Classic tripod plate was found cached, presumably by the looters, in the roots of a large tree.

The Spatial Organization of Caracol

A series of topics necessarily arise in any consideration of the spatial organization of a Maya site; this is particularly true with regard to relatively expansive Classic Period ones such as Caracol. There is no clear agreement as to the degree of urbanism present at Maya sites, the relationships between the various parts of a site, or the best ways in which to investigate settlement patterns. Work at Caracol has precipitated examination of each of these fields of inquiry and, while research has not always provided definitive answers, Caracol investigations do provide new information and sometimes distinctive resolutions to traditional problems. A brief discussion of these topics, terminology, and interpretation follows.

In a consideration of site structure, Maya archaeologists are prone to set up a series of dichotomies or dyadic relationships, those being in particular: "central" vs. "peripheral," "elite" vs. "non-elite," and "dispersed" versus "nucleated." Within this predominant frame of reference, Maya social organization and site structure are viewed as being the results of the conjunction of a series of opposite forces. The dichotomous terms used to describe the organization of a Maya site cover its site structure, the people who inhabited the site, and the way in which the people distributed themselves over the landscape. A question may be posed, however, as to whether the common use of these terms in fact masks the actual spatial arrangement and integration of a Maya site. One particular question is the degree to which such terms may overshadow deliberation and planning in Maya site design or even accretional growth, where this occurs. Such frames of reference may also gloss social distinctions present within the prehistoric populace.

The arrangement of a Maya site over its chosen terrain is clearly the result of a number of factors. This physical arrangement may be altered by the circumstances of time, geography, resources, politics, and Maya conceptions of space. Models for the resultant arrangement may also, however, affect interpretations concerning the structure and organization of a Maya city. Were Maya communities “weakly integrated,” perhaps consisting “of many competitive kin groups” as Kurjack and Garza T. (1981:300) would have us believe or were they in fact highly integrated? Were Maya households and sites arranged concentrically? Were they organized into distinctive barrios? Or, were they laid out in some other way? One’s answers, or, more truthfully, one’s preconceptions concerning such questions can color the way in which a Maya site, and indeed Maya society is viewed.

At Tikal, an “epicentral” and “central” area are paired against a “peripheral” area and are, to some degree, conjoined with a central “elite” and a peripheral “non-elite.” The cache and burial data at Tikal is seen as confirming a basic principle that distance from the site core reflects social status (Haviland 1985b:153,159; see also Adams and Smith 1981:346). In fact, the dyadic social relationship that is subsumed in the use at Tikal of the terms “central” as opposed to “peripheral” is seen in the assertion that a “large population living at Tikal consumed food that was raised by people living in a surrounding rural region” (Haviland 1983:xi). This raises larger questions: could or did the elite grow their own food? Did the elite have direct control of the agricultural systems or merely receive a portion of the produce? Must the fields have been located in a sustaining area outside the city limits? And, were those Maya who did grow food automatically qualified as “non-elite?” How does one classify a site that has agricultural fields within it? Why would a Maya site contain fields within its core?

To return to the problem of concentric vs. non-concentric organization, at the northern lowland Maya site of Dzibilchaltun, a concentric model is applied to the site (Kurjack 1974:94) even though the distribution, quantity, and quality of caches and burials in relation to distance from the site center suggests that the problem may be incorrectly defined in a dichotomous fashion (Andrews IV and Andrews V 1980:325). For Coba, also located in the northern Maya lowlands, researchers have also suggested a concentric organization (Folan et al. 1982, 1983:180). Ashmore (1981b:461-462), has indicated that a strict concentric model does not describe the settlement around the southern lowland site of Quirigua. The Postclassic Period site of Santa Rita Corozal, located at the juncture between the northern and southern lowlands, is likewise not settled concentrically (D. Chase 1986:362-367; D. and A. Chase 1986b:23). Are these distinctive interpretations based upon differences in the settlement areas within the Maya area or upon varying research methodologies among archaeologists. The current debate between Arnold and Ford (1980; Ford and Arnold 1982), Haviland (1982), and Folan et al. (1982,1983) suggests that differing interpretation is surely part of the problem. Postclassic research, however, has suggested that there may not only be more than one type of site organization even within this period, but also that Bishop Landa’s original concentric description may not have been based in original observations (D.Z. Chase 1986:362-363).

If the elite do actually live within the central area of any site, what then are the purposes of large concentrations of architecture, which often exist at a set distance from the site center? These are sometimes termed “minor centers,” (Puleston 1983:2,25) and have been viewed as representing an outlying, though lesser, administrative hierarchy of elite (Adams and Smith 1981). If causeways link outlying groups to the central area, these roadways are believed to have been “probab-

ly erected in recognition of special relationships shared by two or more groups” and are seen as symbolizing “alliances between important components of society, probably high-status families” (Kurjack and Garza T. 1981:301,308). The use of causeways as a tool for integrating a broad area (Robles Castellanos 1976) or, perhaps, as part of a ritual pilgrimage pattern is often overlooked.

As for the “site center” itself, what activities took place here and what were the motives behind massive monumental constructions. Are Maya temples primarily funerary in nature (M. Coe 1956; M. Miller 1985) or do they have other functions? And, what of the other architectural remains; are these contemporaneous or do they represent accretional growth as at the Southern lowland site of Tayasal (A. Chase 1983:1254-1274,1985b)? Are Maya sites ceremonial centers (Thompson 1954; Vogt 1964,1983) or do they house the ruling elite (Adams 1974; Adams and Smith 1981; Harrison 1968; Becker 1979)? Are centers organized in any important and patterned manner? Many Maya sites, for example, contain specific building types beyond “temples” such as ballcourts, E Groups, and palaces. Can one distinguish between civic, religious, and residential architecture or at least between public and private areas of the site? These are all still questions for Maya research.

Yet a further problem is the reconstruction of the overall population at a Maya site. This can be accomplished through a variety of means (cf. Hassan 1981; Ashmore 1981a; Turner n.d.), none of which are without limitations. While demographic estimates are very useful in making interpretations about the nature of a site and/or its role in a wider Maya realm, the differing methodologies and interpretations are such that comparisons between sites are most difficult. Even more problematic have been efforts to standardize the ranking of sites without recourse to demographic reconstruction. Attempts have included: counting the number of plaza groups present on a site map (Adams and Jones 1981; Turner et al. 1981), considering the presence or absence of emblem glyphs and/or the number of times an emblem glyph from one site appears at others (Marcus 1976; Matthews 1985). Problems with the former methodology have been outlined (A.F. Chase 1983:59-60; Freidel 1983; Morley, Brainerd, and Sharer 1983:211-213); many criticisms relate to the problem of unequal mapping between sites. The same problem, of course, holds for glyphic analysis, as certain sites are much better excavated, recorded, and researched than others. While rough counts of courtyards or glyphic materials may assist in interpretations concerning the relative importance of certain key sites, they do not easily distinguish among special function sites, something which could well be important in differentiating among overarching models of Maya social organization.

Caracol: The Epicenter, Core, and Mantle

Having established the many unresolved questions in researching the ancient Maya, it should be evident that new investigations from any site should be relevant to the problem. Caracol Project investigations have been particularly productive in this regard. One of the first problems that required resolution in this recent work at Caracol was the terminology to be used in denoting the different areas of the site. During the first two seasons, this was somewhat jokingly avoided by calling the relatively central and monumental part of the site “downtown Caracol” while the surrounding areas were referred to as the “suburbs;” however, these epithets implied too much about the activities taking place in either area and did little to resolve the underlying methodological and theoretical problems. The terminology finally settled on is: epicenter, core, mantle, and sphere. While these terms are not without their problems, they appear to mirror the settlement at the site and minimize the “baggage” accompanying each term.

At Caracol, perhaps more than any other Maya site, it is quite evident that its various parts (epicenter, core, and mantle) were intentionally integrated into a larger whole. The epicenter, containing most of the largest constructions at Caracol was certainly a key part of this ancient city. All sacbeob or roads lead into (or out of) this area and there were special activities conducted here as denoted by architectural remains like ballcourts that could draw people into the epicenter from the outlying areas. The epicenter is not an arbitrarily defined construct, but one which was undoubtedly apparent to the ancient planners and inhabitants of Caracol. It rests on an elevated and nearly uniform platform, and its limits are generally marked by the beginnings of causeways or are otherwise delimited by walls or rolling terrain. The entrance into epicentral Caracol is clear as one walks each of the causeways; in all cases, there is an impressive view of monumental architecture. Even today, with the buildings only a vestige of their former selves, these entrances are inspiring. One assumes, perhaps incorrectly, that feelings of awe and pride would have been appropriate for those traversing the sacbeob in ancient times.

In addition to the two ballcourts, the epicenter contains other distinctive constructions. On the basis of their large size and unrestricted means of access, certain epicentral areas, specifically the low open court areas of the A and B groups and the plaza areas in between, would appear to have been the loci for public activities. There are also areas, however, such as Caana and the group containing Structure A37, that by their height and limited means of access suggest that they were probably the loci of more private or restricted activities. Investigation in both restrictive and unrestricted access areas at Caracol, have already turned up some interesting evidences of prehistoric activity. In the area between the A and B groups, extensive clearing of jungle growth has revealed simple and very low constructions (Structures A24-A30). Preliminary investigation of these features in the process of camp construction has produced substantial numbers of ground stone tools, including complete manos, leading to tantalizing speculations on the use of this unrestricted epicentral area as the remains of a market or perhaps a ward of craftspeople; further excavation must be undertaken here, however, to substantiate such inferences. In general, the unrestricted access plazas were apparently more likely to contain multiple examples of stone stelae, while at least one of the restricted area locales (Caana) contains glyphic material in another media — stucco on architectural facades. Evidence for habitation exists in Structure B6 in the unrestricted area, but is also suspected for the restricted areas in as yet unexcavated buildings such as those to the east and west sides of Structure B19 in Caana. Remains of ritual activity are also found in both areas (as for example in the smashed incense burners from Structures A3 and B19). The implication from research thus far is that there were a variety of activities taking place throughout the epicenter, with the important variable being who could or did take part.

What of the relationship between the epicenter and the core? As has been indicated, Caracol provides perhaps the best lowland Maya case for the integration of various parts of the site. While some would see causeways as primarily integrating elites at either end, the causeways at Caracol served other purposes as well. Causeways are not raised so as to keep people from entering them from either side along route and vias sometimes connect intermediately located core groups with the causeway. As for location of residential groups relative to the causeways, groups in close proximity are often not on the largest platforms or those that are the most carefully constructed. In fact, excepting the causeway termini, it is frequently the smallest groups that are located directly off the causeways within the core. Although access to the causeways was apparently not

restricted to those moving from one end to the other, this must have been a prime motive in their construction. In almost all cases where a causeway could be followed to its end, substantial construction exists, and if the causeway is over 2 kilometers in length, an unrestricted plaza area is also in evidence. As these plazas are as yet unexcavated, it is difficult to suggest their functions, but it seems reasonable to assume that they may have served many of the same functions as those in the epicenter. As yet, however, none have produced stone monuments.

Cutting across the hilly terrain throughout Caracol's core, and extending into its mantle, are extensive systems of terraces, representing the remains of Caracol's once extensive agricultural fields. These fields in combination with the radiating causeways integrate Caracol into a functioning whole that has been termed a true "garden city." While the image that this term conjures up is of a completely self-containing whole, the idea of agricultural activity within the boundaries of a city is something that often would be termed "non-urban" and is atypical of the contemporary conception of even a Maya site. Arguments have been made, however, that the Classic Period Maya did grow crops within site core areas. At Tikal, Puleston (1968,1971) suggested that kitchen or dooryard gardens were heavily utilized to supplement food supply; at the site of Ixtutz in the Peten of Guatemala, a feature central to the epicenter of the site has been suggested as an agricultural area particularly for ritual crops (A. Chase and D. Chase 1983). Given the clear presence of agricultural terraces within the site core of Caracol, two basic questions follow: was Caracol urban and how different was it from other Classic Maya centers? One of the characteristics of Maya sites that has long bothered researchers is that the density of construction is not as great as in the contemporary Mexican site of Teotihuacan or as in other archaeologically excavated "urban" sites. The assumption has been (Hardoy 1973:xv) that agriculture does not belong in cities, that cities are the homes of the consumers, and that the agriculturalists, if they live in the cities, go out of the city to their fields to work (Sanders 1981: 180-182). But, what of a site located in a geographic area which is not totally usable for housing because it has a steep grade or is rocky? Why not use this land for agricultural plots? This makes sense for Caracol, but what about the rest of the Maya area? Could not a similar agricultural land use partially explain the wide spacing found between groups throughout the lowlands that has led to the characterization of Maya settlement as "dispersed" (Freidel 1981)? As for the density of occupation at Caracol, another interesting thing occurs, areas that have been intensively mapped thus far suggest a density greater than that of the southern lowland site of Tikal (see below, pp. 72-73). Thus, even with agricultural fields in the site core, Caracol is one of the most densely occupied sites within the Maya lowlands. Caracol was clearly urban and also extremely well-planned. Whether other Maya sites might have been similarly configured is difficult to determine due to the lack of the visual terraces in their vacant terrain.

The core of Caracol ends roughly with the causeway termini. The boundaries of the mantle around the Caracol core area have not yet been firmly established by the project, but the relatively large extent of this area is apparent from two sources: the smaller sites within the wider region that mention Caracol on their monuments, specifically La Rejolla and Mountain Cow, each some 11 to 12 kilometers from the epicenter of Caracol; and, the field terraces reported at substantial distance from the site by assorted researchers (Lundell 1940:9; Thompson 1931:223-229; Turner 1979:106; T. Miller, personal communication). The projected mantle area for Caracol is 314 square kilometers, precisely the same as that projected for the "sustaining area" at the site of Tikal (Culbert et al. n.d.). This Caracol estimate may eventually turn out to be conservative; however,

it clearly marks Caracol as a significantly sized center. The similar area figures independently derived for Tikal and Caracol may suggest that 314 square kilometers was close to the upper range of area that a single center could directly and effectively control (see also Sabloff 1986: 113). Caracol's sphere of influence spanned an even wider area and varied considerably over time. Based on hieroglyphic texts (Sosa and Reents 1980; Houston n.d.) and other patterns (Coggins 1975; A. Chase n.d.), during the Middle Classic era this sphere extended as far northwest as the sites of Naranjo and Tikal.

Caracol Structure-Group Types

Interpretations of the function of specific structures and groups at Caracol can aid in the determination of relationships between various parts of the site. Due to the amount of mounding evident at Caracol and due to the effects of rain and erosion, any attempt to define the various kinds of individual structure forms and their possible functions without detailed excavation runs into difficulty. Becker (1982:112), however, has pointed out that, "the utility of identifying groups or clusters of buildings at a site rather than examining each recognizable structure lies in being better able to organize a site into cognitive units reflecting, in theory, those held by the Maya occupants and their builders." Importantly, almost all known buildings at Caracol cluster into distinct, and usually elevated, groupings. In fact, a majority of the Caracol groups outside of the epicenter appear to be "structure-focused patio clusters" (Ashmore 1981a:51) and may be classified according to this focus. While height of the overall platform and individual structures is clearly significant (see Willey and Leventhal 1979 and Fash 1983 for a comparative typology based on such features at Copan), based both on excavation and on data gathered from looted areas at Caracol, it would appear that groups of lesser height, but consisting of the same general group composition and layout, mirror the patterns of their more elevated and massive counterparts. Thus, the establishment of the following Caracol structure-group typology should eventually aid in interpreting the general function of specific architectural complexes.

At the present time, it is possible to identify 12 structure-group types at Caracol. It is further possible to preliminarily categorize these group types as being either general or specialized in their distribution at the site. Although some overlap is present in these group types, the discernable categories are physically recognizable and, following Becker (1982:112), most likely do represent past differences in function and behavior. Specialized groups and unrestricted plazas tend to fall within the epicenter and/or the causeway termini; however, not all specialized groups are found in both places. This suggests that there are at least some overlapping functions between the epicenter and causeway termini that are not duplicated elsewhere in the core.

GENERAL TYPES

Type 1: East Structure-Focused Groups. Many of the mapped or known groups at Caracol evince a focus on their eastern building(s). Based on excavation, as in Structure L3, and on looted east structures, as in Structures C97, O4, 4L6, 6F12, and 6G4, there is a clear association between these eastern buildings and elaborate interments at Caracol. In general, Caracol Type 1 groups parallel those known as Plaza Plan 2 at Tikal (Becker 1982).

Type 2: North and East Structure-Focused Groups. In the epicenter, the Structure A37 group is an example of this type. A small, but significant percentage of groups outside the epicenter focus on the northern and eastern buildings as well, such as the Structure C11, F17, and P15 groups. While either building may some-

times show more elaboration, it is clear that both the northern and eastern buildings formed the foci for the plaza arrangement.

Type 3: South and East Structure-Focused Groups. Groups focusing on both the southern and eastern buildings are also represented at Caracol in about the same frequency as Type 2 groups. Selected examples of this group type include the groups containing Structures C49, O46, 4P10, 4G27, and 8F8. Interestingly, three of these groups are from near the causeway terminus in the Pajaro-Ramonal area.

Type 4: Non-Structure Focused Groups. A number of groups distributed throughout Caracol evince no special focus on any one structure. That such non-structure focused groups differ from structure-focused groups is evident from the collected data; looter's digging into the eastern buildings of some groups, such as the Structure M61 group, suggests that these constructions do not necessarily contain elaborate interments; however, other groups within this category, such as the Structure B108 group, do evince elaborate interments in eastern constructions. It is likely, therefore, that several very different kinds of groups have been lumped under this general category and that future excavation may lead to finer differentiation through the delineation of significant distinguishing features.

SPECIALIZED TYPES

Type 5: West Structure-Focused Groups. Although rare, two clear-cut examples are known. A smaller one is immediately southeast of the D Group Acropolis (Structure D32) while a larger one is visible at the western terminus of the Northeast Causeway (Structure B64). Several other groups, such as the Northwest Acropolis (including Structure A63) and the group which forms the eastern end of the B Group plaza (Structure B28), may also be tentatively ascribed to Type 5. The general access group (Structure 4L45) near the end of the causeway leading to Conchita may also belong in this type.

Type 6: North Structure-Focused Groups. While Caana could indirectly be considered to be a north-focused group, two examples of clearly north-focused groups occur to the east of Caana, one at either end of the Northeast Causeway (the Structures B40 and 2A3 groups); another appears northwest of Caana (the Structure I2 group). Apart from these examples, only the two large groups (represented by Structures B26 and B33) immediately east of Caana and the Structure C88 group can be construed as having a north focus.

Type 7: South Structure-Focused Groups. These appear to be rare at Caracol. The D Group Acropolis is a potential example of a south focused group (around Structure D18). Structures B1 and B5 (ignoring Caana) could also be interpreted as comprising parts of possibly south focused groups. Only one other known hilltop group (represented by Structure M19) exhibits a south focus.

Type 8: East and West Structure-Focused Groups: Non-Alleyway. Type 8 refers to groups which exhibit large east and west buildings of approximately equal size and focus. Only one group, the Northwest Acropolis (Structures F2 and F4), currently belongs to this type. It is clear that this is a special function group.

Type 9: East and West Structure-Focused Groups: Alleyway. Type 9 also refers to a special function group, otherwise known as "ballcourts." Two ballcourts are known from Caracol, one associated with the A Plaza and the other associated with the B Plaza. Although the B Group Ballcourt has its eastern building emphasized, this is primarily because of the dual role of this building as both the eastern structure in the B Group ballcourt and the western edge of B Plaza.

Type 10: Acropolis Groups Fronted by Range Structures. Three groups at Caracol are currently known to conform to this pattern: Caana, the Structure

B33 group immediately east of Caana, and the Structure 6G27 group at the end of the causeway to the Pajaro-Ramonal area. All three of these groups are characterized by restricted access, usually through a single entry way, passing through a range or palace structure. In the case of Caana, there are two sets of these entrances. A single entrance characterizes the group immediately east of Caana and at the end of the causeway. To some extent, this type cuts across boundaries as it could be considered to include the South Acropolis, the Northwest Acropolis, Machete, and Tulakatuhebe.

Type 11: Multiple Structures on an Elevated East Platform Fronting a Western Pyramid. This designation fits the Caracol A Group and also characterizes groups known elsewhere as "E Groups," and thought to have astronomical associations (Ricketson 1928; A. Chase 1983: 1236-1254, 1985b).

Type 12: North and South Structure-Focus Groups: There is at this point one example of this group type — the group dominated by Structures 4P18 and 4P24, which straddles the causeway to the Pajaro-Ramonal area near its end.

Human Remains and Status at Caracol

Human remains are often utilized to attempt to assess status differences within a population (see for example, Binford 1971; Brown 1971, 1981; Chapman et al. 1981; O'Shea 1984; Rathje 1970). Analyses to discriminate rank in prehistoric societies have tended to focus on effort-expenditure as indication of the status of the deceased individual (cf. Tainter 1978) and/or on the distribution of symbols of authority among burial remains (cf. Peebles and Kus 1977). An argument can be made that both of these principles operated within the Maya Lowlands, at least during the Classic Period. Effort-expenditure variability clearly exists in terms of the construction of final resting place as well as in the material items located with an interment. Other aspects of effort-expenditure such as the treatment of the body, the extent of the funeral, and/or the presence of sacrificial victims are more difficult to discern. As for symbols of authority that are not limited to specific age or sex groups within the population, these are also more difficult to distinguish in the Maya area, although certain possibilities may be suggested.

At Caracol, the sample of human burials comes from graves encountered within recent (and past) project investigations of the site, the excavation of open and intact chambers in the core, and clean-up work in looted portions of the site. This sample of interments is currently over 50 with at least 120 individuals represented. While not large compared with the number of individuals that must have once occupied the site over the 650 year span that these interments cover (A.D. 250 to A.D. 900), this sample comes from varying areas and kinds of structures at the site and most likely represents the variability within the overall burial population, but not necessarily the total number of burial types or the relative proportions of the differing burial types.

Human remains are found in a variety of contexts at Caracol, ranging from an isolated tooth in collapse material above a building floor to interment in elaborately constructed tombs. Distinguishing grave types, however, is sometimes exceeding difficult, as examples from one type may sometimes blur into another. The burial typology utilized for Caracol is based on, but is not identical to, those that have been previously established in the Maya Lowlands (A.L. Smith 1950; L. Satterthwaite 1954b; W.R. Coe 1959; R.E. Smith 1971; E.W. Andrews IV & V 1980).

Simple interments show no distinct outline. They are often found in construction fill and are frequently assumed to be non-intrusive in nature. Examples of this kind of burial have been recovered in Structures B20, B108, C11, F2, and L3.

Cists are prepared areas with clear outlines, marked either by soil changes or by stones. They may be capped and some actually have air space inside; however, there is no formal construction of either walls or roof. Cists are often cut into previously existing constructions. Examples of this kind of interment have been recovered in Structures B108, C13 (Figure 73), F2, and L3.

Crypts are distinguished from cists in having formal walls and roofs and are generally open-air inside. They vary from tombs in that the side walls are usually composed of either a single line of upright slabs or several courses of smaller stones. These are not much larger than necessary to hold their contents; at Caracol, crypts never have entranceways. Examples of crypts have been found in Structures L3 (Figure 35), 4P11, and possibly 4L4.

Tombs are formal constructions larger than necessary to hold their contents. They are chambers in which there is always enough room to crawl or move about. There are two basic sizes of tomb chambers: those in which one can move about through crawling (Figure 31 and 40) and those in which one can move about on two feet (Figure 21). There are a number of variables that may or may not be present in any one tomb: entrance, bench, finely cut stone, plastered surface, vaulting, beam holes, niche(s), and/or painted texts. Tombs are amply distributed at Caracol throughout both the core and epicenter.

While analysis of graves types, their contents, and associated skeletal remains offers no simple solution to the problem of identification of segments of Caracol society, there are some clear associations. It is apparent that proximity to the site epicenter is not a good index of the presence of a tomb or even of its size or the richness of its offerings. Tombs have been found in nearly all of the constructions excavated at Caracol regardless of their size or their distance from the epicenter. Contents also vary appreciably at the site. There is only one portion of the burial sample that is easily distinguished. These individuals are always buried singly in tombs rather than in chambers with other individuals. They are also, thus far, only buried in epicentral and causeway termini locations and are accompanied with hieroglyphic texts; often, such interments are also accompanied by the bones of bobwhites. The tombs themselves are also in the larger end of the range at the site, although there are chambers from elsewhere at the site that overlap in volume. While there is variability within this sample (particularly with regard to the presence of an entranceway, the size of the tomb, and its formal contents), these individuals (of both sexes) were most likely at the apex of the Caracol social order. Deducing the status of the rest of the interments at Caracol are far more problematic.

Site Organization at Caracol

What then can be said of the ancient site organization of Caracol? The model of concentric site organization used quite widely in the Maya area (Kurjack 1974:94; Folan et al. 1983) has its origins in the following statements by Bishop Landa (Tozzer 1941:62):

Before the Spaniards had conquered that country, the natives lived together in towns in a very civilized fashion. They kept the land well cleared and free from weeds, and planted very good trees. Their dwelling place was as follows: in the middle of the town were their temples with beautiful plazas, and all around the temples stood the houses of the richest and of those who were held in the highest estimation nearest to these and at the outskirts of the town were the houses of the lower class.

Thus, the concentric model, as derived from Landa, implies that not only is a site divisible into concentric rings or zones with a definable center, but that the occupation areas vary greatly from the different parts of the site; in particular, the elite lived closest to a center with lower status individuals living the farthest from the epicenter. It should be noted, to avoid some confusion, that the Landa

based concentric model is nearly reversed from a similarly named model derived from modern cities (cf. Burgess 1925; Marcus 1983:199-200) which places the upper and middle class residences in suburban areas at the outside of the circle and inner city businesses and lower income housing toward the center.

A strict interpretation of either concentric model cannot be made to fit Caracol. While it is true that the terms used in describing the Caracol settlement are based upon the idea of ever increasing spheres, this was done to provide divisions to aid in conducting the archaeological research itself; the defining lines between these areas is frequently difficult, nebulous, and anything but circular. In addition, the evidences of occupation from settlement in the core area suggests that this area was, at least architecturally, home to nearly the entire gamut of people who once lived at Caracol. With the exception of the extremely limited top layer of burials and elaborate architecture that do occur in the site epicenter, there is little else that differentiates the epicenter and the core. The core also does not exhibit any gradation in archaeological remains as one moves from the epicenter to the mantle; elaborate constructions and interments may be found at the periphery of the core and, conversely, simple constructions and interments may be found quite close to the epicenter. Thus, while there clearly is a special function epicenter at most Maya sites, the idea of concentric rings of occupation does not fit the settlement data, at least from Caracol. Certain models have been offered to attempt to encompass this kind of organization (Marcus 1983; D.Chase 1986) and, it seems quite likely that Marcus (1983:208) is correct in her statement that:

Among other things, we can see that the archaeologist or geographer who draws a line separating "the city" from its politically controlled territory may be performing an act that is heuristically useful for his settlement pattern analysis, but that does not conform to the reality of the Mesoamerican Indian world. The concentric, sector, and multiple nuclei models proposed by economists, sociologists, and geographers do describe various Mesoamerican cities and may even give us clues as to why certain cities grew as they did, but these were not the patterns that were of paramount interest to the Indian. What was most important to him was the fact that he belonged to a particular region controlled by a specific native ruler, to whom he owed allegiance and tribute and from whom he received protection and civic-ceremonial leadership. And unless the ruler's city of residence had a wall around it..., the boundary between it and the countryside it dominated was far less striking to the Indian than the archaeologist today.

We concur with Marcus. We also restate that a strict concentric model does not apply to Caracol and suggest that recent attempts to find a single organizational ground-plan that can be used to interpret Maya sites may be glossing important variabilities and distinctions within these sites.

Caracol and the Maya Lowlands

While recognizing that no one Maya site is representative of the entire Maya area and that there are clearly individual histories for the rise and fall of specific Maya centers, the information recovered from Caracol has a bearing on more than the prehistory of the site itself. The Caracol data are directly relevant to interpretations made concerning the major sites of Tikal and Naranjo, which are mentioned in Caracol texts; interpretations of certain time periods at these two sites may, in fact, be dependent on Caracol. On a more general level and because of the large size and obvious importance of Caracol in the Southern lowlands, the recovered data are useful for inferring general processes relating to the development of Maya civilization.

Investigations undertaken during 1985, 1986, and 1987 at Caracol have demonstrated that occupation at the site continues from the Late Preclassic

Period (ca. 300 B.C.) through the Classic Period (A.D. 250-900) and into the early part of the Postclassic Period (ca. A.D. 1150). Reconnaissance and survey at Caracol have shown the site to be expansive, perhaps one of the largest in the Maya area, and have demonstrated that an abundance of agricultural terraces are integrated with the settlement throughout the site core. Because of its size, the large number of terraces, and the numerous causeways which radiate out of its epicenter, Caracol has also proven itself to be an excellent testing ground for examining the organization and maintenance of a Maya polity. It has monuments, varied architectural remains, texts which mention other sites, and Caracol itself is mentioned at other places. The site also possesses abundant and varied burial remains a number of which contain painted death dates important for both chronology and the possible historical identification of individuals.

Investigations at Caracol have already resulted in the compilation of a dynastic sequence for the site (Appendix II). While this is useful in garnering statements on the age of rulers and their relationships to other sites, which can be tested archaeologically, it is not the end of the use of these texts. Rather, these inscriptions are the beginning place for determining the relationships between individual rulers and more widespread activities, including: civic building, settlement pattern, population density, health of the population, trade relations, and agricultural systems. The end result of the research at Caracol will be a prehistory or "history" of the site which will seek to go beyond mere attempts at identification of specific individuals to analyze the political history of the site as recorded on the monuments in comparison with the unwritten history of Caracol evident in the archaeological record.

Because the Caracol texts are located not only on monuments, but also appear on wall facades, in tombs, and on artifacts, they can be used as a very effective intra-site dating tool. Thus far, four tombs at Caracol have produced dated texts, thus allowing the associated stratigraphy and artifacts to be placed accurately in time (from 9.7.3. through 9.13.3. or from A.D. 576 through A.D. 695), and thus ultimately allowing the archaeological record to be tied into the extant monumental record of Caracol's history. While the question of historical accuracy is in itself fascinating, detailing of the relationship between texts and other remains at Caracol should further allow consideration of more stimulating and current topics such as the effects of war and conquest on the local populace (in terms of monumental building, trade goods, health status, and day-to-day necessities). Additionally, the data from Caracol are particularly crucial in defining the transition from the Early to Late Classic Periods, both at Caracol specifically and for the Maya area in general.

Caracol maintained a vigorous building program during the Middle and Late Classic Periods (i.e., between A.D. 500-800). The magnitude of the construction and rebuilding in the A and B Groups during these eras suggests the existence of both formally trained masons and a substantial, presumably unskilled, labor force. The dense occupation of the core area further suggests that there must have been a careful management of the limited water supply during the dry season. These managerial skills are not only seen in relation to water, but are also seen in the layout of the terraces, in the magnitude of the construction efforts that were undertaken, and in the long-distance warfare that Caracol carried out at Naranjo and Tikal. The timing of this warfare, particularly in relation to Tikal, suggests that a reinterpretation of the Middle Classic "hiatus" is necessary.

Beginning at 9.5.0.0 (A.D. 534) and ending between 9.8.0.0 and 9.13.0.0 (A.D. 593-692), some sort of trauma occurred in the Southern lowlands of the Maya area. Morley (1920) first noted that a hiatus in monument erection appeared at the transition between the Early and Late Classic Periods in the

Southern lowlands. This era came to be characterized by several references. It was variously referred to as: the transition between the Early and Late Classic Periods, the Middle Classic Period (Pasztor 1978; Parsons 1967-69), or the Classic Maya hiatus (Willey 1974, 1977). However this enigmatic era was dealt with, the hiatus was never fully explained. More importantly, where there are breaks in the inscriptional records of other Maya sites during the hiatus, the pattern of monument erection known from Caracol indicates a surprising vigor.

Exactly what happened in the Southern lowlands during the hiatus is open to conjecture, but it clearly coincides with changes or additions in certain aspects of material culture, such as changes in monument styles (Proskouriakoff 1950), variation in ceramic complexes, and shifts in settlement patterns (see Culbert 1974:92-95 for Tikal). At the site of Tikal, Guatemala, the hiatus is marked "by the poverty of its burials" (Coggins 1975:258). At this site, there are also gaps in the monument record, differences in pottery forms and paste, and an introduction of figurines; it is in fact thought that all of these introductions and changes may be interpreted as evidence for the advent of a new population at the site (Coggins 1975:251). While the era is described as impoverished and in decline on one hand, other researchers at Tikal have suggested that the overall population may have peaked at this time (Haviland 1970). Clearly the Middle Classic Period and its associated events are not well understood or explained. Yet, the hiatus at Tikal has been suggested as being representative of a political and economic decline evident from the "entire Maya lowlands" (Coggins 1975:258; A. Miller 1986:note 29). Willey (1974) has described the hiatus as a rehearsal for the later and larger collapse at the end of the Classic Period and implied that the "decline" in these two eras may have been symptomatic of larger stresses in Maya society that were the same in both cases.

The new data from Caracol clearly indicates that the hiatus was not universal in the Maya lowlands (A. Chase n.d.) and that, more importantly, Caracol itself may be more than partially responsible for it. The newly discovered Altar 21 not only records Caracol's successful war at Tikal in 9.6.8.4.2 (A.D. 562), but also relates a series of events and relationships between Tikal and Caracol that led up to this event (Houston n.d.). This event coincides with a drop-off in monuments and sumptuous burials at Tikal as well as in the construction of that site's defensive earthworks (Puleston and Calendar 1967:67). It also coincides with a period of lessened population in the difficult to defend outskirts of the site (Puleston 1974). To some extent, the Caracol and Tikal relationship may mirror, albeit writ large, relationships seen at other sites (Sharer 1978:67; Houston and Mathews 1985:18,24; see Webster 1977 for a general discussion of Maya warfare).

We suggest that the Maya hiatus, as presently conceived, is a specious concept. While it may be true that the era of transition between the Early and Late Classic Periods was a time of instability and change for many Peten sites, it was demonstrably a time of consolidation and growth in the Caracol area. Thus, what is actually being witnessed in the transition from the Early to Late Classic Periods in the Southern lowlands is the ascendancy of Caracol as the primary site and subregion in the Southern lowlands for a period of at least a century.

That Caracol's ascendancy to power was complete and had far reaching effects can be clearly seen at Tikal. Not only was Tikal's dynastic line disrupted for a period of almost 120 years (Jones and Satterthwaite 1982:128-129), but in the period of time immediately preceding Ruler A's accession to power in 9.12.9.13.3 (A.D. 682), Tikal's elite clearly identified with patterns found within the Caracol subregion. One of the outlying tombs (Burial 72) found at Tikal that can be dated to this period of time contained a woman (Coggins 1975:319), something that would not be at all unexpected at Caracol, but is considered to be rare at

Tikal (Haviland 1985a:37; but see Tikal Burial 77 - Coggins 1975:585); the vessel accompanying this woman was also considered to come from the "east" (Coggins 1975:333). At Tikal, three other "royal" tombs (Burials 23, 24, and the disturbed 200) dating from this period are ascribed as being from the southeast, not only for the pottery, but in some cases for the very occupants themselves (Coggins 1975:379, 386-387, 446). Indeed, the inlaid teeth sported by the individuals in Burials 23 and 24, and rarely found elsewhere at Tikal, are common at Caracol. The overall plan of the tombs with the vessels to the north of the chamber is also seen at Caracol. Both the red painted capstone in Burial 24 and the use of a multitude of broken obsidian and flint over the interment have precedents in the Caracol region.

Following Caracol's successful war against Tikal, no new monuments were erected there until 9.13.0.0.0 (A.D. 692); when monument erection began again at Tikal, Altar 14 mimicked Caracol iconography through the use of the only giant ahau found on the monuments at Tikal. The ritual re-entry of Tikal into the Maya political sphere also sees the sharing of the painted capstone and broken lithics over Tikal Burial 116, the tomb of Ruler A. Perhaps even more interesting is the association of the Kan cross with Ruler A (Coggins 1975:401), for the Kan cross is the main sign in the Caracol Glyph. This association would make sense if Shield Skull, Ruler A's father and the occupant of Burial 23 (Satterthwaite and Jones 1985:129), had in fact come from the Caracol subregion or had been acculturated into the patterns which occurred in this area. Indeed, the reburial of Tikal Stela 31 within Structure 5D-33-1st could be interpreted either as enforcing a break with the past (A. Miller 1986:54) or as emphasizing dynastic continuity between Ruler A, his father (who was also buried beneath Structure 5D-33-1st), and the Early Classic ruler Stormy Sky. Either way, it is clear that Ruler A was trying to legitimize his rule at Tikal and, perhaps, break away from Caracol's influence. Ruler A's massive construction efforts at Tikal in relation to building temples, twin-temple complexes, and causeways may have been a way of not only establishing his right to rule Tikal, following Miller (1986:83), but also of outshining Caracol's central architecture.

At the same time that Tikal was once again beginning to flourish (Jones 1977), the monumental written record from Caracol largely disappears with the exception of the mention of Caracol at La Rejolla at 9.12.0.0.0 (A.D. 672) and the slate Stela 21 dating to 9.13.10.0.0 (A.D. 702). It is clear from the recovered archaeological data, however, that Caracol continues to experience a large population during this era and the Structure A3 tomb attests to the presence of the royal lineage at the site during this time. For 100 years following 9.13.10.0.0, however, no monuments (with the possible exceptions of giant ahau Altars 2 and 3 at 9.17.0.0.0 and 9.18.0.0.0) are known from Caracol; why this is the case is not known, but it is likely that it has to do with Tikal's re-emergence as a power in the Maya lowlands. At the end of the Late Classic, however, Caracol once again enters the political arena, possibly because of an alliance with northern individuals (A. Chase 1985a:106). In spite of the absence of textual information regarding the Caracol royal lineage, the archaeology of the site core makes it abundantly clear that the site was neither abandoned nor in a state of decline.

The monumental records of Caracol and Tikal at the end of the Late Classic period also demonstrate the same kind of inverse relationship seen between the two sites during the Middle Classic Period. Caracol begins stela erection again in 9.18.10.0.0 (A.D. 800) with Stela 11 while Tikal ends its stela erection for 60 years with Stela 24 at 9.19.0.0.0 (A.D. 810); when Caracol stops erecting monuments with Stela 10 in 10.1.10.0.0 (A.D. 859), Tikal then erects its final monument, Stela 11, in 10.2.0.0.0 (A.D. 869). Thus, it is clear that the prehistories of

Caracol and Tikal were complementary. It is also evident that anyone seeking to understand the Southern lowland Maya of the Classic Period needs to consider the inscriptions and the archaeology at each of these massive centers.

Caracol is clearly one of the largest Maya cities in the Southern lowlands. Its archaeology promises to add much to our overall understanding of Maya society. Although similar in many ways to other Maya centers of the Classic Period, Caracol also exhibits numerous distinctive patterns and trends thus far not archaeologically recorded at other sites in the Southern lowlands. In particular, the success the site enjoyed in war is only paralleled by sites in the Pasion and Usumacinta regions of Guatemala. That women enjoyed high status at Caracol is evident from their frequent inclusion in tombs, often positioned in high status architectural locations; the Caracol data, in conjunction with that from Santa Rita Corozal (D. and A. Chase 1986a:11) dictate the need for a re-assessment of the role of women in Classic Maya society. The use of long-distance causeways at Caracol is reminiscent of their use in the Northern lowlands at the site of Coba; similar long-distance causeways are only known from the Preclassic megalopolis of El Mirador in the Southern lowlands. The Caracol subregion appears to be defined by the use of extensive terrace agriculture, also not commonly employed elsewhere in the Southern lowlands. Its iconographic innovations and art style were imitated in the sculptures found at other Classic Period Maya centers. Thus, future archaeological research at Caracol promises to provide data not only on a polity that influenced the entire course of Maya prehistory, but one which also appears to have set the general tenor for a large part of Classic Maya civilization.

APPENDIX I Map of the Archaeological Ruins of Caracol

The map that resulted from Satterthwaite's 1950 to 1953 research at Caracol and which was published posthumously with the monuments illustrated a total of only 78 structures, but included most of the massive architecture in Caracol's central area (Beetz and Satterthwaite 1981; Figure 44). The one portion of the epicenter not placed on the Pennsylvania map was the northeast section defined by the group dominated by Structure B64 and the western terminus of the causeway leading out to Structure 2A3. The new map presented here (Figures 45-65) illustrates a minimum of 1,068 buildings and is current as of the 1987 season.

The various sections of the map have been created by several individuals. The basic epicentral map found in the A,B, and D quadrangles is still that prepared by Jeremiah Epstein and Linton Satterthwaite, but with slight modifications. Parts of the B, C, K, and L quadrangles were mapped by Stephen Houston during 1985. In conjunction with the Conchita Causeway Program (Appendix

7A	7B	7C	7D	7E	7F	7G	7H	7I	7J	7K	7L	7M	7N
6Z	5G	5H	5I	5J	5K	5L	5M	5N	5O	5P	5Q	5R	7O
6Y	5F	3U	3V	3W	3X	3Y	3Z	4A	4B	4C	4D	5S	7P
6X	5E	3T	2Q	2R	2S	2T	2U	2V	2W	2X	4E	5T	7Q
6W	5D	3S	2P	U	V	W	X	Y	Z	2Y	4F	5U	7R
6V	5C	3R	2O	T	G	H	I	J	2A	2Z	4G	5V	7S
6U	5B	3Q	2N	S	F	A	B	K	2B	3A	4H	5W	7T
6T	5A	3P	2M	R	E	D	C	L	2C	3B	4I	5X	7U
6S	4Z	3O	2L	Q	P	O	N	M	2D	3C	4J	5Y	7V
6R	4Y	3N	2K	2J	2I	2H	2G	2F	2E	3D	4K	5Z	7W
6Q	4X	3M	3L	3K	3J	3I	3H	3G	3F	3E	4L	6A	7X
6P	4W	4V	4U	4T	4S	4R	4Q	4P	4O	4N	4M	6B	7Y
6O	6N	6M	6L	6K	6J	6I	6H	6G	6F	6E	6D	6C	7Z
8N	8M	8L	8K	8J	8I	8H	8G	8F	8E	8D	8C	8B	8A

Fig. 44 Diagram showing quadrangle relationships for the Caracol map; the dotted area represents portion of Caracol mapped as of 1987.

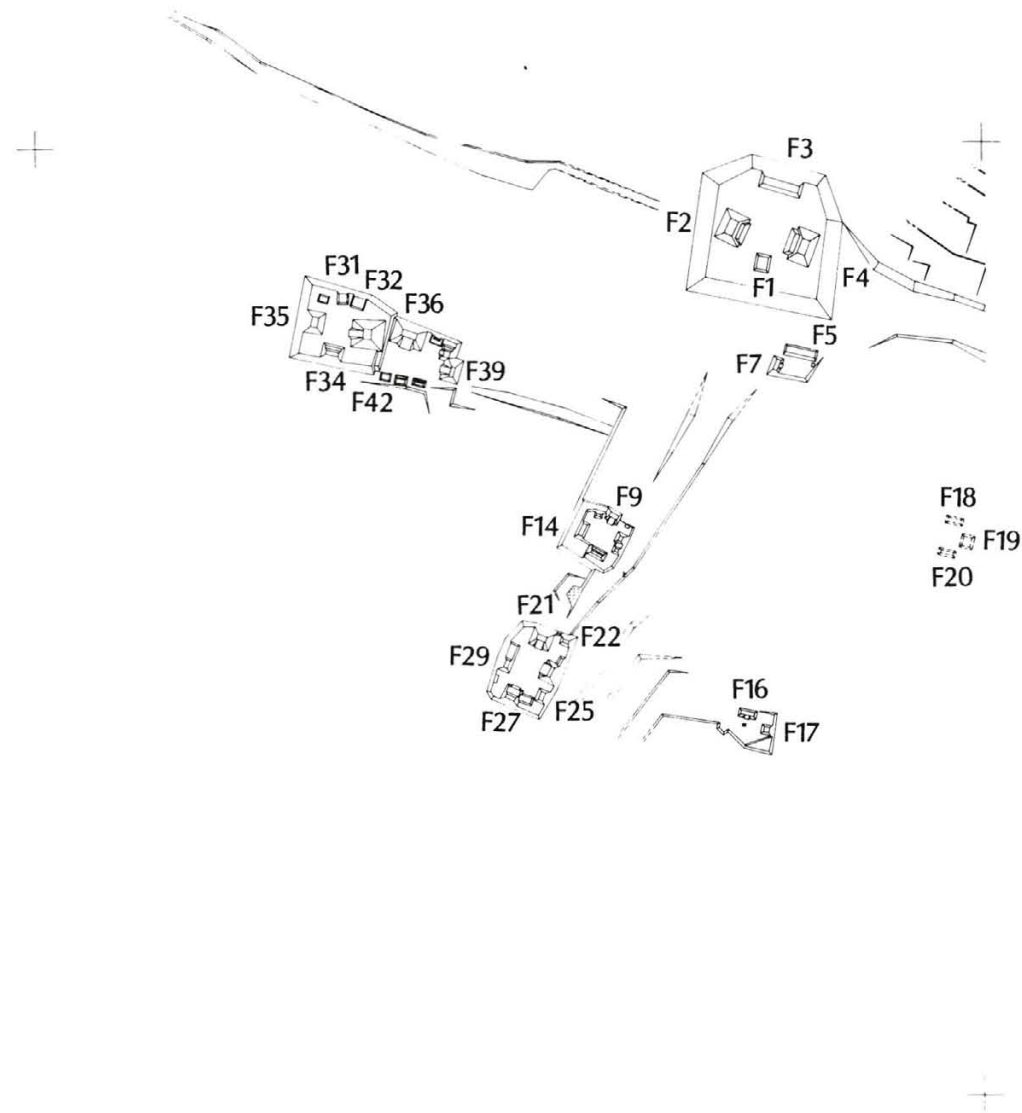


Fig. 45 Caracol Map Quadrangles F and G; magnetic north is to the top of the page; the scale is 1:4000.

III), part of the C, L, M, N, 2F, and 4L quadrangles were mapped during the 1986 season by Susan Jaeger; she is also directly responsible for all mapping undertaken thus far in Quadrangles 2D, 2E, 3D, and 3E. With the exception of these latter four quadrangles, A. Chase has mapped all or parts of the remaining and above-mentioned grids.

The Caracol Map: System of Designation

The quadrangle or grid system used to designate structures in the current map (see Figure 44) is the result of conscious planning and an attempt to leave published information on constructions viable while allowing for an expanding system of enumeration. When Satterthwaite (1954a) worked at Caracol, he

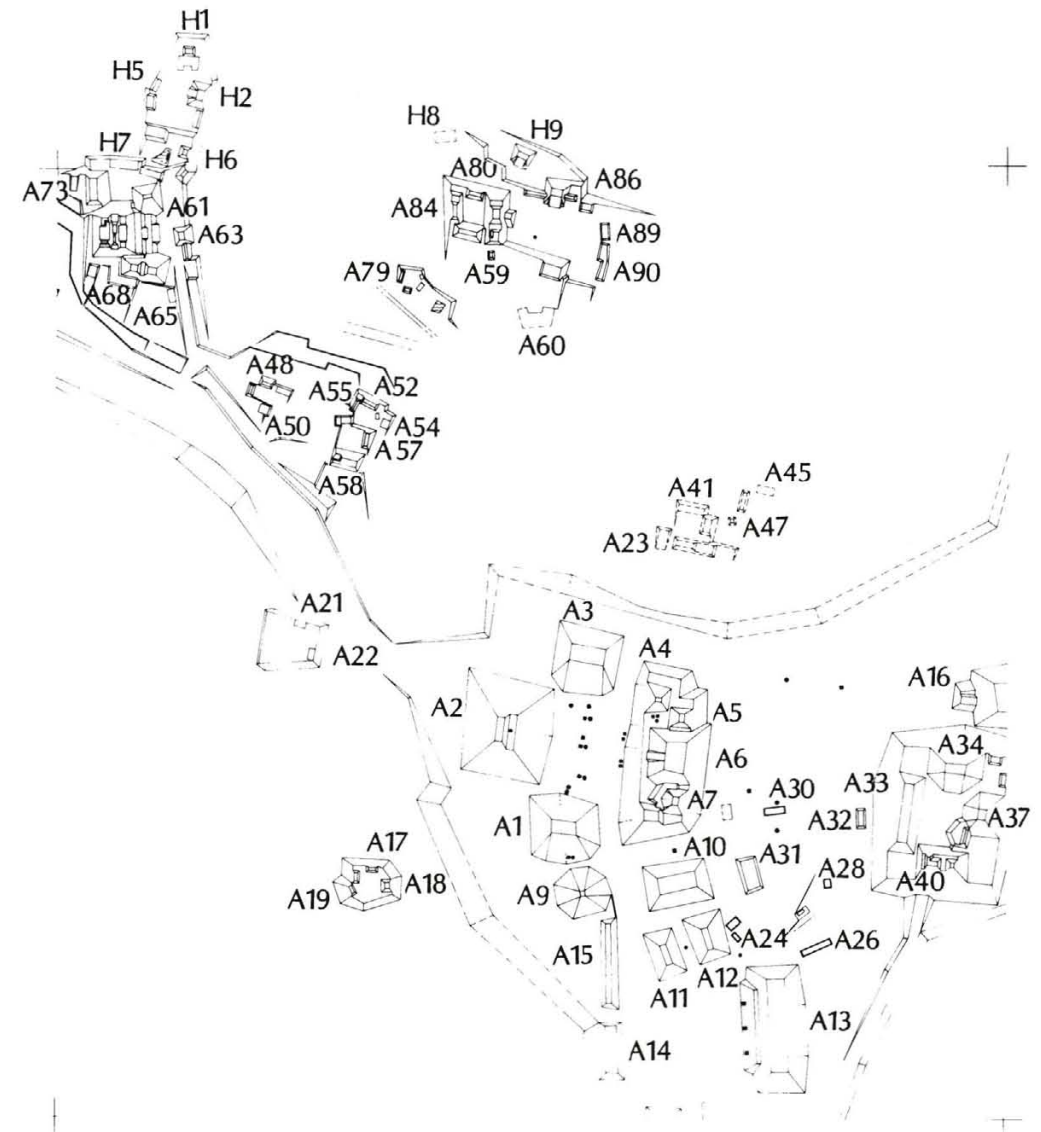


Fig. 46 Caracol Map Quadrangles A and H; magnetic north is to the top of the page; the scale is 1:4000.

named a series of four "groups:" the "A Group," the "B Group," and a "C" and "D Group." Only the "A" and "B Groups" were ever mapped and published (Beetz and Satterthwaite 1981: Figure 44). In fact, the "C Group," the general area from which Stela 17 and Altar 10 came, is still unlocated due to imprecise notations in Satterthwaite's records. Because of the mapping and the focus of the Satterthwaite and Anderson work, all previous descriptions of epicentral Caracol were in relation to the A and B Groups. Each structure in the epicenter was individually numbered and prefaced with either an "A" or a "B" on the Beetz and Satterthwaite map. It should be noted that the Pennsylvania Caracol map, as published, placed the epicenter within a 200 meter grid system, which was of

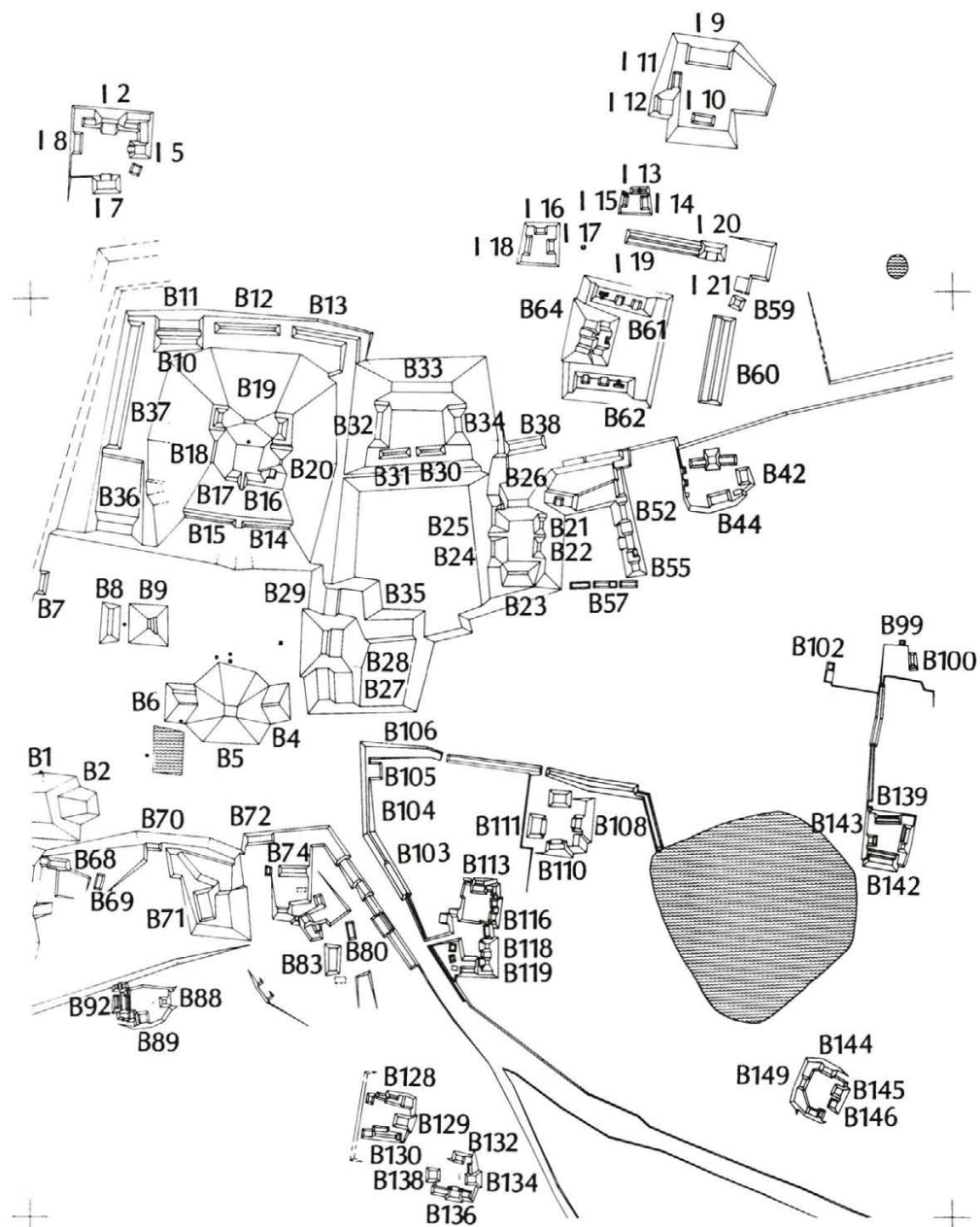


Fig. 47 Caracol Map Quadrangles B and I; magnetic north is to the top of the page; the scale is 1:4000.

limited utility because of the small size of its grids and the difficulty of expansion as mapping takes place to the northwest. As this designation system was never used, even by Beetz and Satterthwaite (1981), and as it is clearly unwieldy, it has been over-ridden in favor of the quadrangle system used here.

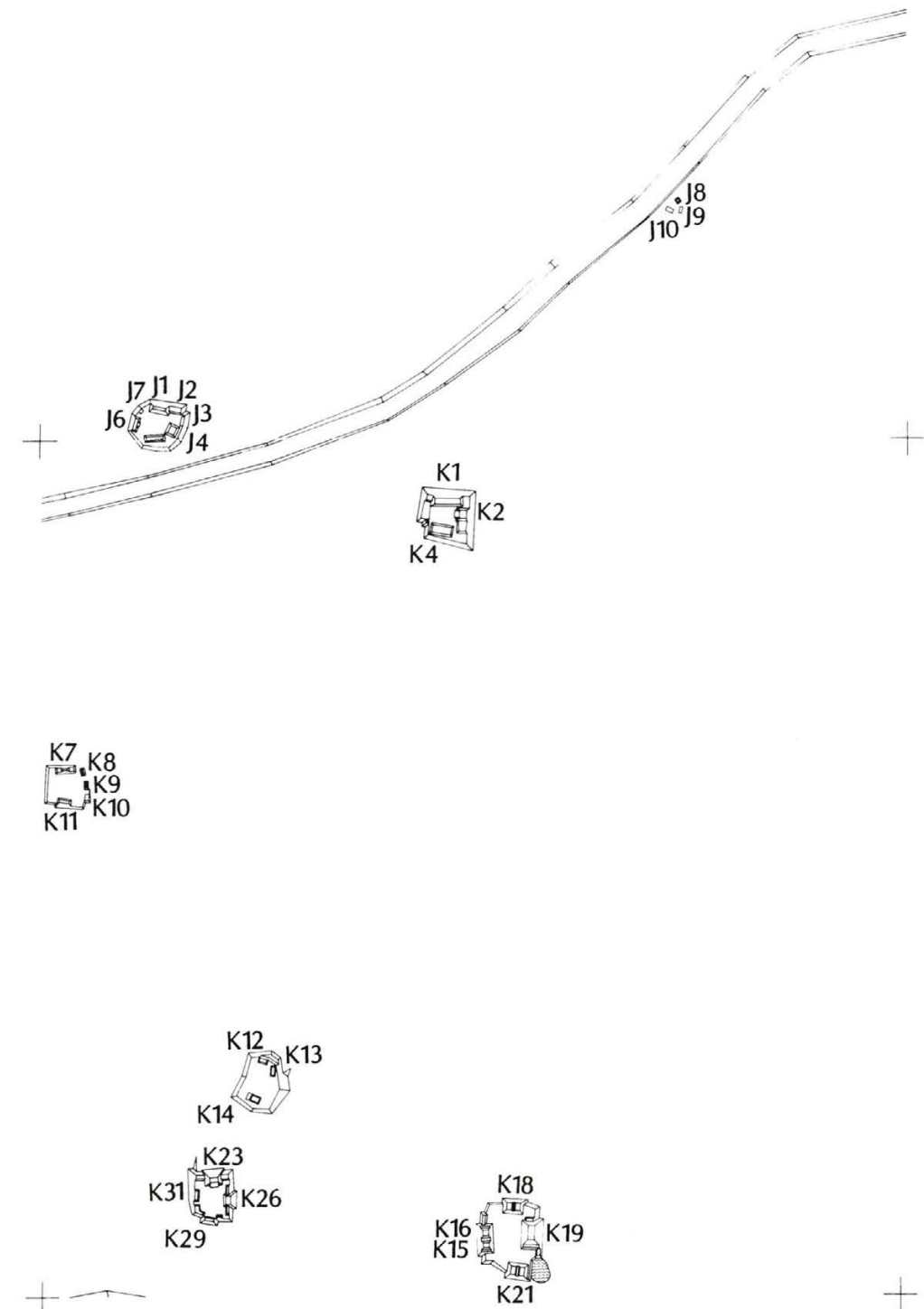


Fig. 48 Caracol Map Quadrangles K and J; magnetic north is to the top of the page; the scale is 1:4000.



Fig. 49 Caracol Map Quadrangle 2A; magnetic north is to the top of the page; the scale is 1:4000.

The new Caracol quadrangle or grid system retains much of this original numbering system. This was accomplished by establishing a 500 meter grid system over the entire site. These new 500 meter grids are aligned to magnetic north and rotate outward in a clockwise fashion, thus making the system infinitely expandible (Figure 44). This grid system was also carefully imposed over the old A and B Groups so as to largely include the old structure designations within the correct new frames.

All structures at Caracol are tied into the 500 meter grid system that has been laid over the site and are prefaced by the grid number in which they occur ("1" being understood and not physically expressed). Within any given quadrangle, structures are sequentially numbered from "1" to infinity. The order of this numbering is predicated on when, or during which season, a group was mapped. Thus, a group centrally located within a grid may have lower structure designations because it was mapped in 1985 rather than in 1987. In general, however, an attempt has been made to number the buildings in structure groups in a clockwise fashion beginning with the northern or northwestern structure; again, be-

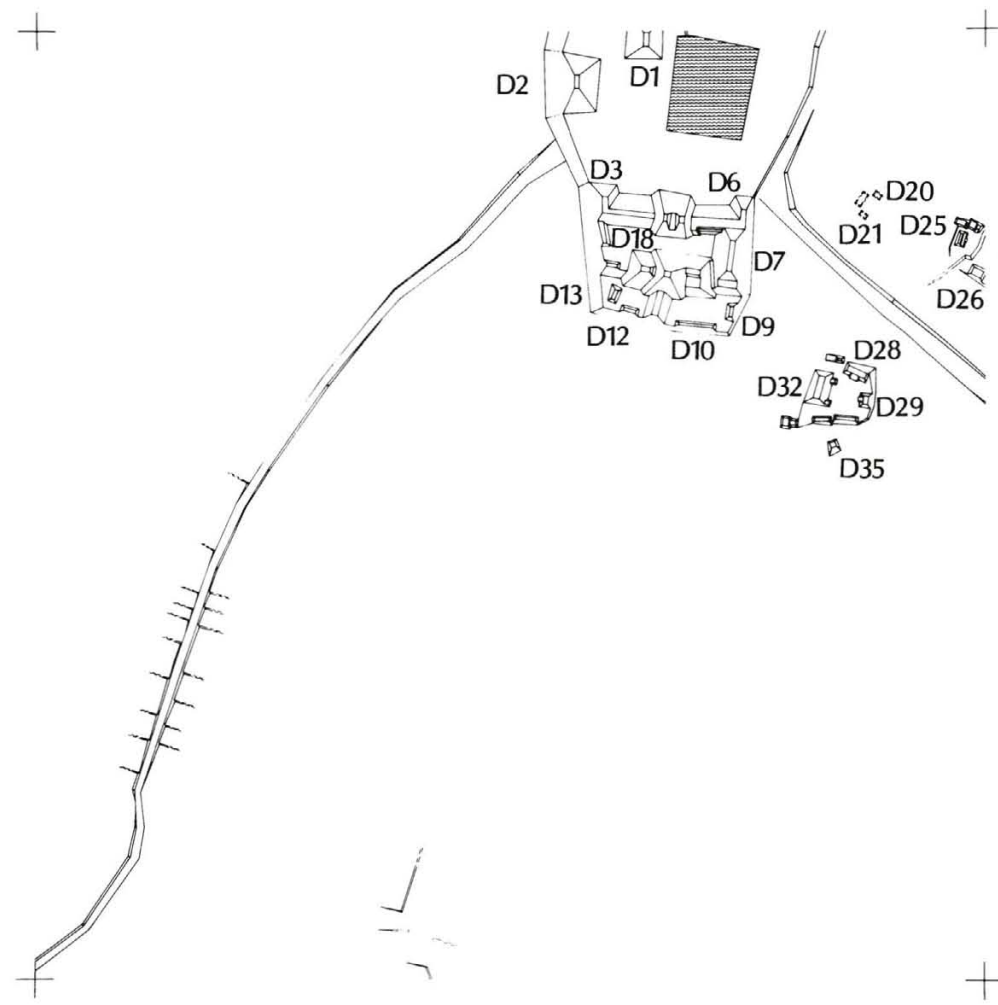


Fig. 50 Caracol Map Quadrangle D; magnetic north is to the top of the page; the scale is 1:4000.

cause of historical accident, some groups do not follow this numerical ordering. Structure groups are presently denoted by a sobriquet such as "Machete," "Conchita," and "Northwest;" at some point in the future (presumably at the conclusion of mapping within each quadrangle by this project), structure groups will receive more formal designations.

The Caracol Map: Methodology

The scale at which in-field mapping has taken place at Caracol is 1:1000; when structure excavation takes place, however, a variety of scales — 1:10, 1:20, 1:50, and 1:100 — are used for detailed plans and sections. Ideally, the map presented here is meant for final publication at a scale of 1:2000; it is, however, reproduced within this volume at a scale of 1:4000. Some distortion is present in Figures 45-65 due to the photographic reduction that has taken place. Each of grids presented in these pages measures 500 meters by 500 meters and the entire quadrangle is aligned to magnetic north. Rectification and mode of presentation follows the general standards outlined in Carr and Hazard (1961). Contour lines

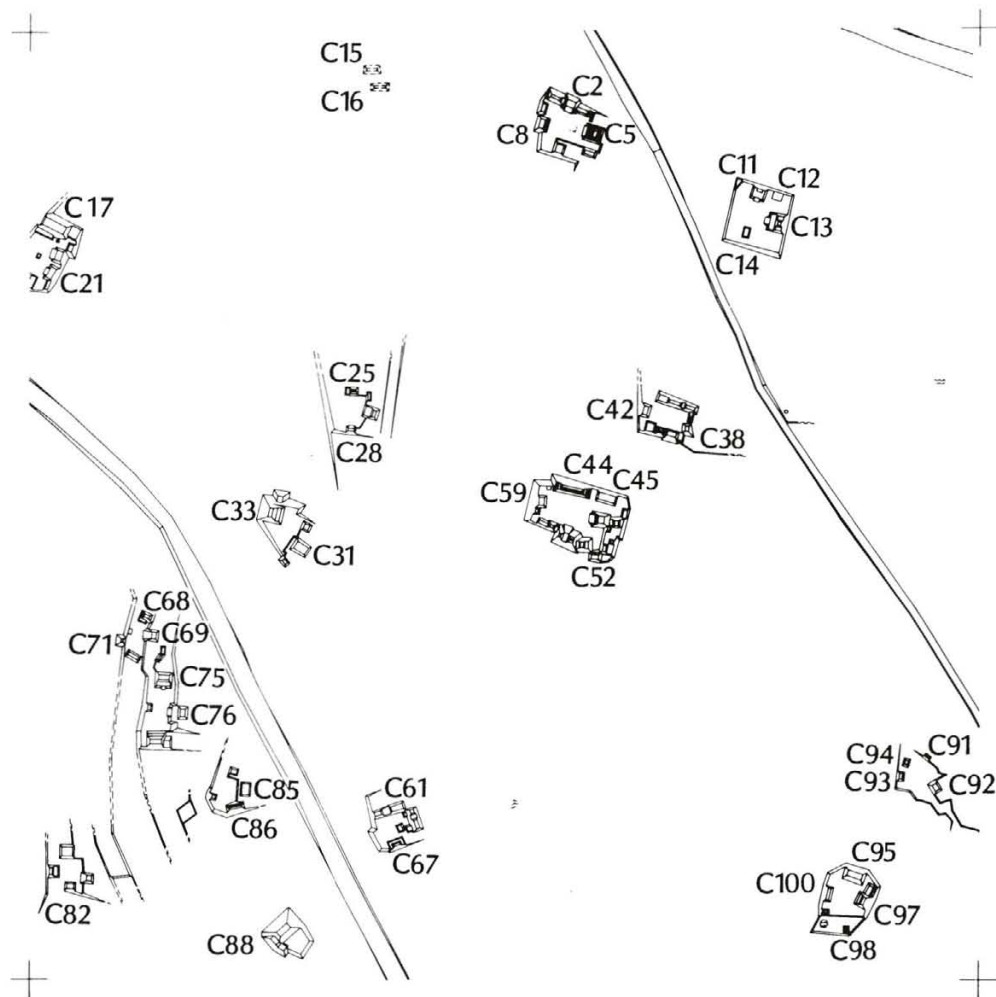


Fig. 51 Caracol Map Quadrangle C; magnetic north is to the top of the page; the scale is 1:4000.

are not indicated in these figures; these will, however, be added to the final map by means of computer generation from aerial photographs in combination with spot elevations recorded in the field.

All structural mapping at Caracol has taken place using conventional transit systems employing theodolites and/or E.D.M.s. While such systems of mapping are time-consuming, especially with regard to jungle foliage and hilly terrain, the accuracy of the map which can be produced more than offsets the perceived disadvantages (see A. Chase in press). All elevations and planning at Caracol are tied into a benchmark located in front of the staff huts in the Caracol camp; the elevation of this benchmark has been arbitrarily set at 500 meters above sea level based on the contour heights derived from the available topographical maps.

The strategy employed to map Caracol has been to use the site's causeways as survey transects; a similar approach has been used at Coba not only to determine intra-site settlement density, but also to determine occupation drop-off beyond causeway termini (Gallaretta 1981). As the Caracol causeways radiate from the epicenter in all directions, they provide good base lines for recording the site

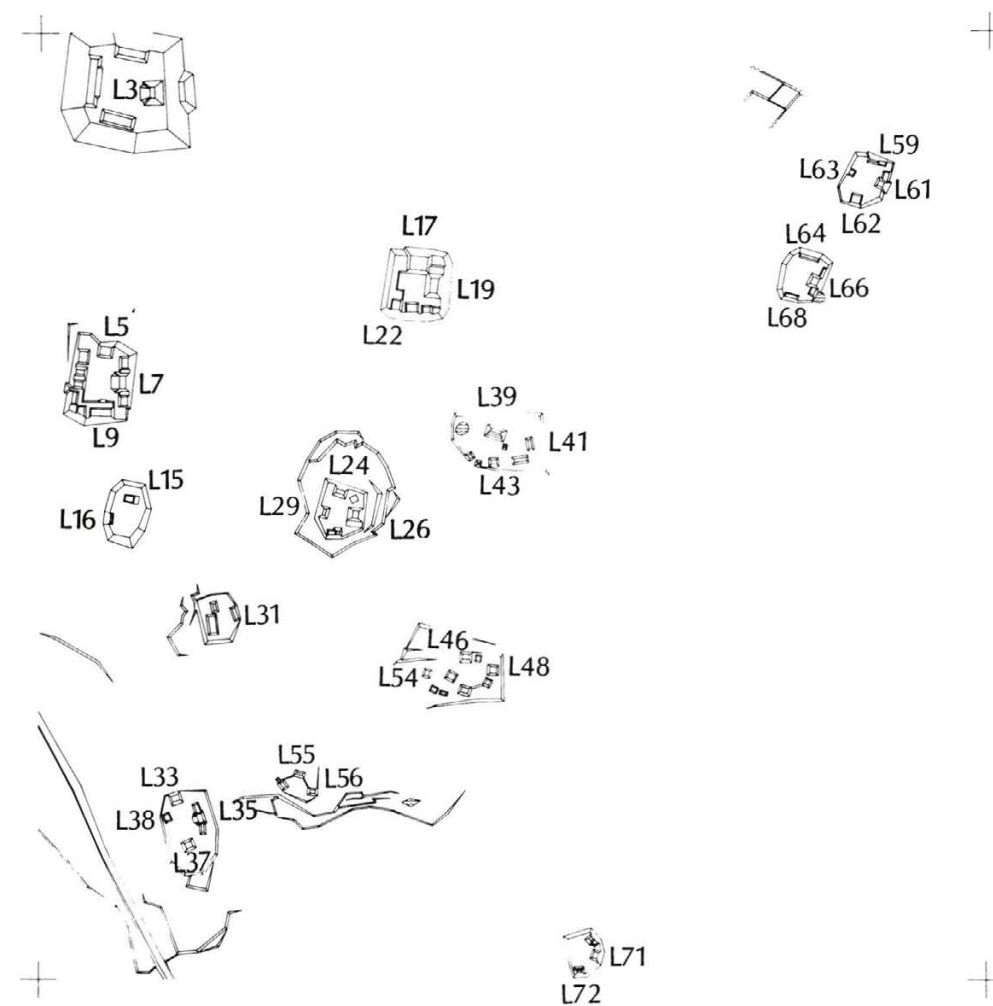


Fig. 52 Caracol Map Quadrangle L; magnetic north is to the top of the page; the scale is 1:4000.

core. As the causeways also present level surfaces, in contrast to the hilly and broken karst landscape, they form natural transportation routes through the site and are relatively easy to walk. Thus, prior to mapping, the causeways are cleared of growth. Once this has been accomplished, mapped stakes are established on the causeways at intervals of 50, 75, or 100 meters. Smaller brechas are then cut perpendicular to the causeways off of these stakes. The smaller brechas are also mapped and staked at regular intervals. All structure and group mapping is then tied into this series of known points; mapped stakes are also placed in each group. Closure is attained by mapping between two independently established points on different brechas or causeways.

While the above system of mapping is used for most cultural features, an exception is made for terraces. Because of their large numbers, the many terraces at Caracol have been recorded largely with a Brunton compass and 30-meter tape. These terraces are first tied into the overall site map through the use of the conventionally established points on any causeway or brecha; in addition, the point of crossing for any terrace on a cut brecha is recorded using the

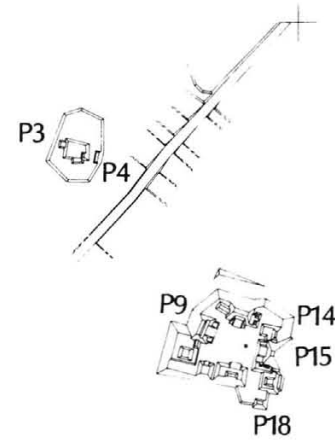


Fig. 53 Caracol Map Quadrangle P; magnetic north is to the top of the page; the scale is 1:4000.

alidade/E.D.M. Using the known points, then, terrace recording proceeds in areas that lie between the regularly-spaced transit-mapped transects. Even though less accurate than the conventional system, the Brunton system of mapping terraces allows for their fairly rapid coverage within a precisely framed smaller grid.

The Caracol Map: Preliminary Interpretations

In conjunction with the new archaeological work, the map presented here provides a far different perspective of Caracol than was previously available. In particular, the density of occupation thus far mapped at Caracol is striking in comparison to other mapped centers in the Maya lowlands. At Tikal, some 2300 structures were recorded in the central 16 square kilometers of the site (Becker 1982); this converts to an uncorrected average of 144 structures per square kilometer. At Tayasal, some 399 structures were recorded in an area of approximately 3.5 square kilometers (A. Chase 1985c: Figure 2); uncorrected for functional and temporal differences, this works out to approximately 114 struc-

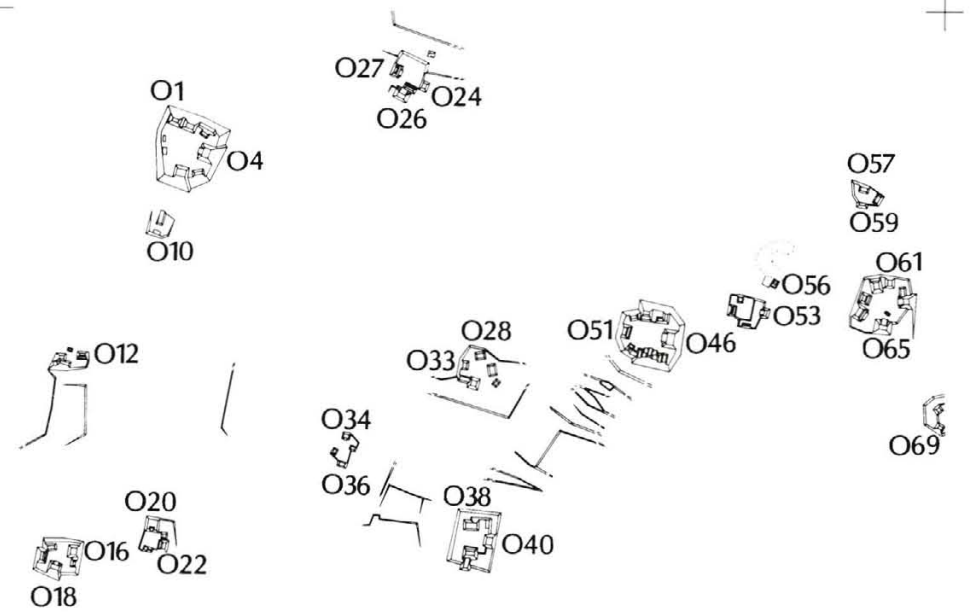


Fig. 54 Caracol Map Quadrangle O; magnetic north is to the top of the page; the scale is 1:4000.

tures per square kilometer. At Caracol, some 1,068 structures have been recorded in an approximately 4 square kilometer area (see Figure 44); if these figures hold for the rest of the core area, then we are looking at an uncorrected settlement density of 267 structures per square kilometer. This figure would indicate that Caracol's settlement contains 85% more constructions than an analogous area at Tikal. Similar projections were arrived at independently by Healy et al (1983:408-409), who sampled a different portion of Caracol's core. The implications of these settlement figures are that Caracol was one of the most densely occupied Classic Period Maya centers. When coupled with its immense size — its core being projected to cover some 38.5 square kilometers — it becomes clear that Caracol must have played a dominant role in the Southern lowlands; this is indeed borne out in the site's inscriptional record (see Appendix II and pp. 58-62). The existence of the extensive terrace systems and causeways at Caracol can be partially justified in light of the settlement density; without the terraces, it would have proven difficult to feed all the people in residence at Caracol; without the causeways, it would have been impossible to efficiently

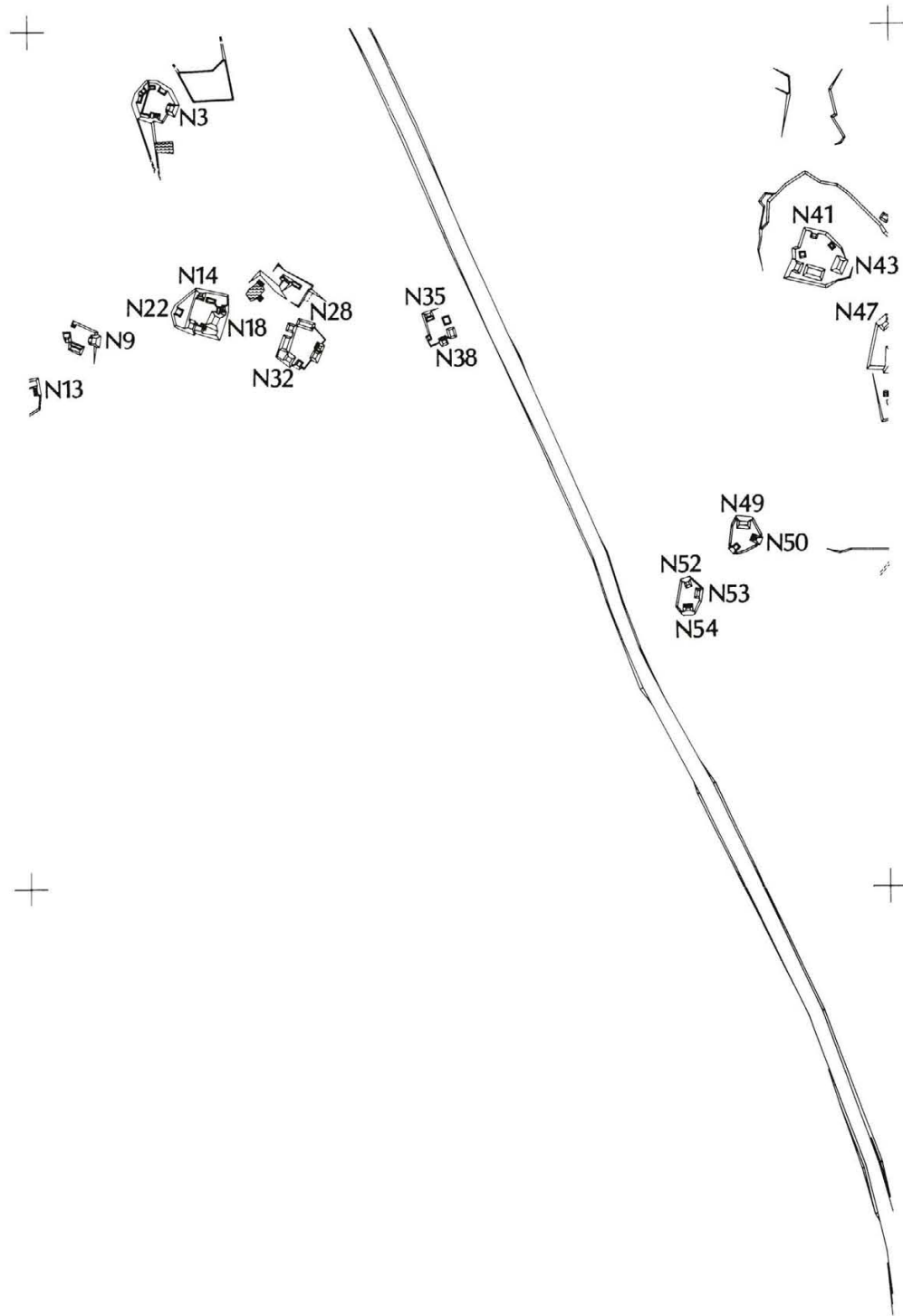


Fig. 55 Caracol Map Quadrangles N and 2G; magnetic north is to the top of the page; the scale is 1:4000.

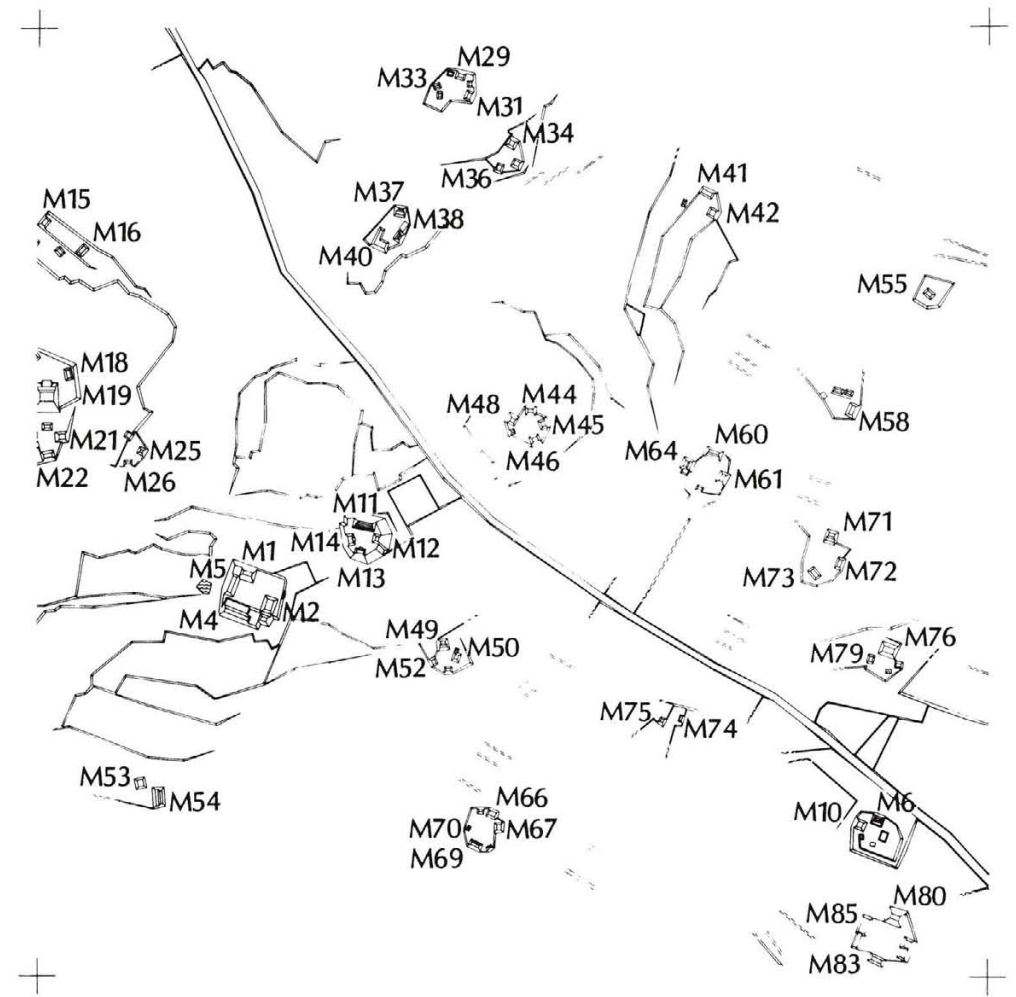


Fig. 56 Caracol Map Quadrangle M; magnetic north is to the top of the page; the scale is 1:4000.

manage such a large concentration of people. Going one step further, in a speculative sense, it may even be postulated that the many multiple-body interments found at Caracol (see pp. 56-57) was to some degree an adaptation to the high density occupation found at the site; the large number of tombs at Caracol, however, is not so easily explained, indicating that other factors were at work as well. Thus, although still incomplete, the very changed map of Caracol is already aiding in the interpretation of this complex Maya center.

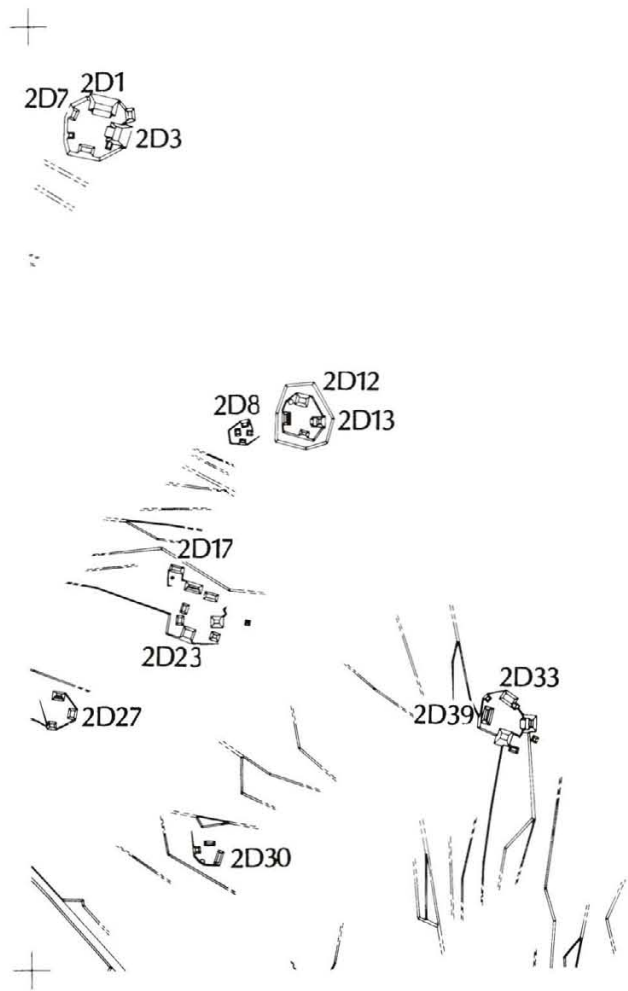


Fig. 57 Caracol Map Quadrangle 2D; magnetic north is to the top of the page; the scale is 1:4000.

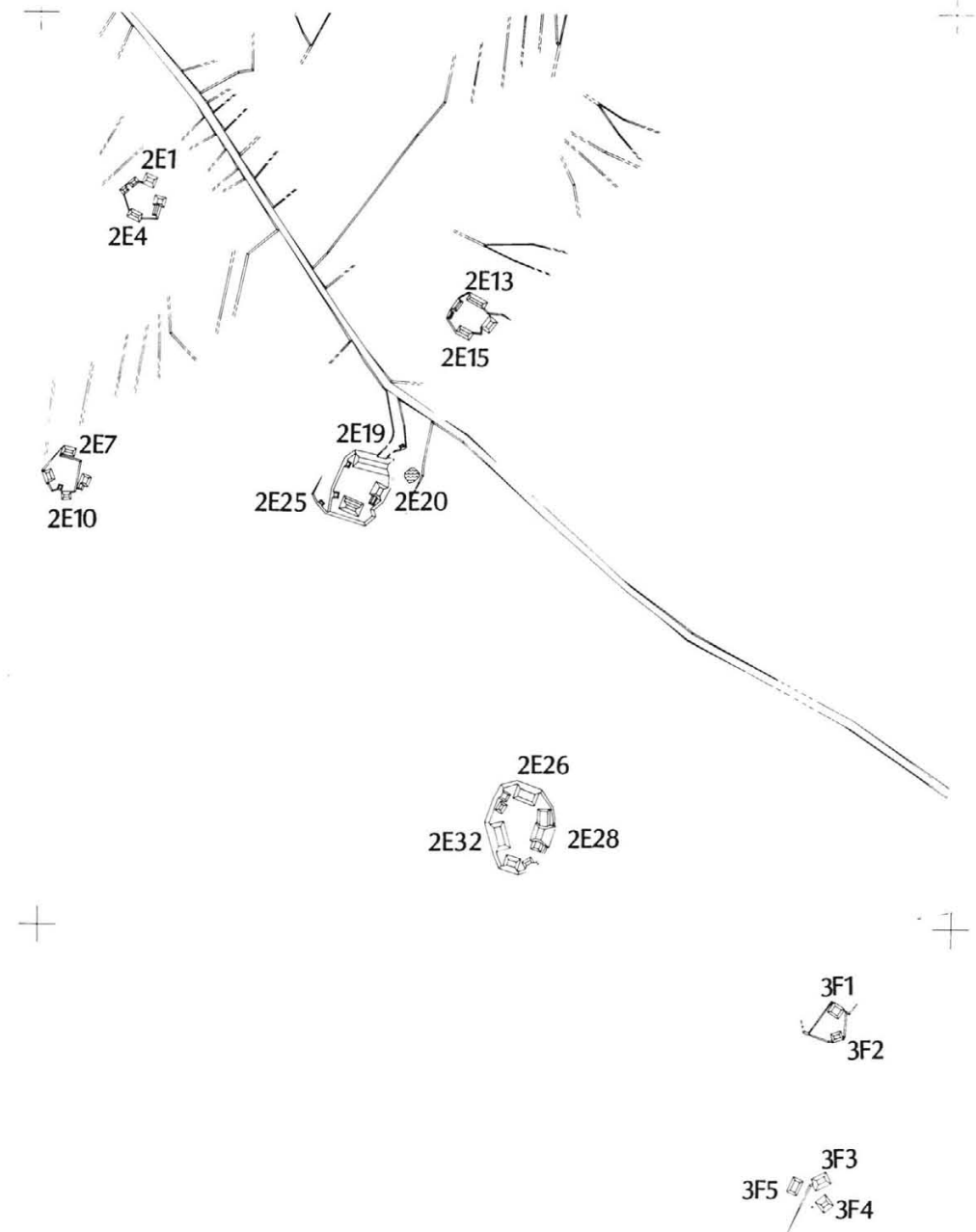


Fig. 58 Caracol Map Quadrangles 2E and 3F; magnetic north is to the top of the page; the scale is 1:4000.

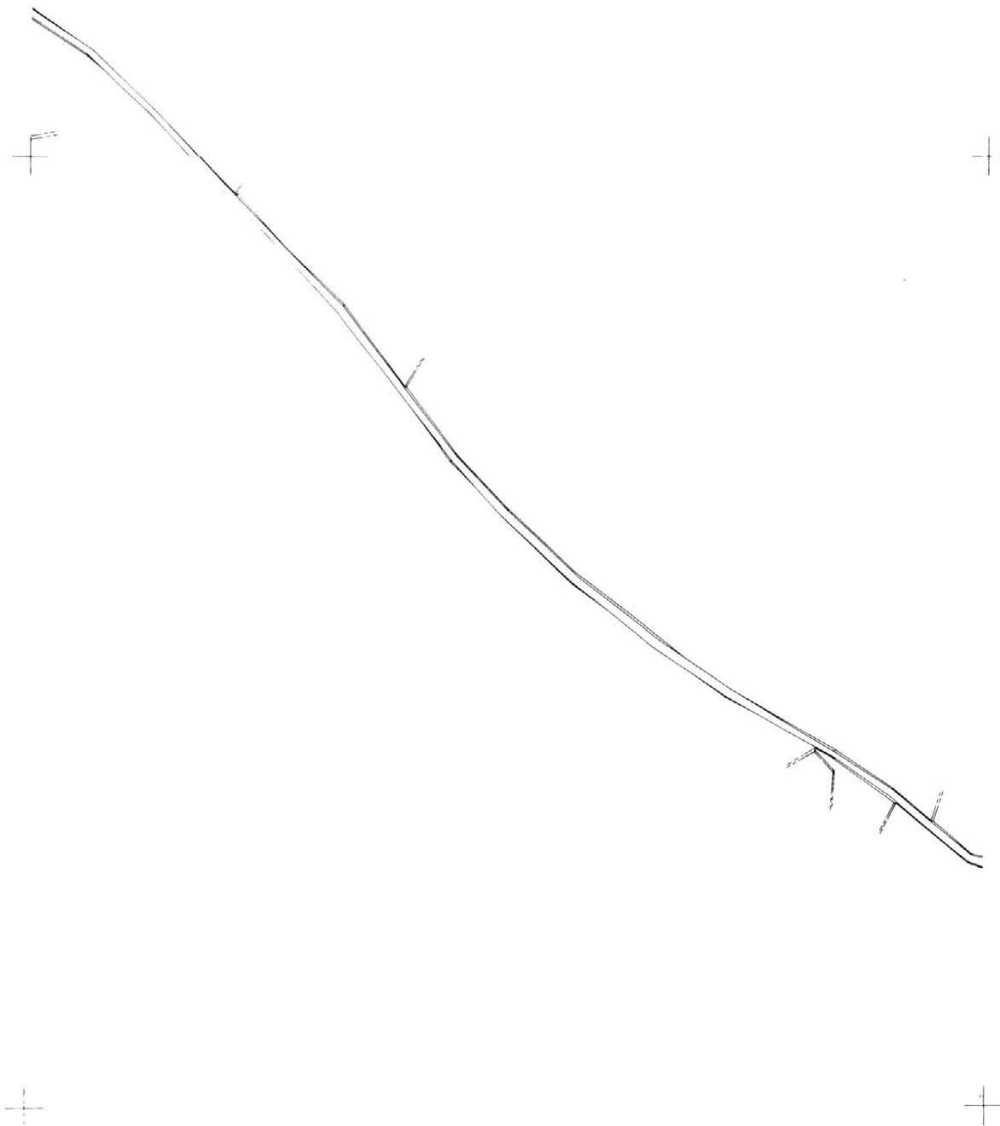


Fig. 59 Caracol Map Quadrangles 3D and 3E; magnetic north is to the top of the page; the scale is 1:4000.

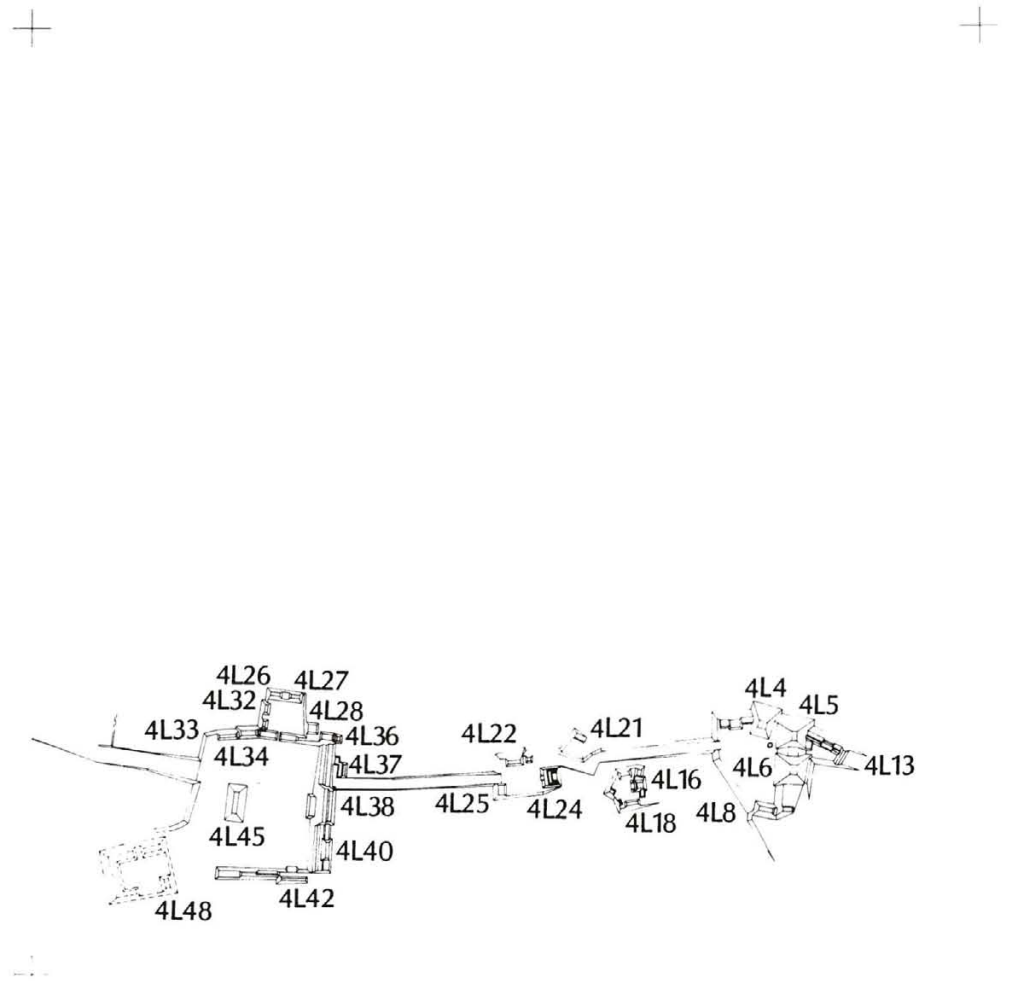


Fig. 60 Caracol Map Quadrangle 4L; magnetic north is to the top of the page; the scale is 1:4000.

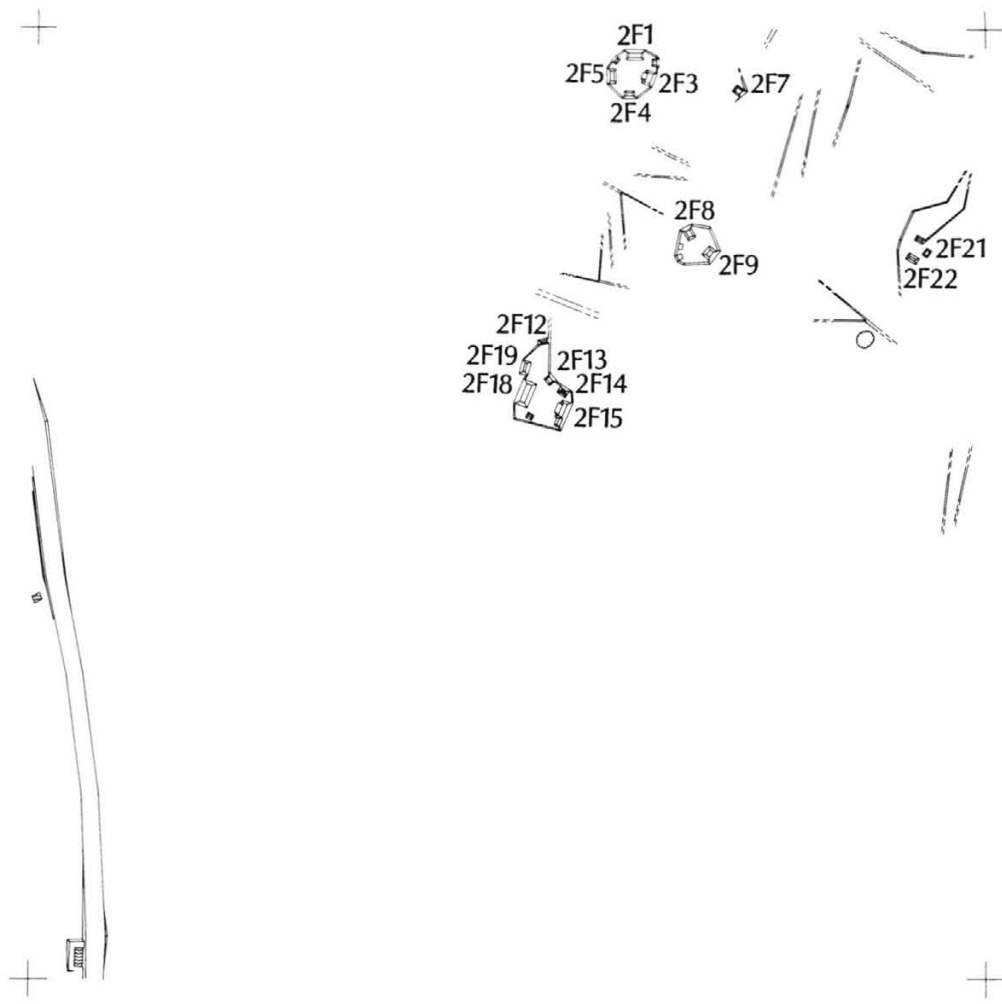


Fig. 61 Caracol Map Quadrangle 2F; magnetic north is to the top of the page; the scale is 1:4000.

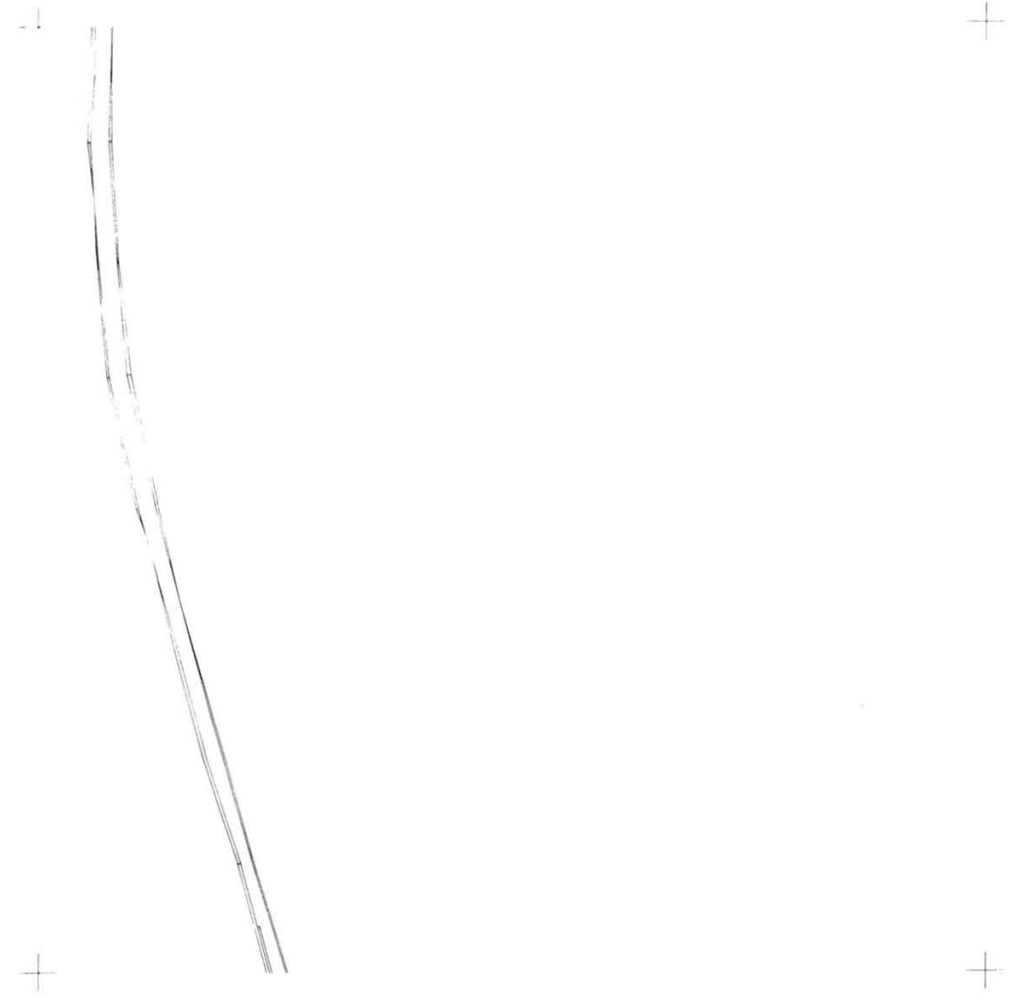


Fig. 62 Caracol Map Quadrangle 3G; magnetic north is to the top of the page; the scale is 1:4000.

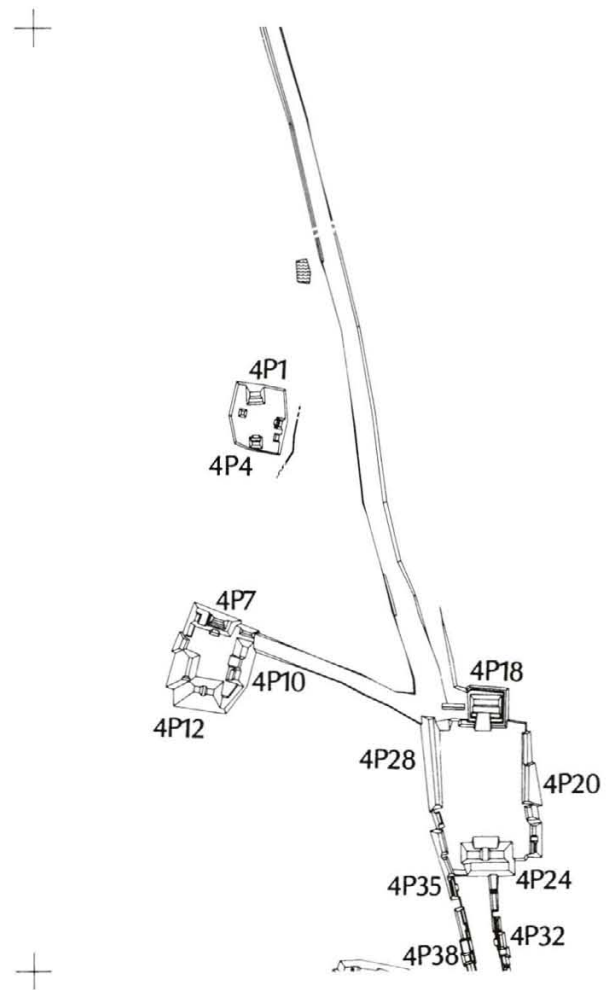


Fig. 63 Caracol Map Quadrangle 4P; magnetic north is to the top of the page; the scale is 1:4000.

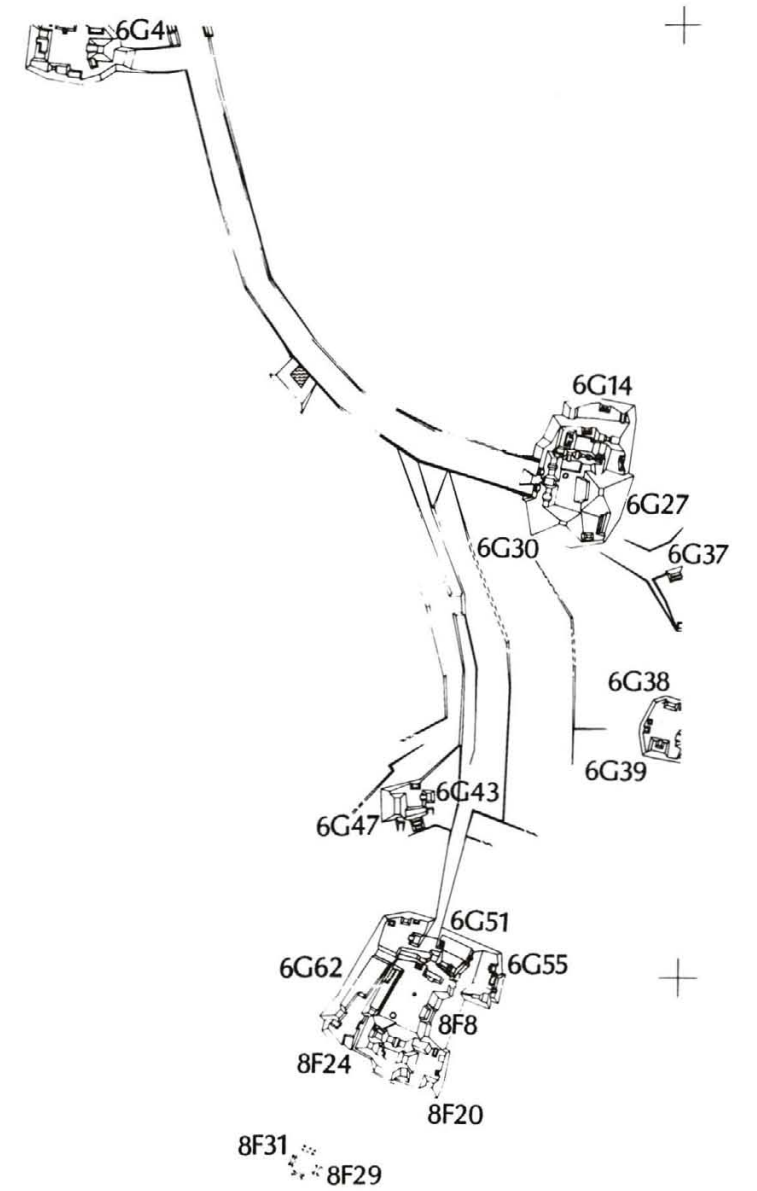


Fig. 64 Caracol Map Quadrangles 6G and 8F; magnetic north is to the top of the page; the scale is 1:4000.

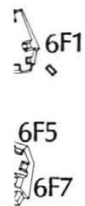


Fig. 65 Caracol Map Quadrangle 6F; magnetic north is to the top of the page; the scale is 1:4000.

APPENDIX II Notes on Caracol Epigraphy and Its Significance

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The first statements about Caracol epigraphy were made by Linton Satterthwaite (1951, 1954a), who later undertook a monument-by-monument commentary that remained unfinished at the time of his death (Beetz and Satterthwaite 1981:2). Carl P. Beetz revised Satterthwaite's commentary and contributed a both a preliminary understanding of royal biographies at Caracol and a comprehensive set of line drawings prepared in part under Satterthwaite's supervision (Beetz and Satterthwaite 1981:128-130). A group of students at the University of Texas, Austin, arrived independently at many of Beetz's conclusions (Sosa and Reents 1980; Stone, Reents, and Coffman 1985). The present study builds upon these valuable treatments of Caracol's glyphs, but also presents new interpretations of Caracol's epigraphy based on recently excavated texts and a re-examination of monuments at Caracol, Belmopan, Belize City, and Philadelphia.

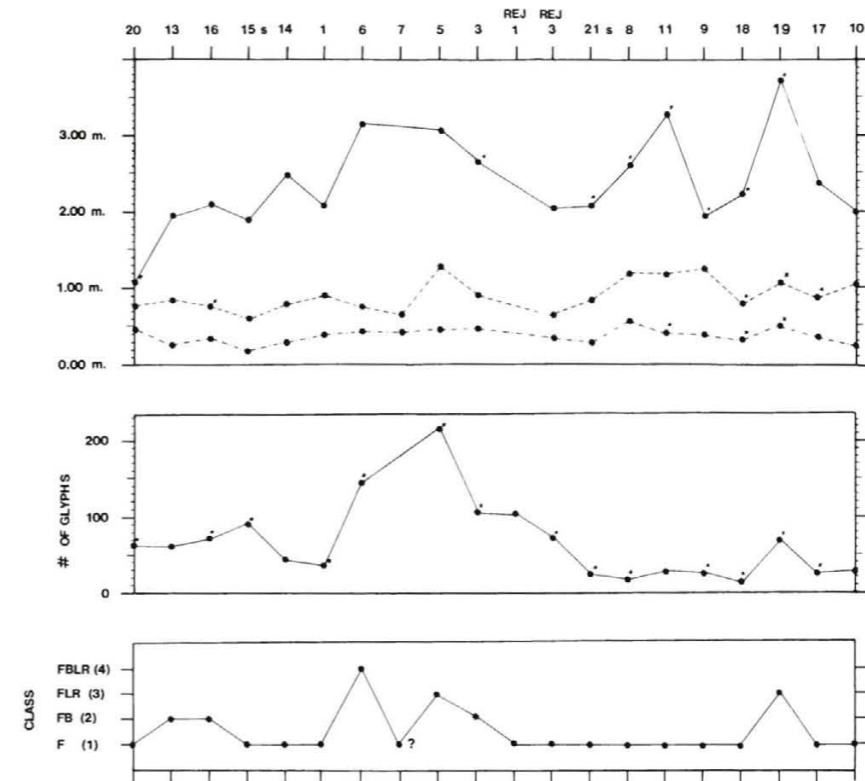


Fig. 66 The physical characteristics of Caracol stelae (slate monuments marked by "s") with information on dimensions and the number of glyphs and sculpted faces (an "*" signifies an estimate); the stelae are graded according to supposed or probable age, the oldest to the left and the latest to the right; the top portion of the chart displays three lines: solid lines indicate height of carving, broken lines refer to monument width, and dash-dot lines refer to thickness of monuments; much of the information comes from Beetz and Satterthwaite (1981), although changes have been made where necessary.

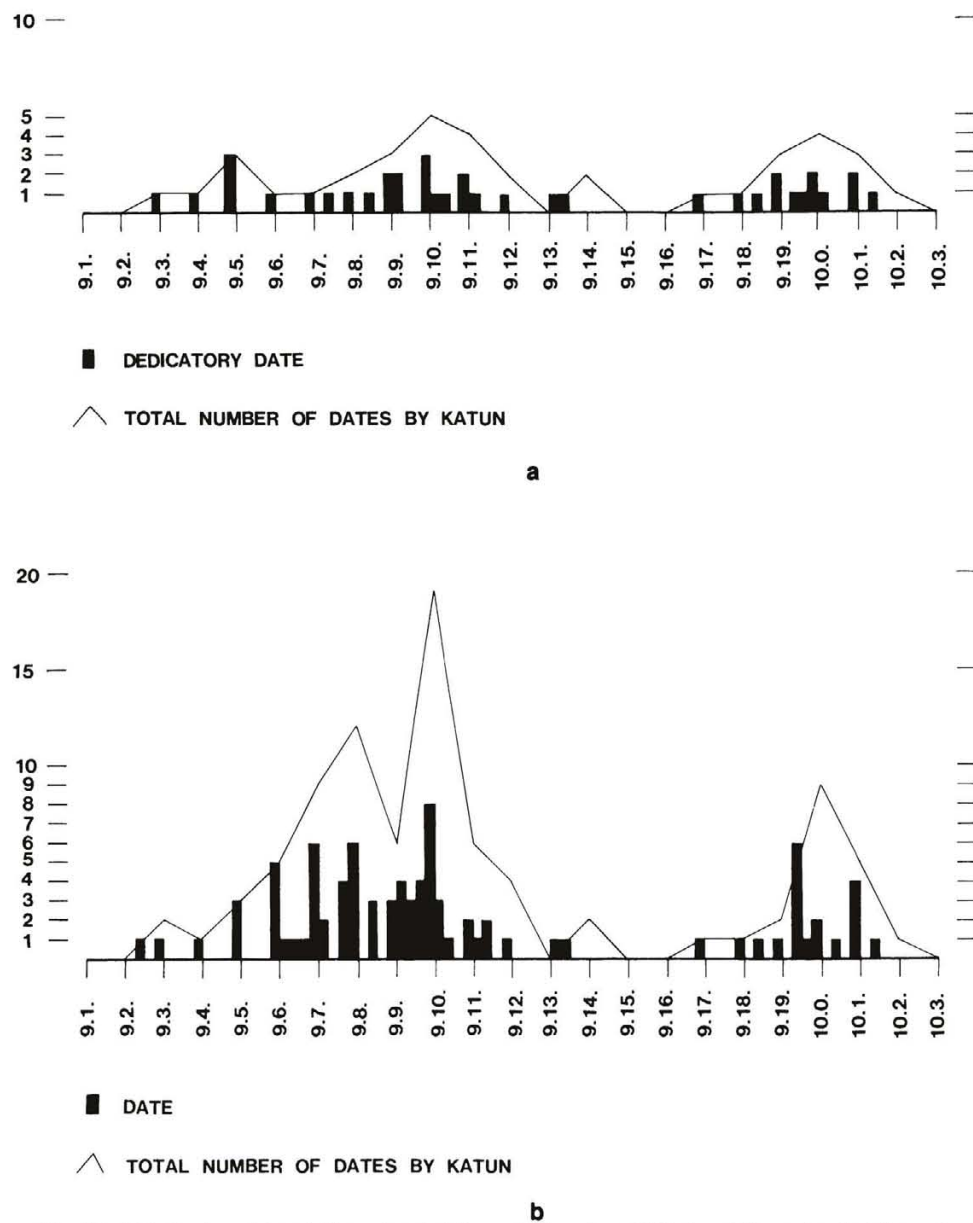


Fig. 67 a) Dedicatory dates at Caracol and at dependent centers; b) Dates at Caracol and at dependent centers; all dates are indicated by hotun.

Dynastic Chronology at Caracol

The dynastic chronology of Caracol can be presented in a variety of ways (see Table 2 and Figures 66 - 68). Table 2 displays a complete list of Caracol dates, including those deciphered from recent finds. Caracol "Giant Ahau" altars, which are somewhat controversial in their dating (cf. Mathews 1985: Table 1), appear here as records of katun endings (cf. the evidence adduced by Satterthwaite, 1951:33, in favor of this argument). This interpretation appears to be valid since three of these altars - Altars 14, 17, 21 - spell out an association with katun dates. Altar 14 contains an eroded reference to a katun ending (note the inscription embedded in the volutes beneath the day sign, Beetz and Satterthwaite 1981: Figure

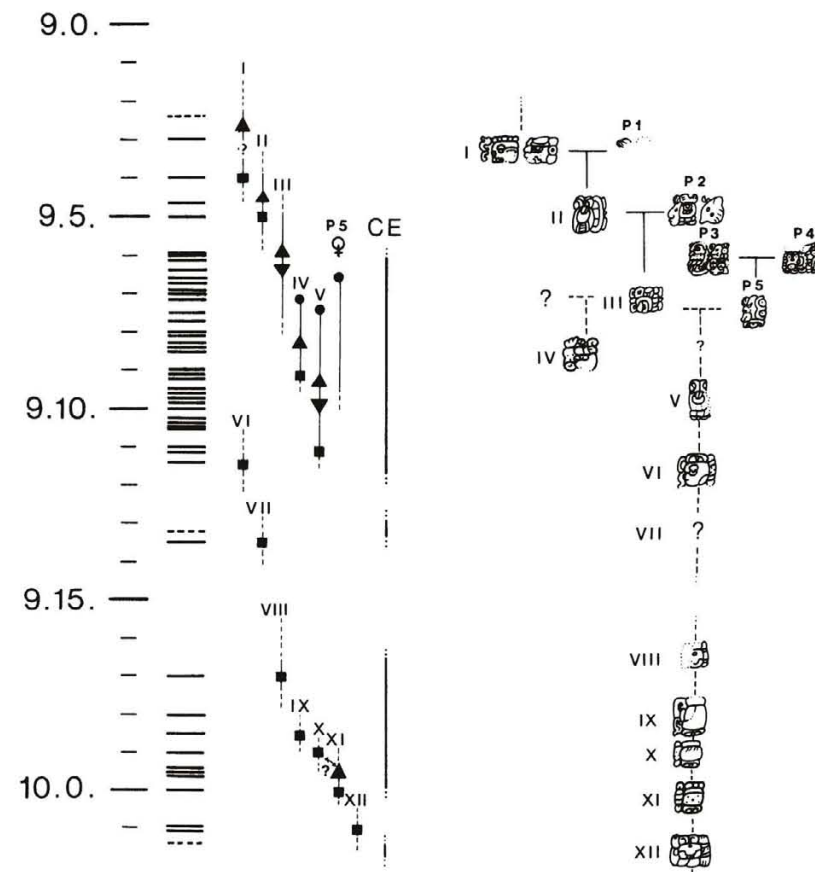


Fig. 68 Graphic summary of Caracol dynasty; to the far left, by the tabulation of katuns, is the general pattern of dates at Caracol; the solid lines represent secure dates and the dashed lines are more conjectural reconstructions; immediately to the right lies a set of broken vertical lines - these illustrate the lifespans of Caracol dynasts; rulers are identified by roman numerals and other personages by arabic numbers; various symbols describe important events: circles = birth; inverted triangles = war; upright triangles = accession; squares = last associated date; the single line marked "CE" denotes when the Caracol emblem was in use based on the inscriptions; the genealogical chart to the far right features the glyphic names of Caracol rulers and their consorts; the relationships between Caracol lords is indicated by the use of solid lines to show definite genealogical connections and dashed lines to indicate less certain ones.

42c). Altar 17 refers to the completion of katun 11 and to Ruler V, or "Lord Kan II." On textual grounds, Altar 21 must also bear a katun date (Houston n.d.).

Chronological trends in the monuments of Caracol are illustrated in a presentation of the physical characteristics of Caracol Monuments (Figure 66) and in simple tabulations of dates at Caracol and its dependent centers compiled by Dedicatory Date (Figure 67a) or by the full list of dates (Figure 67b). Figure 68 supplements Table 2 and Figure 67 with a graphic chronological summary of the Caracol dynasty. The dynastic summary presented here differs from previous studies (cf. Sosa and Reents 1980: Figure 1, Beetz and Satterthwaite 1981:123). It replaces a disputed set of names with a more neutral series of numbers that can later be expanded or contracted. According to this system "Antenna Top I" or "Lord Storm-Water Moon" becomes Ruler II, although on occasion the ruler may be identified as "Lord Kan I" to acknowledge the glyphs that compose his name as well as the fact that several Caracol lords share similar name glyphs.

Regrettably, and rather inconveniently, Caracol shows no evidence of the *hel* count system that specifies the position of a ruler in the dynastic succession (cf. Riese 1984a, although see Stela 16:D14).

Ruler I

On La Rejolla Stela 3 there appears the name of a Caracol lord who must have ruled sometime around 9.12.0.0.0. The name glyphs of the lord are composed of a “smoke” prefix, a third-person marker, a skull sign, and a *mahk'ina* title (cf. Lounsbury 1974). By analogy with the text of La Rejolla Stela 1, where such relationships are made explicit, “Smoking Skull”, or Ruler VI, probably stood in some superordinate relation to a lord at La Rejolla, a small site lying less than 13 kilometers from the center of Caracol.

Two pieces of evidence suggest that Ruler VI was a royal name used more than once by the Caracol dynasty. The first evidence occurs on Stela 16 (Beetz and Satterthwaite 1981: Figure 15), a monument that can be attributed to Ruler II, or “Lord Kan I”. Beetz and Satterthwaite (1981:116) point out that the name of Ruler II's mother is inscribed at B19 and beyond. Since parentage expressions almost always include the names and titles of both mother and father, it stands to reason that the name of Ruler II's father should follow. An excellent candidate for this name can be found at positions C11-D11, directly after the so-called “sky-god” title (Proskouriakoff 1964: Figure 1) that often precedes personal names, and just before the relationship glyph at C12. The name is the same as Ruler VI's, but here in reference to an earlier lord. The other piece of evidence surmounts a belt ornament portrayed on Stela 6. Such ornaments occasionally exhibit glyphic spellings of ancestral names, as can be seen on La Pasadita Lintel 2, where the name of a Yaxchilan ruler, Shield Jaguar, embellishes the belt assemblage of his son, Bird Jaguar (David Stuart, personal communication 1985, cf. Schele and Miller 1986:196). In precisely the same manner a belt ornament pictured on the back of Caracol Stela 6 displays glyphs composing the name “Smoking Skull *mahk'ina*”. This ruler, rendered here as an ancestral figure, is most likely the individual mentioned on Stela 16. He may also have erected Stela 14, the earliest dated monument at Caracol and probably the earliest with a reference to accession (note the apparent “seating on po throne” glyph at C16, Beetz and Satterthwaite 1981: Figure 13b, and personal observation).

Ruler II

It is known from Stelae 6 and 14 at Caracol that Ruler III acceded to the office of *ahaw* at 9.5.19.1.2. However, the question remains of identifying his predecessor in high office. Although using different names, Sosa and Reents (1980: Figure 1) argue that Ruler III's father was Ruler II on clear evidence from parentage statements. Yet this interpretation raises the problem of finding other inscriptions that can be attributed to the reign of Ruler II. Stelae 15 and 16 are good candidates for monuments from Ruler II's reign. The text of Stela 15 begins with an Initial Series of 9.4.16.13.3 (Beetz and Satterthwaite 1981:57, Figure 14b), possibly an accession date. The verb accompanying the date is effaced, yet the remaining portion of the name glyph identifies this individual as none other than Ruler II. His name glyph is also found in the text that captions the “hand-scattering” scene. Ruler II's other monument is Stela 16, which has been attributed to an “*nen tz'i*” (Sosa and Reents 1980:3) or “Lord Jaguar” (Beetz and Satterthwaite 1981:116), depending on the interpretation of the name glyphs. Beetz and Satterthwaite (1981:62) show that Stela 16 bears an Initial Series date of 9.5.0.0.0, which raises two possibilities: that *nen tz'i* or Lord Jaguar came to power sometime between the reigns of Ruler II and Ruler III, or that the ruler's name is incorrectly identified. Two lines of evidence demonstrate that the second

possibility is the correct one. Three glyph blocks occur at positions A10-A11 on Stela 16, after a verb denoting “the completion of the 5th katun.” The first glyph is prefixed by the number seven; this compound forms a component of expanded versions of the *mahk'ina* title (David Stuart, personal communication 1985). The second glyph is partly eroded, but nonetheless the outlines are those of the “maize” sign. The final glyph is a *mahk'ina* head variant (Mathews 1979a), which probably combines with the “seven” title (cf. Naranjo Hieroglyphic Stairway:S2-T2; and the variant of Ruler III's name on Stela 1). Given that Ruler II is also mentioned in the headress of Stela 16, it seems certain that he was responsible for erecting the monument. *Nen tz'i* or Lord Jaguar are simply his titles.

Ruler III

Ruler III acceded to the throne at 9.5.19.1.2 (Beetz and Satterthwaite 1981:129). His successor, Ruler IV, acceded at 9.8.5.16.12, some 46 years later. Despite the long reign, Ruler III seems only to have erected two monuments with texts of any length: Stela 1 and Stela 14. Stela 1 - a late monument dating to 9.8.0.0.0 - does not clearly exhibit Ruler III's name. This raises two related questions: did Ruler III enjoy as long a reign as the inscriptions suggest, and can Stela 1 be securely attributed to this lord?

Starting with the second question, it can be argued that the glyphs at positions E2-F2 on Stela 1 represent a variant spelling of Ruler III's name. Most versions of the name contain the following: T126.168:513.184.74, as rendered in Thompson's system of transcription. The variant portrayed on Stela 1 contains the same elements. First, the “seven” title is an expanded version of the *mahk'ina* sign. Second, the glyph that follows, T126, is also found in the conventional spelling of Ruler III's name. The third glyph comprises a cross-hatched headband - known elsewhere to alternate with T168 (Mathews and Justeson 1984: Figure 2) - and a sun god's face, employed here as a head variant of the *mahk'ina* title. The one feature that appears to be absent is the “*muluc*” sign (T513).

A consideration of the *muluc* sign in its other contexts may explain why T513 is absent on Stela 1. On Dos Pilas Stela 8:I13, Copan Stela 1:C2, and Naj Tunich Group IV:f a *muluc* sign occurs in a position usually occupied by numerical classifiers. This implies that *muluc* was read, at least in this glyphic environment, as *tV* and perhaps as *te*. Some support for this interpretation comes from the Mexican site of Tortuguero on a text incised around a jade earring and on the inscription of Monument 6 (rendered as T12.III:87:35:41 and T12.III:513.35, respectively, David Stuart, personal communication 1985). In this textually controlled context the *te* glyph apparently alternates with the *muluc* sign. The alternation with *te*, accepted by most epigraphers to mean “tree” or some value derived thereof, explains the presence of *muluc* markings on Classic images of canoes (cf. Kelley 1976: Figure 80): the markings name expressly the object from which the canoes were made. David Stuart has also shown that an agnathous head with jaguar ear (T1013v) alternates with both the *muluc* and the *te* signs in the context of numerical classifiers. The most striking evidence of this appears on the Copan Hieroglyphic Stairway, Riser 41, where an agnathous head intrudes between the number four and the Uayeb glyph. In addition, an agnathous head alternates with *muluc* in the Primary Standard Sequence on Maya ceramics (Coe 1973: Table 1). Thus, a body of evidence suggests that the *muluc* sign, the *te* glyph, and the agnathous head are functionally and perhaps phonetically equivalent. The substitution pattern not only provides further indications of polyvalence in Mayan script (Fox and Justeson 1984:75-76), but elucidates the puzzling absence of the *muluc* sign in Ruler III's name on Stela 1. The *muluc* glyph that appears more commonly is replaced by the agnathous head, conflated

in this instance with other crucial elements of the appellative. Ruler III, then, is the principal celebrant on Stela 1 and by extension a lord who enjoyed exceptionally long tenure as ruler of Caracol.

Ruler IV

In their discussion of Caracol Stela 6, Beetz and Satterthwaite (1981:120) remark that “(a)n unlikely possibility exists that a second character is mentioned by the name of Ahau-Serpent,” but that “(e)conomy and the pattern of statement in the last known clause of Stela 6 argue against this interpretation.” Stone, Reents, and Coffman (1986:270-271) conclude that this same individual, whom they term “Flaming Ahau,” most certainly ruled at Caracol.

Ruler IV uses a name with several identifiable components: T128, an element of Glyph F; T533v, the ahau head; T60, a knot sign, also part of glyph F; and a zoomorphic head. Stela 5:D22a shows an aberrant spelling of the name, the ahau sign being transposed with the knot. T128 alternates in other places with T76, a wing sign, and T1074v, a head glyph. It is unlikely that the affix represents flame, casting doubt on the name adopted by Stone, Reents, and Coffman. Nonetheless, there exists abundant evidence that they are correct in identifying a Caracol ruler who is distinct from Ruler III. On the right side of Stela 6, at positions A14 through C15 and on the date 9.8.5.16.12, this ruler is recorded as attaining (that is, being “seated” in) the office represented by the compound T168:82ms. The structure of the succeeding glyphic passage, in which a Distance Number is counted forward from the reiterated event to a Period Ending date, demonstrates that this title is equivalent to the ahaw epithet; the unusual main sign in the affix cluster of the preceding passage (T82ms) probably functions as one of the derivational suffixes sometimes attached to AHAW logographs (with value of -VI, Justeson 1984:322; see Mathews and Justeson 1984:227, although they do not note the T82ms suffix in this connection). Thus, Ruler IV, or “Lord Knot Ahau”, succeeded Ruler III, who attained the same office 46 years earlier.

Another record of Ruler IV’s accession occurs on the right side of Stela 5. Beetz and Satterthwaite consider, and then reject, one interpretation of the calendrics of this monument (1981:30).

Date 1 (Date 3)	C23 D23-?	(9.9.0.0.0) 9.9.0.4.0 (1.)18.3.17	3 Ahau 5 Ahau	3 Zotz 3 Mol
Date 2 (Date 1)	C24 C25b	(9.7.2.0.3) 9.9.0.0.0 4.(0)	2 Akbal 3 Ahau	16 Mac 3 Zotz
Date 3	D25	(9.9.0.4.0)	5 Ahau	3 Mol

A new drawing of this Stela 5 text (Figure 69) reveals a revised chronology containing details missed by Beetz and Satterthwaite.

Date 1 (Date 3)	? D21	(9.8.5.16.12) 14.1.8	5 Eb	5 Xul)	accession
Date 2 (Date 4)	C23 D23-?	(9.9.0.0.0) 9.9.0.4.0 (1.)18.3.17	3 Ahau 5 Ahau	3 Zotz 3 Mol)	PE
Date 3 (Date 2)	C24 C25	(9.7.2.0.3) 9.9.0.0.0 4.(0)	2 Akbal 3 Ahau	16 Mac 3 Zotz)	birth PE
Date 4	D25	(9.9.0.4.0)	5 Ahau	3 Mol	

These data also provide some insights into the biography of Ruler IV. Date 3, almost certainly a reference to Ruler IV’s birth, is only some 12 years before the birth date of his successor, Ruler V (Beetz and Satterthwaite 1981:121). The most reasonable deduction from this set of facts would be that Ruler IV and Ruler V were brothers. Yet there is a problem with this interpretation for not a single parentage statement survives on Stela 5 and 6, the two monuments known to have been erected by Ruler IV. This is in contrast to Ruler V, who apparently was the son of Ruler III, perhaps by a junior wife (cf. Naranjo Panel 1).

It is equally possible, however, that Ruler IV was not a son of Ruler III. The inscription of Stela 6 seems to place great stress on dynastic continuity, perhaps because lineal continuity was in fact absent. The text begins with a record of Ruler III’s accession, followed by an explicit enumeration of katun endings. It continues with an account of Ruler IV’s accession, as if in inevitable culmination of events in Ruler III’s reign. This continuity is also emphasized visually. The portraits on the front and back of Stela 6 may not be of the same individual; the portrait facing the plaza may show Ruler IV, who in his attire contrasts vividly with the figure on the back. The individual on the reverse wears ornaments adorned with “night” markings and a headdress containing bone elements and muan-bird feathers. From the paired glyphs above (presumably parental names, Stone, Reents, and Coffman 1985:271) it can be supposed that the second figure is Ruler III, pictured in clothing appropriate for a posthumous portrait. Since Stela 6 is the only known monument at Caracol with such a double-sided image, it may be that Ruler IV felt the need to strengthen his connection with a royal predecessor through this unusual graphic presentation.

Ruler V

Ruler V, or “Lord Kan II,” is capably discussed by Beetz and Satterthwaite (1981:129) and Stone, Reents, and Coffman (1985:271-274). Their one point of disagreement seems to be his parentage. Beetz and Satterthwaite (1981:129) see Ruler V’s mother as “God C Star” and his father as “Lord Water”, or Ruler III. Stone, Reents, and Coffman view “God C Star” (or “Batz’ Ek”, as they term the individual) as the father of Ruler V. Unfortunately, the only relevant parentage statement is couched in an obscure text on Naranjo Panel 1. For the moment, the most economical interpretation is probably the former. Personage 5, as we prefer to call “God C Star” (an inaccurate gloss) or “Batz’ Ek”, has many female characteristics: her name is linked with Ruler III in a way consistent with expressions of parentage; her name glyph incorporates a probable female head (cf. facial details on a female head on Caracol Stela 3:A10b), albeit with a conflated animal mouth; in one instance she apparently uses a female introductory glyph (Caracol Stela 3:B8b); and at least one other royal female eschews the usual female titles, or at least a conventional arrangement of them (Altar de Sacrificios Stela 4, Graham 1972: Figure 12). Also, to judge from her birth date she was able to bear Ruler V, if still too young to have given birth to Ruler IV.

It is during Ruler V’s reign that the subsidiary site of La Rejolla first declares its connection to Caracol. From La Rejolla’s perspective this relationship apparently progressed from subordinacy to complete dependence during the end of Ruler V’s life and the beginning of Ruler VI’s tenure. On La Rejolla Stela 1 it

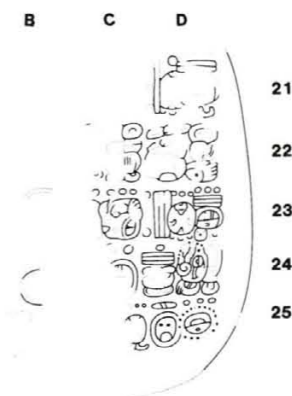


Fig. 69 Caracol Stela 5: B23-D25.

is a local lord who is the principal celebrant; on La Rejolla Stela 3 it is instead Ruler VI of Caracol (yet note that this eroded text may have contained more than is now visible).

Ruler VI

Only a single text (La Rejolla Stela 3) explicitly attests to the existence of Ruler VI, although a date on stucco appears to date to his reign. This stucco text (Figure 14b) comes from recent Caracol Project excavations at the summit of Caana. The date is clearly 12 Ik, end of Yaxkin (0 Mol), which is also the Initial Series date on La Rejolla Stela 3: 9.11.9.16.2. It marks the 45 year (2.5.0.0) anniversary of Ruler V's accession. The presence of the 12 Ik 0 Mol date on La Rejolla Stela 3 is further testimony to Caracol's close control of that small site. The version on stucco is equally significant as a unique citation at Caracol of an event during or just slightly before Ruler VI's reign. Although Caracol Ruler VI is mentioned on the La Rejolla monument, the worrisome possibility still exists that the text simply refers to the ancestral "Smoking Skull", or Ruler I, in his rule as possible founder of the Caracol dynasty. Analogous references have been documented at Copan (Linda Schele, personal communication 1986).

Ruler VII

Ruler VII is probably, although not certainly, distinct from Ruler VI. Details of his reign may be fleshed out by the recovery of additional fragments of Stela 21, the butt of which eluded concerted search during the 1986 field season.

Ruler VIII

Ruler VIII receives notice only on an eroded glyphic passage from Stela 11 (Figure 71a). The structure of the passage suggests that he may have been the father of Ruler IX, but the record is less than clear. At the least, he lived to be a 3 katun lord.

Ruler IX

Ruler IX is documented on Stela 11, along with his putative father, Ruler VIII. His personal name comprises glyphs that spell "*mahk'ina* God K." It is perhaps during his reign, or more likely slightly before, that Caracol loses some of its anomalous and innovative character; the site apparently becomes integrated, at least in artistic terms, into the archaeological traditions of the central Peten.

Ruler X

Ruler X, who caused Stela 18 to be erected at 9.19.0.0.0, may well be the same as Ruler XI; their dates are in rough alignment, and their name glyphs share points of similarity. The rulers are distinguished for the sole reason that Altar 12 associates Ruler XI with an apparent accession date of 9.19.9.17.0, about 10 years later than the dedicatory date of Stela 18.

Ruler XI

As mentioned above, Ruler XI's accession date is probably 9.19.9.17.0. His name glyphs display a great deal of formal variety, particularly on Altar 12.

Ruler XII

Ruler XII is the last known monarch at Caracol. Both Stela 17 and Altar 10, the two local monuments that can definitely be assigned to his reign, were found by Satterthwaite "lying in situ in an unmapped area of low mounds some 350 meters to the southeast of Group B" (Beetz and Satterthwaite 1981:64). In spite of extensive searching by the current project, it has proved impossible to determine the original location of these monuments. Ruler XII shares with Ruler VI the distinction of being mentioned first at a subordinate center, in this case on Hatzcap Ceel Altar 1 dating to 10.0.5.0.0.

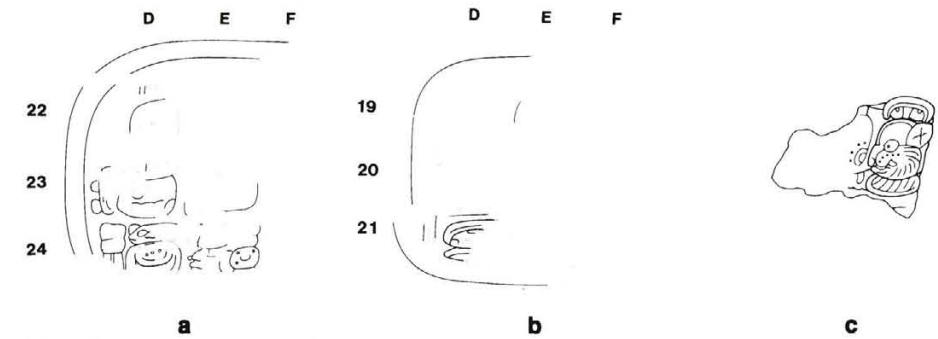


Fig. 70 Unpublished texts from The University Museum: a, b) lower left side of Stela 6; c) slate fragment from an undesignated monument.

Recent Epigraphic Finds at Caracol

The 1985 through 1987 investigations undertaken by the current Caracol Project have recovered a series of new artifactual remains which are relevant to any consideration of epigraphy. The most substantial of these are discussed here.

Stone Monuments

Three carved stone monuments, all ballcourt markers, have been found since 1985. The most important find is "Altar 21", a marker from the Grid A ballcourt that has been discussed in detail elsewhere (Figure 27, Houston n.d.). The marker records a "Shell-Star" or "Venus war" against Tikal at 9.6.8.4.2, a date that coincides with the first stationary point of Venus according to the 584285 correlation (cf. Riese 1984; Lounsbury 1982). Composition of the event glyph is similar to another "Venus war" compound from the left side of Piedras Negras Stela 12, a monument commemorating a war by Piedras Negras against the site of Pomona, Tabasco (at ?9.18.4.9.17). The effect of the conflict between Caracol and Tikal may have been profound; not a single stela at Tikal can be conclusively assigned to the period between the event and the Late Classic (Jones and Satterthwaite 1982: Table 5; although note Tikal Stela 17). Moreover, many Early Classic monuments at Tikal witnessed systematic violence during this period (Satterthwaite 1958:75), a pattern perhaps consistent with a successful campaign by Caracol against the Tikal dynasts (cf. A. Chase n.d.).

The other two markers are entirely iconographic. Excavations in the Grid B ballcourt yielded one monument. Its design consists of opposed heads, apparently of the "God of Number Nine" and a skeletal deer (Figure 26). The other marker, heavily eroded yet quite obviously of a set with the Grid B monument, lay in an inverted position some 8 meters southeast of Structure 12. It too exhibits opposed heads: a sun god and an animal, possibly a rabbit or a jaguar (Figure 24). The position of the marker at some distance from its original location exemplifies the preponderance of re-set monuments at Caracol. It is uncertain how many carvings are in primary context.

In addition to the complete carvings, several monument fragments were recovered. Two pieces are from slate sculptures, and one of these can be fitted to the basal register of Stela 4. A portion of the full figure Initial Series on Stela 20 was found within feet of the monument; the fragment confirms a low numerical coefficient for the tun sign. Further search at the University of Pennsylvania resulted in the discovery of texts and sculpted fragments not presented in the Beetz and Satterthwaite monograph (Figure 70).

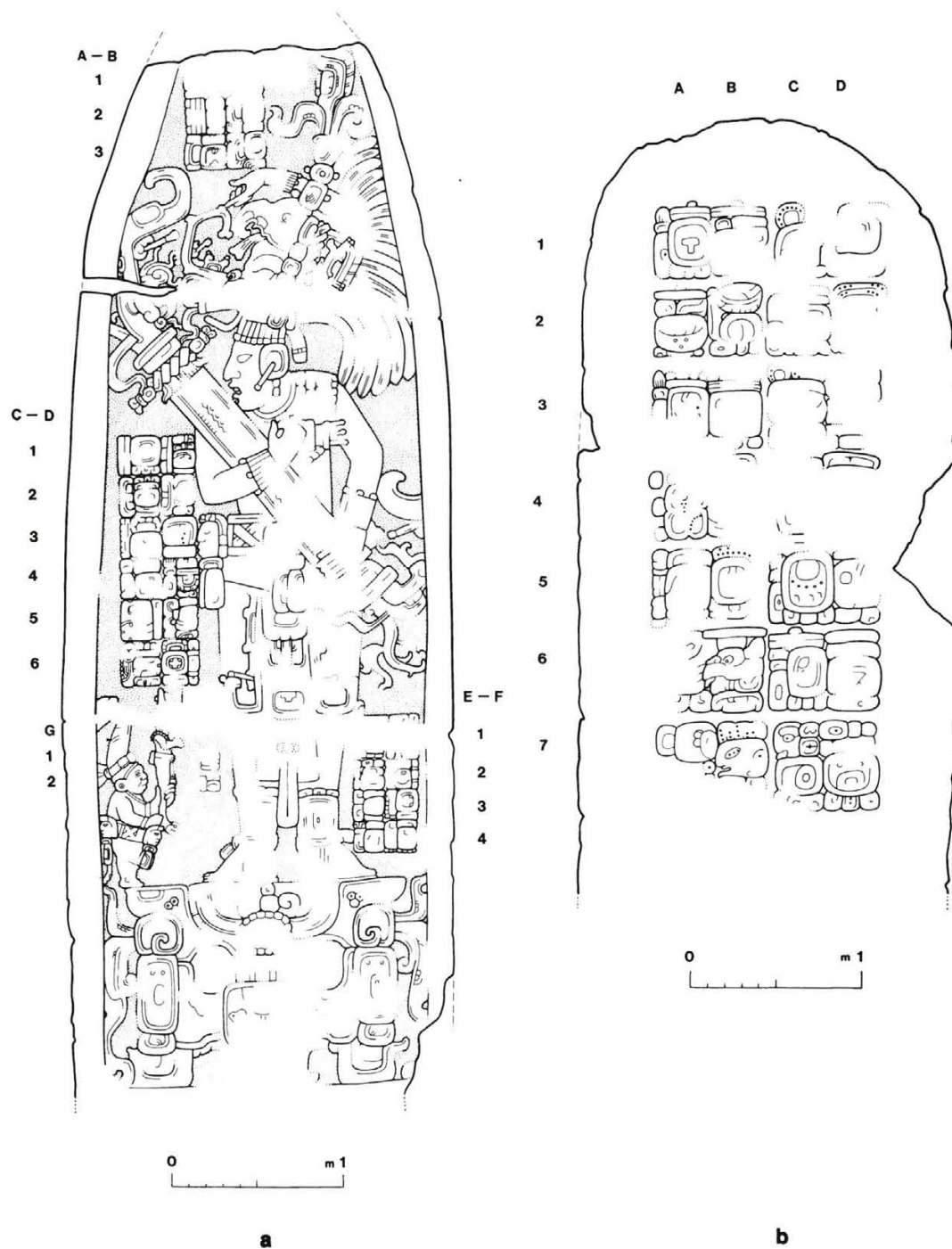


Fig. 71 Redrawn Caracol monuments: a) Stela 11; b) Stela 10.

Several plain monuments have also come to light. These can be enumerated briefly: two additional plain stela from the area in front of Structure A6; a plain rounded altar from the middle of the “North Group” plaza; a standing stela accompanied by a broken monument, both located to the west of Structure 2A3; a stela in front of Structure P15; a possible stela associated with Structure C17; and a possible stela approximately 500 meters north of Caana. Thus, Caracol demonstrably possesses plain monuments, a fact questioned by Beetz and Satterthwaite (1981:47).

The redrafting of several monuments adds considerably to our knowledge of Caracol epigraphy. Stela 18, for example, dates to 9.19.0.0.0. Further, the discovery of glyphs and a human figure beneath the main sign shows conclusively that a great deal of the monument is now missing. Another monument, Stela 11, contains a wealth of detail not apparent in an earlier rendering (Figure 71a). Redrafting of Stela 10, an all-glyphic monument, indicates that it must be one of Caracol’s latest sculptures, as is indeed suggested by the absence of Distance Numbers and the crudity of carving (Figure 71b).

Painted Tombs

Most painted tombs from the Maya Lowlands, such as the finds at Rio Azul, date to the Early Classic period. Caracol alone continues the painted tomb tradition into the Late Classic. Three painted tombs are now known at Caracol: two under B20 and another under B19. In all cases, the wall-paintings appear opposite the point of ingress and consist of a rectangular field of specular hematite wash with glyphic designs painted in charcoal black. In general the texts are brief, containing little more than the absolute minimum required to write an Initial Series.

The tomb paintings differ greatly in their execution. The painting from the middle tomb under B20 shows signs of careful finish (Figure 14b). Its edges are neat and the painting is unhurried; the brushstroke rarely exceeds 1.4 centimeters in width. Overlapping brushstrokes also indicate that the central cartouche was the first to be outlined, followed by details above and finally to the side. In contrast, the painting from the innermost tomb exhibits cursive brushwork, so cursive, in fact, that the scribe at times neglected to fill his brush with charcoal pigment, producing an effect more like rough incision than conventional painting (Figure 14a). Moreover, the extensive dribbling and bleeding of paint suggest that the text was rendered when the undercoat of plaster was still wet. The best-preserved tomb is by far the one under B19 (Figure 23). The Initial Series dates on the tombs presumably refer to death or burial; however, this must remain an assumption in the absence of longer, more informative texts.

As for dates, the middle tomb under B20 contains an Initial Series Introductory Glyph (ISIG) with a “patron” of zomorphic form. The inner tomb displays a fragmentary ISIG followed by destroyed baktun and katun signs as well as tun, uinal, and kin glyphs with numerical coefficients. A day sign with coefficient completes the painted text. Given the archaeological constraints imposed by artifacts from the tomb, there can be only two possible decipherments of this Initial Series: (9. 7.)?3.12.15 3 Men (18 Yaxkin) or (9. 9.)?2.12.15 3 Men (8 Pax). From the spacing of the partly eroded tun coefficient, which would seem to favor a “two” over a “three”, the second date is perhaps the more likely placement. However, Arlen Chase feels the former is more likely, judging from the associated ceramics left by looters.

The tomb under B19 includes more glyphic flourishes than those under B20 (note the schematic T60 variant). It is possible that the date is 9.10.1.12.?; the tun sign is exceedingly faint and was determined by an examination of brush strokes.

Capstones

A total of four painted capstones are now known at Caracol. Two appear in association with painted tombs, that is, with the vault under B19 and the innermost tomb under B20. In neither case is the capstone well-preserved, as little more than charcoal outlines on specular hematite meets the eye. The other two capstones are by contrast rich in glyphic information. The first caps a tomb found just below the summit of Structure A3 (Figure 11). Its glyphs are rendered in faint black pigment on a background of hematite. The date is ambiguous because of an error in the coefficient of the month sign, which reads as “ten” in place of the expected “nine” (cf. similar shifts in the cave paintings at Naj Tunich). If corrected to 13 Cib *9 Kayab, the date can be placed at either 9.15.16.10.16 or 9.13.3.15.16, given the chronological parameters suggested by associated ceramics. Since several dishes from the tomb bear day signs of 6 Ahau, which may specify the katun in which the ceramics were made, 9.13.3.15.16 may well be the best choice. The event associated with this date - a human skull with preposed “death eye” (cf. Tikal MT-28 and MT-29) - unequivocally refers to death. The remaining glyphs include the personal names of the interred individual; the final compound is the Caracol Emblem, demonstrating that the occupant of the tomb enjoyed exalted rank. The other capstone, from Structure L3, is in much better condition (Figure 37). The black paint features crisp outlines, and the hematite background appears less saturated with moisture than the A3 stone. The date is also much clearer. Assuming that the glyph at C1 is a tun sign, as its formal attributes suggest, the only possible reconstruction is 9.9.0.16.17 2 Caban 15 Uo. The glyphs that follow the date are of especial interest. The verb at C3 consists of at least two phonetic elements: *ma* (T74) and *ka* (T25), as well as a possible *wa* allograph (T506, cf. Machaquila Stela 5:A3 and Stela 2:K3b). The presumed root, *ma-k(a)* or *mak*, enjoys wide distribution as a verb meaning “to cover or close” (Kaufman and Norman 1984:125; Barrera Vasquez 1980:479). This gloss is entirely appropriate for a capstone text, in that the date may commemorate the closing or covering of the vault, with the *wa* allograph possibly functioning as a passivizer along the lines documented for Chorti (MacLeod 1984:246-247, although note here the absence of third-person marker; see also Mathews, 1979b, for a semblant glyphic passage on a painted capstone from Becan).

Stucco

To date, an enormous quantity of painted and modeled stucco has been found at Caracol. Most of this comes from Structures A3 and the buildings on the summit of Caana, especially Structure B18. The stucco can be divided into two categories: non-glyphic and glyphic fragments. Most of the non-glyphic stucco is of substantial size and weight. The supposed fragility of stucco is belied by the resilience of these large fragments and the surprising ease with which some can be re-fitted. Several are still attached to cylindrical stone armatures that bear a vague resemblance to manos. The armatures contrast strikingly with those from Palenque and Tonin (Robertson 1983: Figure 5), which are rectangular in form and of dense, fine-grained limestone. A preliminary study of non-glyphic motifs permits a number of observations. A majority of the stucco, which probably fell from temple faades and stairway features, formed scenes containing bearded serpents with open jaws (possibly containing deity heads) in addition to pop designs, sky bands, and seated personages with jade and carved bone ornaments. The scene denoted on Structure B18 probably consisted of bearded serpents disposed around at least three seated or standing lords, who wore feathered headresses that included stacked deity heads as well as “Jester god” headbands,

a good indication of supreme rank. Large, grotesque heads supported both the figures.

In comparison to the great quantity of non-glyphic stucco, only fifty-three glyphic pieces have been found thus far. Virtually all of these come from the vicinity of B18. The fragments are in highly friable condition with only faint vestiges of a ferrous red (5YR 7/4) and blue pigment. Many fragments show evidence of burning, at least in those instances where paint remains. A minimum of four distinct texts can be documented. One is a large cornice text. Another consists of glyphs in circular medallions. The remaining texts comprise a smaller set of glyphs, painted red and surrounded by a blue border (cf. the paint schemes at Laxtunich and Palenque, Schele and Miller 1986: Plate 86; Schele and Mathews 1979: frontispiece) and a much larger group in high relief with little or no paint. One stucco text (Figure 13b) contains a date falling within the reign of the poorly known Ruler VI (see above).

Texts on Vessels

Caracol has only a small collection of texts on ceramic. At least two such texts consist of the Primary Standard Sequence (Figure 38; Coe 1973), which has recently been identified as a glyphic formula relating to ceramic vessels (Houston and Taube 1987). Dishes from the A3 tomb (Figure 11b,d,g) exhibit the day sign 6 Ahau, possibly as a reference to the katun in which the tomb was furnished and sealed. One calcite vessel from Structure B20 contains four discrete clusters of glyphs (Figure 15a). One of these clusters names an illustrated hunchback. The other glyphs are of unknown meaning.

Caracol Epigraphy and its Significance

The most compelling feature of Caracol is perhaps its concentration of dates from the “hiatus,” a period that witnessed a significant decline in monumental activity (Proskouriakoff 1950:111-112; Willey 1974; Mathews 1985:31-32). A few other sites erect monuments during this time, but Caracol is by far the most active. Moreover, Caracol’s glyphic record begins at much the same time as “the initial spurt of activity” at other major centers (Mathews 1985:31), but unlike these centers Caracol continues to flourish. In many respects its chronological patterns are at disconformity with sites in the Peten. Caracol behaves energetically at the same time such sites languish; and yet when erstwhile antagonists such as Tikal and Naranjo begin again to erect monuments, Caracol’s record falls silent. The negative correlation is probably not fortuitous, as we have strong glyphic and archaeological evidence that Caracol was in intensive contact with the Peten.

A key problem before Maya epigraphy is the elucidation of inter-site relations (e.g. Mathews 1985). As a general observation, it can be stated that Classic political relations seem to have been conditioned by relative distance, with the direction of much of the conflict apparently being channelled along stream and river valleys. A tabulation of distinct classes of inter-site relationship (i.e. relations of explicit subordinacy, relations of hostility, and relations of marriage) reveals that warfare and marriage occur between sites at a median distance of 38.62 and 38.83 km., respectively. In contrast, sites of subordinate political status, such as La Rejolla, lie at a median distance of 11.36 km. from their controlling center. The median distance between autonomous centers is 40 km. at 8.18.0.0.0 (n=6), 62.5 km. at 9.3.0.0.0 (n=6), 58.33 km. at 9.8.0.0.0 (n=18), 59.54 km. at 9.13.0.0.0 (n=22), and 52.18 km. at 9.18.0.0.0 (n=27, data from Mathews 1979:Figures 10-14). This diachronic perspective provides little evidence of progressive political compaction or of great differences in the size of Classic polities. In short, unknown constraints seem to have limited the size of the polities and to have

created conditions for their uniform distribution. Yet the data on political spacing seem to contradict some empirical facts, namely that the Maya did on occasion seize foreign centers, such as Naranjo and numerous centers near the Pasin. What prevented such centers from being held persistently as possessions of self-aggrandizing polities? And, why did no larger polity emerge as a consequence of success in war? The key to this question may lie in the realm of administration and in the repetitive sociopolitical structure outlined by Demarest (1984:146-147). It is suggested here that Classic rulers failed to control larger areas for the reason that by delegating authority to provincial lords they necessarily risked political fission. Subordinate sites already shared with their controlling centers the infrastructure of dynastic rule, including such items as rites of accession and a preoccupation with legitimate descent (see Stuart n.d.; Mathews and Justeson 1984:213, for a discussion of subordinate titles). By their very nature the smaller centers tended to develop into autonomous units.

The relations between dependent and controlling sites are instructive in this regard. We have seen at La Rejolla, and possibly even at Hatzcap Ceel, some suggestions of progressively diminished autonomy. Elsewhere, there exists documentary evidence that subordinate titles were of an ephemeral character (as at La Pasadita and Chicomozotoc), and that much ritual activity at dependent sites involved either the direct participation of overlords or at least the patterning of local rituals on events at the controlling center. These data indicate tight control over dependent sites, and also some hints that such centers erected monuments only briefly, possibly because of the imposition of even more direct control by superordinate sites, or perhaps because such hierarchic arrangements tended towards inherent instability. In this respect, political consolidation may have had as its result the systematic suppression of local rulers and dynasties or, following Demarest (1984), the removal or destruction of redundant political structures. That larger polities did not emerge resulted possibly from the deliberate nature of this process or from competition by neighboring dynasties.

Caracol's epigraphy promises to assist greatly in interpreting Classic Maya society. The anomalous character of its dates and artistic traditions make it of further interest as Caracol's activity during the hiatus is surely related to the lack of activity elsewhere. Although the arguments presented here are preliminary in nature, they should provide a background for the future excavations that are so urgently needed at Caracol and its hinterland.

Table 2. Dates of the Caracol Dynasty

#	POSITION	LONG COUNT	C.R.	JULIAN
St. 13	C15-D15	(9. 2. ?9. ?16)	10 Cib ?	484?
Alt. 4	A1	(9. 3. 0. 0. 0)	2 Ahau (18 Muan)	495 I 29
St. 13	A1-A9	9. 4. 0. 0. 0	13 Ahau 18 Yax	514 X 16
St. 15	A1-A3	9.(4.)16. 13. 3	4 Akbal 16 Pop	531 IV 13
St. 16	A1-B8	9. 5. 0. 0. 0	11 Ahau *18 Tzec	534 VII 13
Alt. 14	A1	?(9. 5. 0. 0. 0)	11 Ahau (18 Tzec)	534 VII 13
St. 6	A1-A3	9. 5. 19. 1. 2	9 Ik 5 Uo	553 IV 16
Alt. 21	K2b-L2a	(9. 5. 19. 1. 2)	9 Ik 5 Uo	553 IV 16
St. 6	A7-B7a	(9. 6. 0. 0. 0)	9 Ahau 3 Uayeb	554 III 20
Alt. 5	A1	(9. 6. 0. 0. 0)	9 Ahau (3 Uayeb)	554 III 20
Alt. 21	N3-M4	(9. 6. 0. 0. 0)	9 Ahau 3 Uayeb	554 III 20
Alt. 21	P1	(9. 6. 2. 1.11)	6 Chuen 19 Pop	556 IV 9
Alt. 21	Q2b-R2a	(9. 6. 8. 4. 2)	7 Ik 0 Zip	562 IV 29
St. 3	A1-A8a	9. 6. 12. 4.16)	5 Cib 14 Uo	566 IV 22
Alt. 21	W2b-X2a	(9. 6. 17. 17. 0)	8 Ahau 13 Mac	571 XI 26
Alt. 21	X3-W4	(9. 6. 18. 2.19)	9 Cauac 12 Kayab	572 II 13
St. 3	B11b-A12a	(9. 6. 18. 12. 0)	8 Ahau 8 Mol	572 VIII 12
St. 6	C7	(9. 7. 0. 0. 0)	7 Ahau3 Kankin	573 XII 5
Alt. 6	A1	(9. 7. 0. 0. 0)	7 Ahau (3 Kankin)	573 XII 5
Alt. 21	A'1b-B'1b	(9. 7. 0. 0. 0)	7 Ahau 3 Kankin	573 XII 5
St. 5	C24	(9. 7. 2. 0. 3)	2 Akbal 16 Mac	575 XI 28
B 20 Tomb	A1-A6	?(9. 7.)?3. 12.15	3 Men (18 Yaxkin)	577 VIII 1
St. 3	A14b-B14a	(9. 7. 10. 16. 8)	9 Lamat 16 Chen	584 IX 6
St. 3	A17a-A17b	(9. 7. 14. 10. 8)	3 Lamat 16 Uo	588 IV 18
Alt. 21	A1-?	9. 7. 14. 10.*8	(3 Lamat 16 Uo)	588 IV 18
NAR P.1	A1-B1	(9. 7. 14. 10. 8)	3 Lamat 16 Uo	588 IV 18
Alt. 21	B'4-C'1a	?(9. 7. 19. 10. 0)	*1 Ahau 3 Pop	593 III 15
St. 3	A19b-B19a	(9. 7. 19. 13.12)	8 Eb 15 Zotz	593 V 26
St. 1	A1-D1	9. 8. 0. 0. 0	5 Ahau 3 Chen	593 VIII 22
St. 6	C8	(9. 8. 0. 0. 0)	5 Ahau 3 Chen	593 VIII 22
Alt. 1	A1	(9. 8. 0. 0. 0)	5 Ahau (3 Chen)	593 VIII 22
Alt. 21	E'1a	(9.) 8. 0. 0. 0	5 Ahau 3 Chen	593 VIII 22
St. 5	?	(9. 8. 5. 16.12)	5 Eb 5 Xul	599 VI 24
St. 6	A14-B14	(9. 8. 5. 16.12)	5 Eb 5 Xul	599 VI 24
St. 6	C17-A18	(9. 8. 10. 0. 0)	4 Ahau 13 Xul	603 VII 1
St. 5	C23	(9. 9. 0. 0. 0)	3 Ahau 3 Zotz	613 V 9
Alt. 11	A1	(9. 9. 0. 0. 0)	3 Ahau (3 Zotz)	613 V 9
Alt. 15	A1	(9. 9. 0. 0. 0)	3 Ahau (3 Zotz)	613 V 9
St. 5	D25	(9. 9. 0. 4. 0)	5 Ahau 3 Mol	613 VII 28
L3 Tomb	A1-D2	9. *9. 0.*16.17	2 Caban 15 Uo	614 IV 11
B20 Tomb	A1-A6	?(9. 9.) ?2. 12.15)	3 Men (8 Pax)	616 I 8
St. 3	C3a-C3b	(9. 9. 4. 16. 2)	10 Ik 0 Pop	618 III 6
St. 3	D7a-D7b	(9. 9. 5. 13. 8)	4 Lamat 6 Pax	619 I 6
St. 3	D10b-C11	(9. 9. 9. 10. 5)	3 Chic. 3 Ceh	622 X 14
St. 3	C15ba-C15b	(9. 9.)10. 0. 0	3 Ahau 13 Pop	623 III 18
St. 3	C17a-C17b	(9. 9. 13. 4. 4)	9 Kan 2 Tzec	626 V 25

Table 2. Dates of the Caracol Dynasty (continued)

#	POSITION	LONG COUNT	C.R.	JULIAN
NAR HS.	?	(9. 9. 13. 8. 4	11 Kan 2 Chen	626 VIII 13
St. 3	C19a-C19b	(9. 9. 14. 3. 5)	12 Chic. 18 Zip	627 V 1
NAR HS.	P1	(9. 9. 14. 3. 5)	12 Chic. 18 Zip	627 V 1
NAR HS.	A'1b-B'1a	(9. 9. 17. 11.14)	13 Ix 12 Zac	630 X 1
St. 3	F2-F3	(9. 9. 18. 16. 3)	7 Akbal 16 Muan	631 XII 24
NAR HS.	M1b-N1a	(9. 9. 18. 16. 3)	7 Akbal 16 Muan	631 XII 24
St. 3	E7a-E7b	(9. 10. 0. 0. 0)	1 Ahau 8 Kayab	633 I 24
Alt. 19	A1	(9. 10. 0. 0. 0)	1 Ahau (8 Kayab)	633 I 24
Alt. 21	G'1	?(9. 10. 0. 0. 0)	*1 Ahau (8 Kayab)	633 I 24
NAR P. 1	G2-H2	(9. 10.) 0. 0. 0	1 Ahau 8 Kayab	633 I 24
NAR HS.	N3	(9. 10. 0. 0. 0)	1 Ahau 8 Kayab	633 I 24
B19 Tomb	A1-?	9. 10. 1?. 12. ?		634
NAR HS.	A1	(9. 10. 3. 2.12)	2 Eb 0 Pop	636 III 1
St. 3	F9a-b, uh	(9. 10. 4. 7. 0)	8 Ahau 3 Tzec	637 V 26
NAR HS.	V1	(9. 10. 4. 16. 2)	8 Ik 5 Kan	637 XI 21
NAR HS.	II-?	9. 10. 10. 0. 0	13 Ahau (18 Kankin)	642 XII 3
Alt. 7	A1	(9. 11. 0. 0. 0)	12 Ahau (8 Ceh)	652 X 11
Alt. 17	A1-B1	9.)11. 0. 0. 0	12 Ahau 8 Ceh	652 X 11
REJ 1	A1-A8	?*9.*11.*3.*16.1	9 Imix 9 Chen	656 VIII 12
C4B/45-8	A1-B1	(9. 11. 9. 16. 2)	12 Ik *0 Mol	662 VII 13
REJ 3	A1-?	9. 11. 9.*16. 2	(12 Ik 0 Mol)	662 VII 13
REJ 3	A7-B7a	(9. 12. 0. 0. 0)	10 Ahau 8 Yaxkin	672 VI 28
A3 Tomb	A1-B1	?(9. 13. 3. 15.16)	13 Cib *9 Kayab	696 I 10
St. 21	A1-A2	9. 13. 10. *0. 0	7 Ahau 3 Cumhu	702 I 22
Alt. 2	A1	(9. 17. 0. 0. 0)	13 Ahau (18 Cumhu)	771 I 20
Alt. 3	A1	(9. 18. 0. 0. 0)	11 Ahau (18 Mac)	790 X 7
St. 11	A1-B4	9. 18.*10. 0. 0	10 Ahau 8 Zac	800 VIII 15
St. 8	A1-?	?9. 18. ?. ?. ?		
St. 18	A1-B1	(9.)19. 0. 0. 0	9 Ahau 18 Mol	810 VI 24
MCW 2	A1-D4	9. 19. 0. 0. 0	9 Ahau 18 Mol	810 VI 24
Alt. 12	A1-A2	?(9. 19. 9. 9.15)	12 Men 8 Pax	819 XI 19
MCW 1	C1-D1	?(9. 19. 9.10. 6)	10 Cimi 19 Pax	819 XI 30
Alt. 12	C2-D1	(9. 10. 9.17. 0)	1 Ahau 8 Tzec	820 IV 12
St. 19	zC2-zD2	(9. 19. 10. 0. 0)	8 Ahau 8 Xul	820 V 2
Alt. 12	II-H2	(9. 19.)10. 0. 0	8 Ahau 8 Xul	820 V 2
Alt. 13	C2-C3	(9. 19. 10. 0. 0)	8 Ahau (8 Xul)	820 V 2
Alt. 12	A18-A19	?(9. 19. 10. 2. 3)	12 Akbal 11 Mol	820 VI 14
Alt. 13	H1-II	(10. 0. 0. 0. 0)	7 Ahau 18 Zip	830 III 20
Alt. 16	A1	(10. 0. 0. 0. 0)	7 Ahau (18 Zip)	830 III 20
MCW 1	A1-A2St.	(10. 0. 5. 0. 0)	13 Ahau 13 Uo	835 II 13
St. 17	B1-C1	(10. 0. 19. 6.14)	13 Ix 17 Tzec	849 IV 14
Alt. 10	A1-B1	(10. 0. 19. 6.14)	13 Ix 17 Tzec	849 IV 14
St. 17	B5	(10. 1. 0. 0. 0)	5 Ahau 3 Kayab	849 X 26
Alt. 18	A1	(10. 1. 0. 0. 0)	5 Ahau 3 Kayab	849 XI 26
St. 10	D7	?(10. 1. 10. 0. 0)	*4Ahau (13Kankin)	859 X 5

Note: The Julian dates accord with the 584285 correlation (Lounsbury 1982). MCW denotes "Mountain Cow," where Hatzcap Ceel is located; REJ refers to the site of La Rejolla. Asterisks precede unattested but reconstructible forms.

APPENDIX III

The Conchita Causeway and Associated Settlement:
Investigating Social Integration

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The settlement pattern of Caracol is characterized by a series of intra-site causeways linking groups of monumental architecture with the central precinct. While correlating the sociopolitical organization of a center with the settlement pattern is a research problem posed for virtually every site - Caracol, in particular, presents an opportunity to discern how the Maya organized themselves by using large scale public works as a guide to significant relationships among the elite.

Willey (1986:189) recently characterized Classic Maya sociopolitical organization as "a study in coherence and instability." This description reflects the prevailing view of the development of Maya civilization and has major implications for the process of state formation in the Maya area. Focusing on the aspect of coherence, one of the most obvious indicators of integration and alliance among social groups is a causeway. Such large scale construction represents a public, hence political, definition of social integration. Kurjack (1974), for example, notes that construction of this kind of feature represents a statement made by the elite about their social and political relationships with each other. (cf. Benavides Castillo 1981; Folan et al. 1983; Freidel and Sabloff 1984; Kurjack and Garza T. 1981; Willey et al. 1978). A causeway is also a communication route along which information flows, either intentionally or unintentionally. Access to and control of information is an important variable in developing sociopolitical complexity (Flannery 1972). In terms of archaeological method, a causeway represents a culturally defined transect from which a sampling universe can be selected.

With all of this in mind, a research design was developed to address this problem. Archaeological work was begun during the 1986 field season and continued during the 1987 season, its purpose being to concentrate on the settlement pattern associated with one of the longer intra-site causeways in order to understand who lived in the site center, what their relationships were to each other and to those who occupied and/or used the ceremonial complexes located at either end of the causeway. The causeway that was selected for this investigation was discovered by Drs. Arlen and Diane Chase during the 1986 field season; it led from Caracol's epicenter to the southeast where it ultimately ended in a large monumental group, called "Conchita," which had been the focus of recent looting (Figures 4 and 60). Informal survey revealed dense settlement and extensive terracing along the entire 3 km length of the causeway to either side. The research design was developed to consider the settlement pattern along the Conchita causeway as a part of the larger Caracol project, employing a combination of survey and excavation.

Survey

In 1986, the northern half of the causeway and 6 adjacent plazuela groups were cleared and mapped by Arlen Chase. Based on the results of the informal survey in 1986, systematic survey and mapping were begun in 1987 in a defined area along the causeway between the central precinct and the terminus of the road. The first task was to clear the southern half of the road for mapping and, then, to set up stakes to guide the survey. The survey stakes were placed every 100 meters along the length of the causeway. From these stakes, 2 to 4 workmen

cut 1 meter wide brechas, 200 meters long, to either side of the road. Reconnaissance was then conducted by myself and the workmen along, as well as between, the brechas to locate structures, reservoirs and agricultural terraces.

A total of 51 plazuela groups were mapped along the northern 2/3 of the road using a transit and stadia during the 1987 season (see Appendix I). The mounds are generally less than 2 meters in height, but some are almost as high as 5 meters. The number of mounds per group ranges from 2 to 16, situated to define one courtyard per group. Based on comparative evidence from throughout the Maya Lowlands (e.g., Copan, Tikal and Seibal) it is quite probable that the majority of these groups functioned as households (Becker 1982; Haviland 1963, 1981; Leventhal 1983; Tourtellot 1983).

The Chases have proposed a group typology (see above pp. 54-56) based on structure focus because, at Caracol, group composition and layout appear to reflect functional and behavioral differences better than such criteria as number of structures per group and structure size. Groups representing Types 1 through 4 have been mapped along the northern portion of the "Conchita" causeway; Structures C11-14, for example, form a north and east structure-focused group (Type 2), while just southwest of this, Structures C43-59 form a south and east structure-focused group (Type 3). If the group typology were based on number of structures per group and structure size, (e.g., Willey and Leventhal 1979), the "simplest" type would be exemplified by Structures C11-14 and the most complicated type would be represented by Structures C43-59. This simplification, however, would not adequately reflect the variability and integration found at Caracol.

Extensive agricultural terraces, integrated among the groups in this area, were also mapped using a Brunton compass and 30 meter tape. The terraces are on the sides of hills as well as in the low areas and are readily identified by retaining walls, 0.5 to 1 meter in height. The hillside terraces are fairly irregular but form a step-like pattern to the majority of the hills. The low lying terraces are more regular and actually enclose areas for cultivation. Terraces and groups have been found in such intimate association in other areas of the site (see Appendix I and Healy et al. 1983). Informal survey along the unmapped portion of the causeway suggests that the density of settlement and terracing along this part of the causeway is similar to that found to the north.

Excavation

During the 1986 and 1987 seasons, excavation was conducted in a small group of 4 structures, colloquially referred to as "Tabanos" (Structures C11-C14; Figure 51). This group is arranged on a low platform, located towards the north end of the causeway and immediately adjacent to it. The northern Structure C11 is 1.5 meters in height; the eastern Structure C13 is 1.75 meters in height; the other two constructions, Structures C12 and C14 (Figure 72), are located on the northeast and southwest corners of the platform and are identifiable only from lines of stone visible on the surface. Very little fallen masonry was found, thereby leading to the conclusion that these structures were made primarily of perishable materials.

Areal excavation of Structure C11 revealed the roughly-dressed stone foundations of a two room, tandem plan building with a low bench or altar in the rear room. A trench was placed along the central north-south axis and yielded two special deposits below the bench. The first was a poorly preserved multiple burial of at least one child and one adult with one small jade bead and two small polished, but otherwise unworked, jadeite pieces. The second deposit, located below the multiple burial, was the burial of a female in a prone position with one



Fig. 72 Caracol Structure C14.

small partial unslipped, red dish and one stone mosaic fragment. Preliminary analysis of the ceramics from this building indicate a Late Classic occupation.

Excavation of the eastern building in the group, Structure C13, uncovered a construction similar in plan to that found in Structure C11; two special deposits were also encountered. The first deposit was encountered below the front steps of the structure and consisted of a multiple burial of minimally four individuals (Figure 73). At least one individual had jadeite inlays in the upper and lower incisors; the burial goods included one shell ring with pyrite inlays and three ceramic vessels. Perhaps one of the more intriguing aspects of this deposit is that one of the vessels (Figure 33), a black cylinder with 7 sets of concentric squares incised around the exterior, is very similar to one of the vessels recovered from the looted area of the Conchita precinct, also a black cylinder with 2 sets of incised concentric squares. The second deposit was located below the front wall of the building and consisted of an unslipped red cache vessel with an applied face.

The northeast and southwest buildings, Structures C12 and C14, were also exposed by areal excavation; the material remains recovered from these buildings include an abundance of metate fragments, sherds, and broken obsidian blades. A small jadeite bead was also recovered from a humus lot inside the back wall of Structure C14.

The evidence thus far suggests that Structures C11 through C14 served residential and domestic functions for an elite group of people. Based on excavation data and evidence from looters' activity in other areas of Caracol, it is probable that further excavation would recover the tomb of one or more individuals in the eastern building. A deep trench excavation of this building, however, was hampered by the presence of a mature Ramon tree growing on the summit of the



Fig. 73 Interment beneath front part of Caracol Structure C13.

structure, so the presence or absence of a tomb in this building remains in question.

A looted group consisting of Structures C95-C99 was discovered approximately 300 meters southwest of Structures C11-14 and was nicknamed “Estrellas” because of two star-like cuts the looters had carved into a nearby tree. The looters had cut into the back of the eastern structure of this group and had found a small north-south oriented tomb. Clean-up excavation of the looters’ debris recovered one small paint pot, one large red-slipped tripod dish, one small grey, unslipped, deep-sided bowl, two shell ear plugs, and some bone fragments from an adult and from an infant. The front of this same eastern building had also been tunneled into and an already collapsed tomb had exposed by their probe; fortunately, they did not pursue their efforts. Salvage excavation of the front tomb uncovered a well-preserved interment of a male individual (his lower legs had been cut through by the looters, but he was otherwise intact and undisturbed) accompanied by a red-on-cream cylinder, a complete mano, and two shell markers. Another red-slipped dish, dug through by the looters, was found within the front trench. As pieces of this vessel were recovered from just above the tomb floor in the trench section, the dish has been provenienced to this deposit.

Implications

Some of the more immediate questions concerning the settlement along the Conchita causeway are: who occupied this area; and what is their relationship to those who used the “Caana” and “Conchita” complexes? This question is particularly interesting because the plaza groups were frequently built on top of the agricultural terraces or were connected to other groups and to the causeway itself by the retaining walls (see Appendix I). Even a cursory inspection of the map is enough to realize that there is not a simple correlation between plaza type

(whether it is defined in terms of structure focus or size and number of mounds) and proximity to the causeway or proximity to the central precinct. Based on excavation and looters’ activity, it is very likely that all the groups, or at least a good majority of them, were occupied or used by the elite members of Caracol society. Collapsed and looted tombs are found in just about every type of group along the causeway and open tombs, which have been discovered in comparable groups in other parts of the site, contain pottery and other objects which may have been trade items. However, one question remains: if the occupants of this area were elite, were they all the same level of elite? The focus of the 1988 and succeeding seasons will be to test the hypothesis that different plaza types, or the location of plazuela groups with respect to the causeway and to the ceremonial complexes, can be correlated with different levels in the sociopolitical organization of Caracol society.

A further question may be raised about the settlement pattern along the Conchita causeway: did construction of the causeway promote occupation of the zone or was the causeway built through an already existing settlement because of a change in the sociopolitical complexity of the center? The continuing research will try to determine the sequence of development of occupation for this portion of Caracol as this question is related to Caracol’s activities within the larger Maya realm, which, from the epigraphic data, appear to have been wide-spread and rather disruptive.

Conclusion

During the transition between the Early and Late Classic Period, Caracol was a dynamic, rapidly expanding, and aggressive polity. It is believed that by using a cultural feature, such as an intra-site causeway, to define the sampling universe that the general principles of sociopolitical organization employed by the Maya at Caracol can be more readily inferred. The work along the causeway thus far suggests that it may be possible to define different orders of elite who occupied the area between the central precinct and the “Conchita” group. When considered in a wider sense, the settlement at Caracol can be taken as a case study for examining the integration of social groups and the maintenance or dissolution of sociopolitical stability among the Classic Period Maya.

APPENDIX IV

A Preliminary Report on the Faunal Analysis of Caracol, Belize

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Caracol is a Classic Maya ceremonial center located in the foothills of the Maya Mountains at an elevation of approximately 500 meters above sea level. This area of Central America is under subtropical rainforest and within the Peten Biotic Province (L. Stuart 1964). The faunal species present are typical of the moist tropical forests that Caracol is still located within today.

The faunal material reported here was found during the excavations on the site in 1985 and 1986. Within the site sixteen different areas, referred to as operations, were examined. This report concentrates on the special deposits discovered within these areas. Special Deposits are defined by the archaeologists wherever unusual concentrations of cultural material are found, such as caches, burials and tombs. Several other finds of faunal bone are also included in this report because their identifications were such that they may be of special interest.

The artifact numbers, as recorded here, are those assigned to the bone in the site laboratory. All faunal bone was assigned one number relating it to its excavation/operation. A further number was added during the analysis to allow each bone to be identified, and therefore discussed separately. The only exception to this was a tomb in Operation 12, where five clusters of bone were found. With these bones the group number was added and then a separate bone number.

This report covers nine of the excavated operations, four of which contain special deposits. These nine operations have not been analyzed in their entirety. The special deposit lots are: 1) C4C/21, a tomb in Structure B19 (Caana), 2) C6B/16, a burial in Structure B108, 3) C12A/72, a tomb in Structure A3, and 4) C19A/28, 32, 38 and 39, four burials from Structure L3. The other operations for which faunal identifications are included here are: C1C, C3B, C4B, C8B, and C2A. These operations represent excavations in Structures B20, A37, B19 and A6 respectively, as well as in the area of the camp.

The faunal identifications in this report were obtained at the H. Savage Faunal Laboratory. Many identifications were verified by comparison with the reference collections at the Royal Ontario Museum. There are many Belizean animal species that are not represented in either of these collections. Attempts are being made to find nearby collections that can provide some of these missing species. Due to this disadvantage many identifications are only to the family level; it is hoped that these will be better identified by the final report. The bone specimens are predominantly avian and mammalian, with the amphibians and reptiles poorly represented. The significance of this may be related to the ceremonial use of these animals, but it remains to be seen if this is a distinct trend when the analysis is complete.

	# OF ID.	%
MAMMALIA:	60	11.2
AVIA:	407	75.8
AMPHIBIA:	12	2.2
REPTILIA:	1	0.2
UNIDENTIFIED	57	10.6
TOTAL	537	100%

Mammalia

The mammalian species identified were the Four-eyed opossum, Big-eared climbing rat, Jaguar, a peccary, and the Baird's tapir. The minimum numbers of individuals were calculated for these species. Minimum numbers were calculated based on the most frequently occurring bone element and taking into account its side and its context at the site. This assumption may introduce errors, but due to the rather small nature of the animals it seems unlikely that the same individual animal was divided up and carried to more than one area of the site. The climbing rat is the most abundant species identified so far. Its identification was based solely on the cranium. This was due to the lack of postcranial material in the reference collections. As mentioned above, it is hoped that this will be changed before the final results are reported. As with any site, one suspects that rodents are intrusive to the cultural remains. This may not necessarily be true, but as of yet no modifications such as cut marks or charring indicate that man was responsible.

ID.	# OF ID.	MNI	% OF TOTAL
Philander opossum	3	1	5.6
Otodylomys phyllotis	24	15	83.2
Panthera onca	1	1	5.6
Tapirus bairdii	1	1	5.6
Totals	29	18	100.0

Much of the faunal material was found in association with human remains on the site. This was mainly in the form of burials and tombs. Five pieces of sting-ray spines were found in a looted tomb in Structure B20, where a few human remains were still present. A "claw" was found in the tomb in Structure B19. This appears to have been smoothed and shaped by human hands. Unfortunately it has not been successfully identified yet. A charred fragment of what may be a feline femur was found in Operation 6, as was a skull fragment of an opossum and of a cervid, all three in association with human remains. As mentioned above some of the rat bones were found in the cultural deposits, a minimum of three individuals in a looted tomb in Operation 3, and a total of 11 individuals in burials in Operation 19. The fact that these last two mentioned deposits were not well sealed tombs further suggests that the rats could have been intrusive.

Man-made modifications were found on some of the bone. A jaguar tooth was found with a drill hole through the root. It was probably used as a pendant. It was found in Operation 8, from Structure A6. The tapir bone is the distal end of a humerus. It has a series of parallel cuts across the shaft. These appear to be too high to have been done during butchering, but may have been a form of counting. It has been suggested by Hammond (1975) that such a bone may have been a rasper, for making music.

The sting-ray spines were found in the looter's trench into Structure B20. There were five pieces in total, but one can not give a minimum number for these. Though they are reported as having been identified only to order, it is probable that they are *Dasyatidae*. This is the family that Hamblin (1984) discusses, and the probable identification of those found in a tomb at Altun Ha (Pendergast 1969b). It is hoped that a comparative sample will be found to confirm this.

Of the animals mentioned here, most would probably have been hunted for food. The likely exceptions to this would be the jaguar and the sting-ray. The jaguar is known to have been highly prized by the Maya. Its pelt could have

been used in ceremonies, and its teeth and possibly its claws as jewelry. The sting-ray spines were known to have been used for bloodletting.

Avia

Within the avian class, most of the bones were identified to the Black throated Bobwhite. The other two species identified were the Blue-crowned Motmot and the Scarlet Macaw. No large species, such as the curassow or turkey were found. The identified species agree well with the ceremonial nature of the areas excavated. The Bobwhites were found in the looter's trench on B20, in the tomb on B19, and in the tomb on Structure A3, all associated with human remains. Within the tomb on A3, the bones were found in five piles at the foot of the human burial. The minimum numbers show that there were at least thirteen birds represented there, based on the occurrence of tibia. The Motmots were found in Operation C4B, on Structure B19 and there is a possibility that more of this bird will be found as the analysis continues. The Scarlet Macaw was found in the same locality.

	# OF ID.	MNI	% TOTAL MNI
Colinus nigrogularis	404	23	92
Momotus momota	2	1	4
Ara macao	1	1	4
Total	407	25	100

Though there was no evidence of butchering, there were cross-hatch scratches on two of the Bobwhite bones from the C12A tomb. The bones were a humerus and a radius. One of the bones from operation C4C showed traces of green. Usually a green tint is believed to have been from copper staining but no copper was found with this bone. Two other bones from the same location had traces of red on them, but this is easily explained by the abundance of red paint in this tomb. There were no other modifications found on the avian bone.

To see if the Bobwhite bones represent whole birds, the identified bones were divided into groups based on their position in the body. These groups are: head (skull, mandible, and furculum), axial (sternum, scapula, coracoid, vertebrae and pelvis), and extremities (wing and leg bones). As was mentioned above, the birds from C12A were found in five piles within the tomb. Any bones that could not be clearly assigned to one of these piles was collected in a "miscellaneous" bag. Considering these piles only, one can see that the cranial bones are poorly represented in piles 2 and 5. Despite this, it can be seen that all portions of the skeleton are present, though not in the natural proportions. One possible explanation is that the crania does tend to preserve poorly. Another unusual detail about these Bobwhites is that the accompanying human skeleton was in very bad condition whereas the Bobwhite bones are in very good state of preservation. Could these have been a later addition to the tomb?

C. nigrogularis	Extremities					#ID.	MNI
	Head	Axial	Wings	Legs	Tarsals		
C1B/4-10	5	9	19	36	0	69	8
C1C/29-2	0	1	0	0	0	1	1
C4C/21-10	1	1	1	0	0	3	1
						73	10

C12A/72-9	C. nigrogularis					#ID.	MNI
	Head	Axial	Wings	Legs	Tarsals		
C12A/72-9-1	2	28	16	18	10	74	3
C12A/72-9-2	0	14	8	5	1	28	1
C12A/72-9-3	8	17	7	6	0	38	2
C12A/72-9-4	16	56	30	26	6	134	5
C12A/72-9-5	0	15	7	2	1	25	3
C12A/72-9-M	0	15	8	9	0	32	3
						331	13

All three species of birds identified would appear to have been caught by the Maya for ceremonial purposes. These three are not the species that one might expect to have been eaten. The Macaw and the Motmot probably were caught for their beautiful feathers. The Bobwhite is not as colorful but it does not have much meat either. The fact that there were so many Bobwhites in the one tomb on Structure A3 suggests their use as an offering. For comparison, the Bobwhite and the Macaw were found in ceremonial deposits at Tikal (Smithe 1966).

No comments will be made on the amphibians and reptiles included in this report. It is hoped that if identifiable to below the present level of identification that comments can be made about the Mayan use of these. Were these used as food, or for ceremonial purposes, or are these just intrusive elements?

Environmental Inferences

Despite the relatively small amount of bones that this report is based on, some clues to the nature of the environment around the site during its occupation can still be provided. Just as Caracol is located within the forest today, many of the animals identified suggest that the forest was present, at least nearby, when they were alive. The opossum, the rat, the jaguar, the Scarlet Macaw and the Motmot all are forest dwelling animals. Despite the scarcity of water in the area during the dry season today, these animals would require that some body of water be present. A river or a pond must have been located somewhere nearby. The presence of a tapir indicates that water was here, for it inhabits swamps and watercourses. But the area was not just forest, there must have been open areas near the site. One thinks of the agricultural fields that the Maya were tending. The Bobwhite, the peccary, and the presence of cervids confirm that such fields existed here.

The only specimens that point to the occurrence of trading among the Maya are the sting-ray spines. These were probably traded in from a coastal site. The other animals present here can be accounted for in the immediate area. Though it is possible that some may have been traded for as well, there is no evidence for this on these bones.

Conclusion

Though this is only a preliminary report, based primarily on the special deposits found on the site, it has provided a view of the past occupancy of Caracol. As one would expect the identifications have confirmed the ceremonial function of the special deposits, and the site as a whole. Some of the fauna would have been for food only, but most analyzed at this point had more significance than just food. No unexpected environmental inferences were made in this report. It remains to be seen if the rest of the fauna will follow these trends too.

Table 3. Caracol Fauna

SPECIAL DEPOSITS:

Artifact #	Add. #	Identification	Total ID.	Total
C4C/21-10	4	Colinus nigrogularis		
	5	C. nigrogularis		
	6	C. nigrogularis	3	8
C4C/21-28	1	mammal (claw)	1	1
C6B/16-9	1	mammal cf. Felidae	1	1
C12A/72-9-1	9-2	C. nigrogularis		
	9-3	C. nigrogularis		
	9-4	C. nigrogularis		
	9-5	C. nigrogularis		
	9-M	C. nigrogularis	331	331
C19A/28-9	1-5	Ototylomys phyllottis		
	6-10	Rodentia		
C19A/32-4	11	O. phyllottis	11	32
	1-4	O. phyllottis		
C19A/38-2	5	Rodentia	5	7
	1-2	O. phyllottis	2	2
C19A/39-4	1-7	O. phyllottis		
	8-11	Rodentia	11	24

NON-SPECIAL DEPOSITS

C1B/4-3	1-5	Rajiformes cf. Dasyatidae	5	5	
C1B/4-10	1-69	Colinus nigrogularis	69	69	
C1C/29-2	2	Rodentia			
	3	C. nigrogularis	2	3	
C2A/3-3	1	Tayassuidae			
	6	Mammal cf. Felidae			
	8	Testudines	3	10	
C3B/2-4	1	O. phyllottis			
	2	O. phyllottis			
	3	O. phyllottis			
	4	O. phyllottis			
	6	mammal			
	7	mammal			
	8	mammal			
	9	mammal			
	10	P. opossum			
	11	P. opossum	10	11	
	C4B/5-2	1-11	amphibian		
14		Momotus momota			
15		amphibian			
C4B/6-2	16	M. momota	14	16	
	1	Canidae			
	2	Chiroptera			
	3	Soricidae ?			
C4B/8-2	4	Soricidae ?	4	4	
	1	Ara macao	1	1	
	3	mammal cf. Cervidae	1	3	
	C4C/10-1	1	mammal	1	1
	C6B/10-6	1	Tapirus bairdii	1	4
C6B/27-10	1	Ototylomys phyllottis			
	2	Philander opossum	2	2	
C6B/31-5	1	mammal cf. Cervidae	1	1	
C8B/59-2	1	Panthera onca	1	1	

TOTAL

480
= 89.4%

537

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