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ANCIENT MAYA CAUSEWAYS AND SITE ORGANIZATION AT CARACOL, BELIZE

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Abstract

Statements concerning the function of intrasite Maya causeways often focus on inferred ritual purposes or on symbolic kinship alliances rather than on the more practical roles that such roads may have served. Data collected on an extensive intrasite causeway system at Caracol, Belize, demonstrate that the primary role of its *sacbe*s lay in facilitating the administrative control of people, goods, and services. An estimated 75 km of roads not only served intrasite communication and transport; they also affected the political and economic integration of this huge center.

Over the past few years, debate has surrounded the function of Maya causeways. Some researchers (Keller 1997; Kurjack and Andrews 1976) argue that they reflect predominantly ritual or social ties. Others (Folan 1991:228) point to astronomic or symbolic significance for road systems. Still others (Hassig 1991:18) have noted that the maintenance of "religious and social ties" is likely to be "secondary" as a road's purpose in that "the primary motivations for their construction are economic and political." Yet whatever else they may be, the Maya causeways at Caracol are practical facilitators of transportation and communication; they are political and economic statements that provided effective administration and integration of this metropolis.

Within the city of Caracol, Belize, a dendritic road system served as the skeletal framework for the ritual, political, and economic integration of a huge population. It has been argued that this road and settlement system was at the heart of an administered economy (A. Chase 1998). This internal road system united a large—177 km^2—and densely populated area; population densities averaged some 900 people per square kilometer at A.D. 700 (using methods of estimation detailed by Rice and Culbert 1990), and the city of Caracol supported between 115,000 and 150,000 people (A. Chase and D. Chase 1994a:5). Interpretation of LANDSAT information[1] has suggested that up to 75 km of intrasite roads existed within the site of Caracol (Figure 1); some 40 km of these intrasite roads have been ground-checked (Figure 2). The existence of an additional 85 km of intersite causeways is suggested in the LANDSAT imagery. Thus, the combined internal and external road system for Caracol may well have totaled some 160 km.

DESCRIPTION OF CARACOL CAUSEWAYS

In addition to interpretations based on satellite imagery, information on the Caracol road system derives from on-the-ground mapping and in-field excavations carried out by the Caracol Archaeological Project (A. Chase and D. Chase 1987; D. Chase and A. Chase 1994). In general, the causeways appear to have been made as single construction efforts, mostly during the earlier part of the Late Classic period. Excavation has shown that in all cases, Caracol causeways are built from the bedrock up. Many have stone-lined sides, often called "parapets" elsewhere, that project above the walking surface (see maps in A. Chase and D. Chase 1987).

The Caracol causeways vary in size. Their widths generally fall into three ranges: 2.5–4.5 m, 5–8 m, and 9–12 m. The widths of the longer causeways are variable and do not appear to correlate directly with differential use or with termini function. In two cases, causeways broaden to a 30-m width and run for approximately 300 m; in one case, the causeway becomes this wide as it connects an elite residential group with a special-function causeway terminus (Ramonal), and in the other case, the wide causeway connects a special-function causeway terminus (Retiro) with a pre-existing architectural complex (Figure 3).

Causeway heights at Caracol range from ground level to some 3 m above the surrounding terrain. In several cases, the sides of hills were cut away to form the causeway. Many causeways, however, are barely above the ground level or are intermixed with agricultural terraces. Thus, only detailed surface inspection and careful mapping reveals the actual causeway.

The length of the intrasite Caracol causeways ranges from approximately 30 m to more than 7.3 km. LANDSAT imagery would

[1]Jim E. Rose of Dallas, Texas, provided the interpretations of LANDSAT data that have been used here to facilitate the interpretation of the broader Caracol causeway system. Mr. Rose runs his own oil-exploration company. He has not provided the project with the detailed methods that he used to derive his linear features, as these are restricted to his business. However, in the course of analyzing LANDSAT photos, Mr. Rose isolated what he considered to be linear manmade features that ran counter to the expected geology. He initially provided the data shown in Figure 1 without having any knowledge of the expanded Caracol road system. Although there is significant fit between his features and the ground-checked roads, a comparison between Figures 1 and 2 shows that some ground-checked causeways, such as that to Cahal Pichik, are not observed through the use of his methods; other potential roads that he identified (specifically those running northeast to southwest) may not exist. The only way to determine definitively the existence or absence of roads at Caracol is through extensive (and time-consuming) terrace mapping.

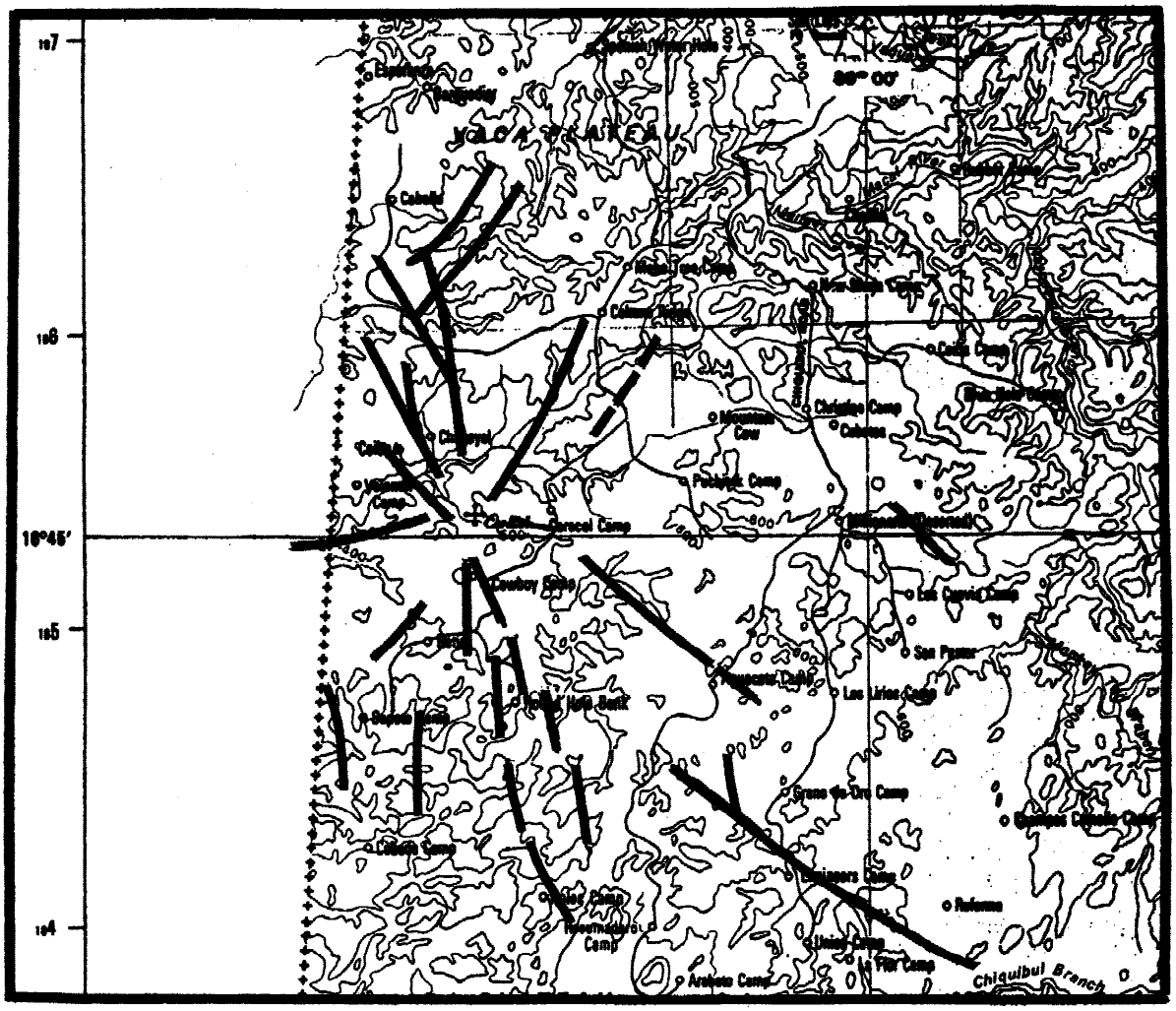

Figure 1. Caracol causeways, as derived from the interpretation of LANDSAT data by Jim E. Rose, Dallas, Texas. Ground confirmation of only about one-third of these causeways has been undertaken as of 2000, as shown in Figure 2. For comparative scale to Figure 2, Round Hole Bank is in the same location on both figures, and the terminus called "Cohune" on Figure 2 is slightly southwest of the postulated causeway end that terminates in the modern location referred to as "Cohune Ridge" in Figure 1. North is to the top of the map; the vertical distance represented is 34 km (after A. Chase and D. Chase 1996a:807).

indicate that others, on the order of 10 or more km, also exist. These roads run in very direct—almost straight-line—routes in a very rugged and broken karst terrain. Elsewhere, "direct roads" have been interpreted as indicating "centralized planning and execution" (Hassig 1991:26).

As mentioned earlier, Caracol causeways are both internal and external. None of the external causeways identified in LANDSAT interpretations (i.e., those running beyond the outlying termini) have been ground-checked. However, some 36 discrete internal roads have been located and mapped (Table 1 and Figure 2). These range from very formal and well-constructed causeways, traditionally called *sacbe*s, to more informal and generally shorter roads, called *vias* (e.g., Hellmuth 1971). Longer intrasite causeways connect the epicenter directly with non-residential causeway termini at distances ranging from 2.5 to 7.3 km from the Caracol epicenter (N = 7; distances measured from edge of plaza to edge of plaza). Hatzcap Ceel, an additional 1.9 km east of Cahal Pichik and linked to that site by a 12-m-wide causeway, lies 9.2 km away from the Caracol epicenter. Similarly, in mirrorlike fashion to the west, La Rejolla (Guatemala) appears to be linked by a midsize causeway to the Ceiba terminus (J. P. Laporte, personal communication 2000). Shorter intrasite causeways directly connect the Caracol epicenter with certain elite groups at distances ranging from 400 m to 2 km from the epicenter (N = 3). One causeway, approximately 430 m in length, acts as a crossroad and directly links two intrasite causeways at a distance of 1.2 km from the epicenter; no nodes or groups are associated with either of its junctions. This causeway was found only through the process of intensive terrace mapping. Even shorter, but still formally constructed, causeways—or, probably more correctly, vias (N = 7)—connect household groups, some clearly non-elite, directly to the various intrasite causeways that connect to the Caracol epicenter. Still other vias join important residential groups directly with various non-residential termini (N = 10). Future mapping will surely

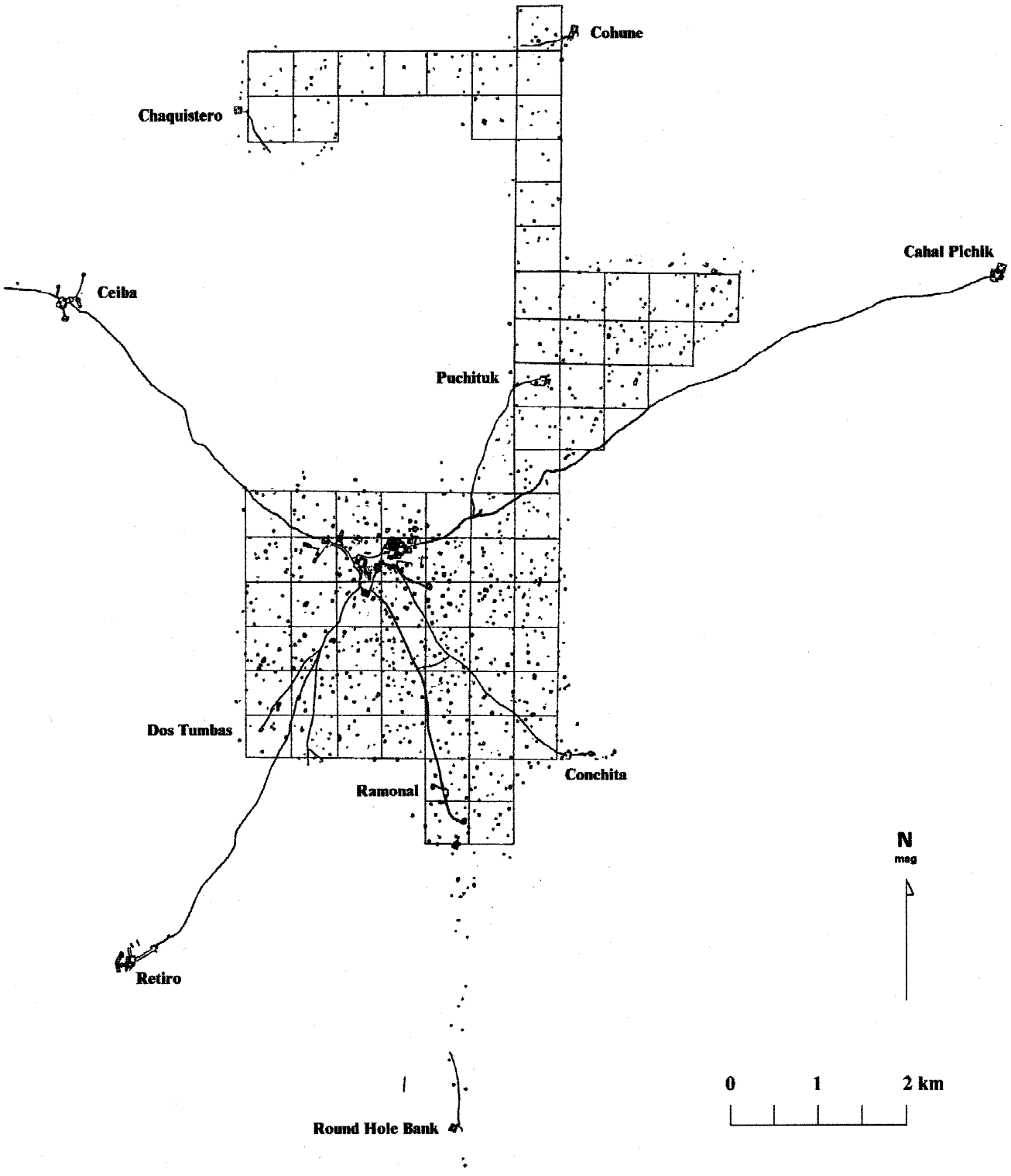

Figure 2. Settlement map of Caracol, Belize, at the conclusion of the 2000 field season (copyright held by Arlen and Diane Chase, Caracol Archaeological Project). Each square block represents 500 m^2. Causeways are indicated by the diagonal lines that cross the regularized blocks; major termini are labeled with their respective names.

double this total number of vias. Apart from the 36 ground-checked intrasite causeways, three other intersite causeways—detected in LANDSAT imagery—are believed to be of significance. Two of these roads are projected to run to the southeast for some 24 km (Figure 1), and the third is projected to connect Caracol with the Guatemalan site of Naranjo (extending northwest into Guatemala beyond the proposed causeways shown in Figure 1), a distance of 42 km to the northwest. None has been ground-checked.

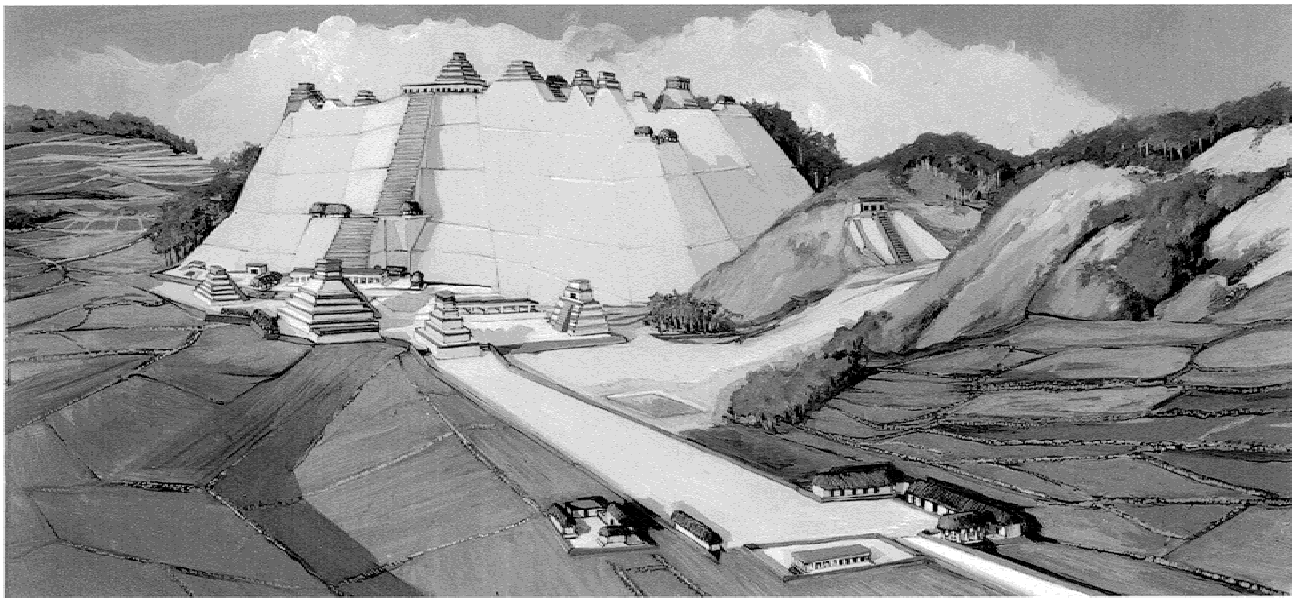

Figure 3. Reconstruction painting of the Retiro terminus by Michael Rothman (copyright held by Arlen and Diane Chase, Caracol Archaeological Project). Special-function administrative plaza is in the foreground; narrow causeway entering this plaza runs from the Caracol epicenter. Broad causeway bordered by a large reservoir connects the introduced special-function plaza with pre-existing architectural plazas and structures at the base of the hill. Elite residential units crown the top of the hill.

INTRASITE CAUSEWAYS AND CARACOL LAYOUT/SITE PLANNING

Caracol intrasite causeways effectively connect the epicenter with the surrounding settlement. Caracol causeways are dendritic and radiate out from the epicenter in all directions. They culminate in two distinct rings of architectural groups, called "termini." One ring of termini exists from 2.7 to 3.0 km from the Caracol epicenter. Three of these termini are known from transit mapping (Figure 4), and all three of these termini have been tested archaeologically. It is likely that other causeways and termini constituting part of this first ring would be discovered with more detailed mapping, particularly to the north and west of the Caracol epicenter. All of the known termini from this initial ring have plazas that are as large as the major plazas in the epicenter. All are surrounded by low-range buildings and by occasional elevated range constructions. None of the three inner ring termini appears to have served a residential function. Excavations within the plazas and structures of these three closer termini proved to be devoid of special deposits and did not produce the same kind of ritual or domestic remains that are encountered in the site epicenter or ub the site's residential groups (e.g., D. Chase and A. Chase 2000). As in the epicenter, however, spur causeways connect elite residential groups and their associated temple-pyramids with these outlying termini.

Because of their spatial layout, with a regular occurrence 2.7–3.0 km from the site epicenter, and because of the lack of ritual or domestic artifacts in the termini plazas and their associated structures, we believe that it is likely that these first-ring termini had several practical economic and political functions. Certainly, they would have served the administrative purposes of the epicentral bureaucracy and helped in the integration of the huge spatial area that Caracol occupied. Their distribution over the Caracol landscape also would have positioned them as excellent loci for local exchange (e.g., A. Chase 1998). The direct connection by roads and vias of certain residential groups to specific termini and causeways also would have reinforced the social ties of specific social units to the wider Caracol elite. It is particularly informative that some earlier and extremely large residential groups and palaces were physically bypassed and not directly connected to the Late Classic causeway system. As some pre-existing elite residential groups were rebuilt and connected to Late Classic causeways and termini, it would appear that some previously established families—specifically those within the 3D26 (Talking Trees) and 8F8 (Tulakatuhebe) groups—may have suffered a diminution in social stature during the Late Classic period.

The second ring of architectural nodes and termini exist at a distance of 4.5–7.5 (and possibly up to 9.5) km from the epicenter. For the most part, this ring of termini represents centers that were engulfed in the urban spread of Caracol's settlement and that were then connected by causeway to the epicenter (Figure 3). Seven of these termini are known. Most are very large centers in their own right. In at least two cases (Ceiba, Retiro), large plaza groups with low structures, like those seen at a distance of 3 km from the epicenter, are placed directly on the causeway route before or as the causeway reaches the already existing center. A third case of this special form of plaza is also existent at Hatzcap Ceel, 9.2 km from the Caracol epicenter. Thus, this special form of plaza—seen in both first-ring and second-ring termini—clearly serves some kind of a specific control function in these instances. It is suspected that other detailed mapping at a distance of 4.5–7.5 km from the Caracol epicenter will uncover more of these "administrative" plazas. Like the first-ring termini, the second-ring termini often have elite groups joined to their central architectural plazas by spur causeways.

Several other observations must be noted about the Caracol site layout, as these have implications for the social, economic, ritual,

Table 1. Caracol causeways and vias

Road	Distance (km)	Associated Terminus Group
1	5.30	Retiro SFT
2	4.30	RHB
3	2.50	Ramonal SFT
4	3.00	Conchita SFT
5	7.30	Cahal Pichik
6	1.70	Puchituk SFT
7	4.00	Ceiba SFT
8	1.90	Hatzcap Ceel SFT
9	1.20	Dos Tumbas
10	1.20 (5.20)	unknown
11	0.40	Northwest Group
12	0.07	Retiro Hilltop
13	0.04	Retiro Hillside
14	0.24	Retiro Main
15	>0.50	Cohune
16	0.63 (1.90)	La Rejolla (?)
17	0.11	Ceiba South
18	0.12	Ceiba Northwest
19	0.25	Ceiba Northeast
20	5.30	Chaquistero
21	0.12	Double
22	0.24	Open
23	0.11	Zoom
24	0.06	Plaza of the Two Stelae
25	0.30	Machete
26	0.05	J's
27	0.43	(cross-causeway)
28	0.10	Hilltop
29	0.13	Oro
30	0.10	Pajaro
31	0.03	Mujer
32	0.40	Royal
33	0.12	Conchita Summit
34	0.07	Tulaktuhebe
35	0.10	unknown (RHB)
36	0.06	Walled

Note: RHB, Round Hole Bank; SFT, special-function terminus. Distances are given from edge to edge of architecture or plazas, not from central points.

and political systems that once operated at the site. Most important is the fact that vias can connect residential groups to causeways at any point along the causeway. Although only a half-dozen instances of vias have been formally noted attaching to Caracol's longer causesways, detailed mapping of the terraces would undoubtedly turn up other examples. The fact that these vias sometimes connect non-elite residential groups to causeways demonstrates that these roads were utilized by society at large. Although one "cross-causeway" is known, detailed terrace mapping again would probably detect other examples of these weblike connectors. No causeways have been found that connect termini directly with each other. Thus, while the population may have been able to use cross-causeways to go to different causeways, formal communication links do not appear to exist from one terminus to another. Other features associated with the causeways include reservoirs. These are often anchored to one side of a causeway and are not formally associated with any structure group (e.g., Figure 3). In one case, two small buildings lie to either side of a causeway, perhaps serving as check (control) points. In another case, the causeway is combined with a raised and widened frontal terrace that is associated with a sizable architectural compound that directly abuts the causeway. Evenly dispersed around Caracol's road systems are housing units and terraces for agricultural fields (A. Chase and D. Chase 1998a). The spatial distribution of Caracol's settlement and causeways make it clear that the use of these roads would have promoted efficient communication and transportation throughout the 177 km^2 area of metropolitan Caracol.

FUNCTION OF CAUSEWAYS

The functions of causeways are likely to have varied both among and, sometimes, within Maya sites. They all, however, serve to link entities together and promote the flow of foot traffic. Although causeways may have served cosmological purposes (Folan 1991), their primary role, from our perspective, lay in providing structure and organization to large settlements.

The Caracol causeways were functional road systems in the political and economic system(s) of the city. Although the causeways may well have been used in the ritual integration of Caracol through ceremonial processions—as is described in Landa's accounts of *uayeb* rites (Tozzer 1941), in which idols and processions moved from the outskirts of town in toward the center and then out again—there is no indication that this formed the sole purpose of Caracol's causeways or that these roads were created to define a ritual landscape. As mentioned earlier, no ritual paraphernalia is associated archaeologically with any of the special-function causeway termini. Instead, many of the Caracol causeways connect non-ritual and non-domestic loci with the site epicenter. We feel that the de-emphasis of both the domestic and ritual realms in the special-function causeway termini is significant, especially when viewed in the context of occurrence of both of these realms in other groups that were linked by smaller causeways and vias to these same termini.

That the causeways were used on a daily basis is suggested by the vias that provided direct causeway access to select elite and non-elite households and by the fact that movement around Caracol would have been greatly facilitated by using these roads. Elsewhere, omnipresent agricultural terraces and karst topography would have limited movement and communication. To us, the placement of Caracol's causeways was practical as opposed to cosmological. In fact, the political and ritual landscapes may not have been equivalent. A plaza group located 1 km south of the Retiro terminus has features that suggest it may have served as a boundary marker for Caracol. Situated atop a tall hill with a view back to epicentral Caracol, this group is unusual in containing four plain stelae; however, it is not connected by causeway to the rest of the site.

The construction of special-function termini at the juncture of causeways and pre-existing centers (Figure 3) suggests the key role that these distinctive open-plaza areas had in maintaining political and economic control over a relatively large area. If one plots the location of Caracol causeway termini relative to the epicenter (Figure 2) but suppresses the causeways themselves, the resulting locations appear to be almost equidistantly spaced over the landscape (accounting for potential nodes not yet found). When the causeways are included, however, it becomes apparent that the system was extremely centralized and dendritic in nature. As indicated earlier, the causeways do not connect termini with each other; rather, they connect the termini with the epicenter. Such a system may not have been constructed initially for economic pur-

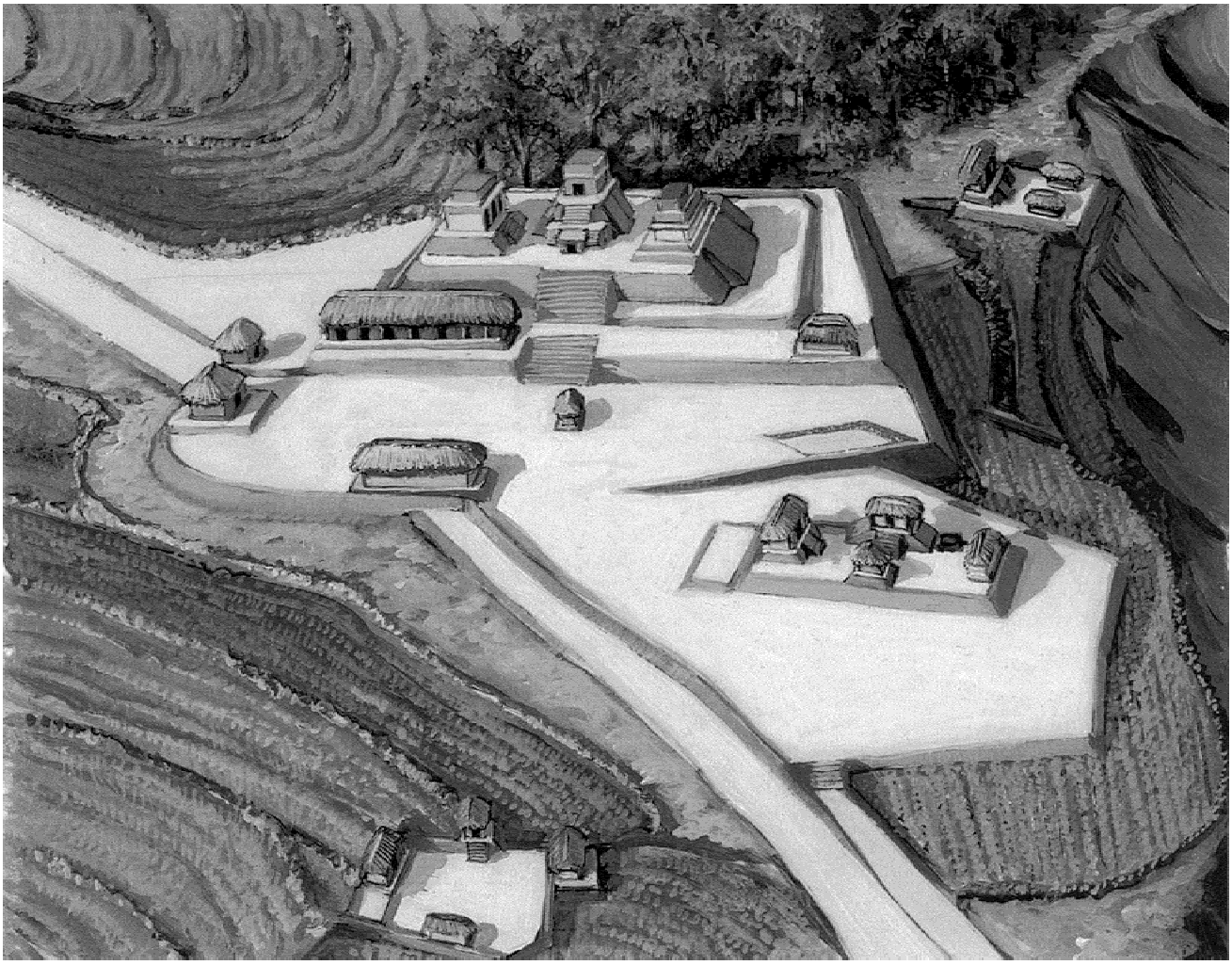

Figure 4. Reconstruction painting of Puchituk terminus by Michael Rothman (copyright held by Arlen and Diane Chase, Caracol Archaeological Project).

poses, but the placement of causeways—in conjunction with information on production and distribution encountered during archaeological excavations—likely indicates the flow of goods through Caracol.

More than 100 residential groups have been tested archaeologically at Caracol. Analysis of the material remains encountered in these investigations indicates that economic production at Caracol largely took place within the outlying residential groups. Each residential group appears to have focused on a product that was slightly different from that of its neighbors (A. Chase and D. Chase 1994a:10). Careful analyses of most excavated groups provide evidence for distinctive household workshops focusing on shell, lithics, and other crafts (Cobos 1994; Pope 1994). And the archaeological distribution of goods among households indicates that residential groups had access to most products (A. Chase 1998; D. Chase 1998). The dendritic nature of the Caracol road system supports the idea of a centrally administered economy, especially within the context of central-place theory (Blanton 1976; Santley 1994; Smith 1974). The causeways indicate a system that was less well geared to individual access to markets and commodities than to managing the flow of goods through the epicenter and termini. As stated earlier and elsewhere (A. Chase 1998; A. Chase et al. 2001), we believe that the termini functioned as administrative and "market" locations. The relatively larger numbers of structures in residential plazas in close proximity to the causeway termini may reflect their success as distribution nodes.

Yet another indication of the substantial intrasite communication and integration that occurred in Late Classic Caracol is the unified Caracol identity established throughout most of the site's households (A. Chase and D. Chase 1996b). The cohesive nature of this identity is striking. Regardless of their location at the site, residential groups at Caracol maintain substantial uniformity in layout, particularly in the use of eastern structures for mortuary and ritual activities (A. Chase and D. Chase 1994b). Epicentral and core residential groups alike contained tombs, burials, and caches focused on these eastern buildings. Unlike other sites in the Southern Lowlands, burials of multiple individuals in residential groups are common, making up 42% of the sample (D. Chase and A. Chase 1996). Inlaid dentition is present in 22% of Caracol's burials (D. Chase 1994, 1998). Distinctive "face" and "finger" caches are located in virtually all Late Classic residential groups, again in association with the eastern buildings (D. Chase

and A. Chase 1998). These caches are abundant not only in downtown Caracol; examples are also found in areas of Caracol contact, both relatively nearby, such as at Cahal Pech (finger caches [Awe 1994]), and more distant, such as La Milpa (face cache [Hammond et al. 1997]). These cohesive patterns are found among elite households in the Caracol epicenter and in elite and nonelite households in all sectors of the site core. This uniformity among the artifactual and social patterns of Caracol's household groups could not have been supported easily without the site's centralized causeway system. This cohesive identity accords with the general tenets of empire-building, as explicated by Etzioni (1961) and Sinopoli (1994), especially with regard to remunerative power in which constituents in the imperial heartland are materially rewarded.

Santley (1991:208) has pointed out that the Aztec "roadway network and the organization of regional economy cannot be divorced from the imperial system of which it was obviously an integral part," further noting that "a dendritic system is the most efficient way of servicing a central point once bulking considerations pass critical thresholds." Although he argues that the roadway network for the "Aztec regional economic organization [was] dendritically organized," Santley (1991:208) also notes that the Aztec system of solar markets had "little effect on roadway structure" in that "the system was not designed to permit efficient transit between centers of equivalent rank," with lateral movement being "feasible only within a short radius of Tenochtitlan and Texcoco." The immediate Aztec road system that Santley (1991:Figure 16.3) illustrates is emphatically not dendritic, and even he (1991:208) suggests that this "existence of multiple circuitry in the immediate vicinity of Tenochititlan suggests a drift toward greater complexity." However, Santley's discussion of the dendritic central-place economy with regard to the Aztec has obvious relevance for the economic system of the Caracol Maya. Caracol was a primate city, based on its size, settlement pattern, and population density (A. Chase and D. Chase 1996a). The site's inhabitants were actively engaged in crafts production for trade external to the family unit (A. Chase and D. Chase 1994a), and its bulking considerations had passed critical thresholds based on its population and the scarcity of land (A. Chase and D. Chase 1998a). The dendritic nature of Caracol's internal urban layout, where causeways tied termini directly to the epicenter rather than to each other, formed the skeletal framework for its economy.

MODELS FOR CAUSEWAY FUNCTION

While causeways clearly provided direct avenues for Maya communication, the other purposes that they served are open to interpretation and are likely to have varied at different sites. All causeways can be considered political statements, but we believe that three distinct system variants can be defined for the Maya data. Maya intrasite causeways can be viewed as being primarily social, ritual, or administrative (political and economic) in nature. Although these three variants may occur in combination at any given site, one functional aspect may dominate any one system.

The social functions that causeways serve can be seen in the binding of residential groups to other residential groups or to larger architectural complexes. At Caracol, such social relationships are in evidence in the causeways that link elite residential groups to the epicentral architecture or to the special-function causeway termini. Although the social-causeway variant appears at many Maya sites, it seems to dominate many of the road systems of sites in the Northern Lowlands (Kurjack and Andrews 1976; Kurjack and Garza T. 1981). Examples of highlighted social relationships are in evidence at Sayil, Mexico (Sabloff and Tourtellot 1991), and Tzum, Mexico (Von Euw 1977), where specific, presumably elite, residential groups are linked to each other by causeways. An elaborated version of the social variant can be seen at Chunchucmil (Dahlin 2000:Figure 2), which provides a very concentrated *sacbe* (formally constructed causeway) and via (streets or corridors informally formed by the site's abundant *albarradas* [dry stone walls]) system within a densely settled urban environment that is quite distinct from that found at Caracol.

Two very distinct causeway-system variants can be seen by comparing the overall patterning of Southern Lowland roads found at Caracol with those found at Tikal, Guatemala (Carr and Hazard 1961). In fact, our uneasiness with ascribing strictly processional or ritual purposes to the Caracol causeways lies in the striking and significant differences that are apparent between the Caracol *sacbe*s and those from Tikal. Whereas Tikal's causeways can be interpreted as primarily binding ritual loci together, we believe that administrative functions were emphasized at Caracol (A. Chase 1998; A. Chase and D. Chase 2002). Caracol's causeways, generally ranging from 2.5 to 12 m in width, are narrower than Tikal's causeways, which range from 21 to 70 m in width. Tikal's roads would have easily handled a large group of pedestrians at a single time. Caracol's *sacbe*s extend outward dendritically from its epicentral architecture to cover a broad landscape; in contrast, Tikal's causeways are internal connectors for its slightly dispersed epicentral architecture. Most important, Caracol's causeways often end in special-function termini that are not characterized by temples or single structures; the reverse is the case at Tikal (witness the Temple of the Inscriptions, Temple IV, and the isolated structure at the end of the Maler Causeway). Thus, whereas Tikal's roads would have channeled people to massive temples, Caracol's roads transported its population to open plazas surrounded by low range-like buildings. The broad causeways of Tikal bound its epicentral temples and architecture into a unified whole, but Tikal's causeways, at least as currently mapped, did not integrate the site's outlying settlement with its epicenter, as happened at Caracol. Whereas the Tikal causeway pattern easily lends itself to an interpretation of ritual and procession, the Caracol causeway pattern permits other interpretations. Thus, the sites of Caracol and Tikal provide almost polar extremes of intrasite causeway systems.

Caracol's centralized dendritic causeway system and posited administered economy provides one model of causeway function. It remains to be seen to what extent the Caracol model for intrasite causeways and administrative integration has applicability to other Maya sites. The Caracol system of intrasite causeways contrasts most clearly with more restrictive internally oriented systems, such as those found at Tikal or Dzibilchaltun, Mexico (Stuart et al. 1979), where causeways connect ritual locations and, perhaps, elite groups. In terms of length and radial layout, the Caracol system is most similar to certain of the Northern Lowland sites, such as Coba, Mexico (Folan et al. 1983), and Chichen Itza, Mexico (Winemiller and Cobos 1997). Even here, however, there are distinctions in the causeway systems. Caracol's special-function termini do not appear to have clear-cut counterparts in the causeway systems of the Northern Lowlands. While there has not been substantial excavation of the causeway termini of sites such as Coba and Chichen Itza, the mapped plans for these termini clearly differ from those found at Caracol. Thus, it would appear that the economic functions inferred for Caracol's road system defer to

social functions in the current interpretations of Northern Lowland road systems.

CONCLUSION

In summation, the Caracol intrasite causeways formed the skeleton for an effective political and economic system that was capable of maintaining control of a large area and population for several centuries. The Caracol intrasite causeways provide a clear, on-the-ground indication of Caracol's centralized political control. They integrated the site's economy, providing both a means by which local household and long-distance trade items could be distributed to the general populace and a means by which the bureaucracy or elite could control the taxation and distribution of goods. The causeways also directly supported the creation and maintenance of a uniform Caracol identity during the Late Classic period by promoting effective communication, and thereby integration, of the site's population. If the development of roads can be directly related to the need for an effective military organization, as is argued by Hassig (1988, 1991; see also A. Chase and D. Chase 1998b), then Caracol's roads would also have facilitated the mobilization and movement of troops throughout Caracol (both city and polity). All of these factors were crucial to the successful functioning of the self-sustaining Caracol polity following its phase of political and territorial expansion during the sixth and seventh centuries (A. Chase 1991; A. Chase and D. Chase 2000). The Caracol causeway system, then, is critical in placing the Late Classic Maya of the Southern Lowlands within the context of other successful large-scale political entities in the Americas. It enabled Caracol to function effectively and to control its large population and territory for a longer period of time than many Old World empires.

RESUMEN

Afirmaciones relacionadas a la función de las calzadas mayas dentro de sitios con frecuencia se enfocan en inferir propósitos rituales o alianzas simbólicas de parentesco en vez de los papeles más prácticos que esas calzadas pudieron haber servido. Los datos obtenidos sobre el sistema extensivo de calzadas internas de Caracol, Belice, demuestran que el papel primario de sus sacbes consistió en facilitar el control administrativo de gente, bienes, y servicios. Aproximadamente 75 km de caminos sirvieron no solamente para la comunicación interna en el sitio y el transporte sino también afectaron la integración politica y económica de este enorme centro.

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