Maya Coastal Adaptations in Classic and Postclassic Times on Ambergris Caye, Belize

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Introduction

The sea has always been integral to Maya thought. Its powerful associations with life, death, rebirth and what we describe as the 'supernatural' world could be said to be most strongly apparent to those who lived on the east coast of Yucatan, where the sun rose and the earth was renewed each day (Miller 1973; Taube 2010:204). The sea was also a source of abundance. It provided important commodities such as salt, fish, shellfish, as well as shells, stingray spines and a variety of other marine resources. The sea was integral in other ways to Maya cultural development. Coastal canoe trade in all manner of goods bound mainland and island communities from at least Late Preclassic times (Andrews 1990; McKillop 1989:4). Maya seascapes, however, remain relatively understudied in comparison with Maya landscapes and mainland dynamics (Finamore and Houston 2010:15). The results of archaeological research on the island of Ambergris Caye, Belize, indicate that the Precolumbian Maya groups who lived on the island were quite well integrated into what has been termed the "Mesoamerican World System" (Smith and Berdan 2003). These coastal Maya specialized in the production and exchange of key commodities and luxury goods, and they participated in a well-developed circum-peninsular trade network with links extending deep into the interior of Yucatan.

In this paper we explore Maya coastal activity during Classic and Postclassic times using information from the site of Marco Gonzalez, Ambergris Caye, Belize (Figure 1). First, we describe the locale and the archaeological work spearheaded on the caye by Tom Guderjan, Jim Garber, and Herman Smith (Guderjan and Garber 1995). We then summarize the excavation history of Marco Gonzalez; we present what we know about local chronology and discuss information acquired to date on the site's role in trade and exchange.

Settlement and Brief Research History of Ambergris Caye and its Sites

Ambergris Caye is located on the east coast of the Yucatan Peninsula. It is aligned, more or less, along the rim of Belize's coastal shelf and is the northernmost of a string of islands or cayes that dot the rim of the shelf and extend southward to the Bay of Honduras (Wallace 1997:73). The caye is 39 km long and no wider than 4 km at any point; the reef lies only about 150-160 meters to

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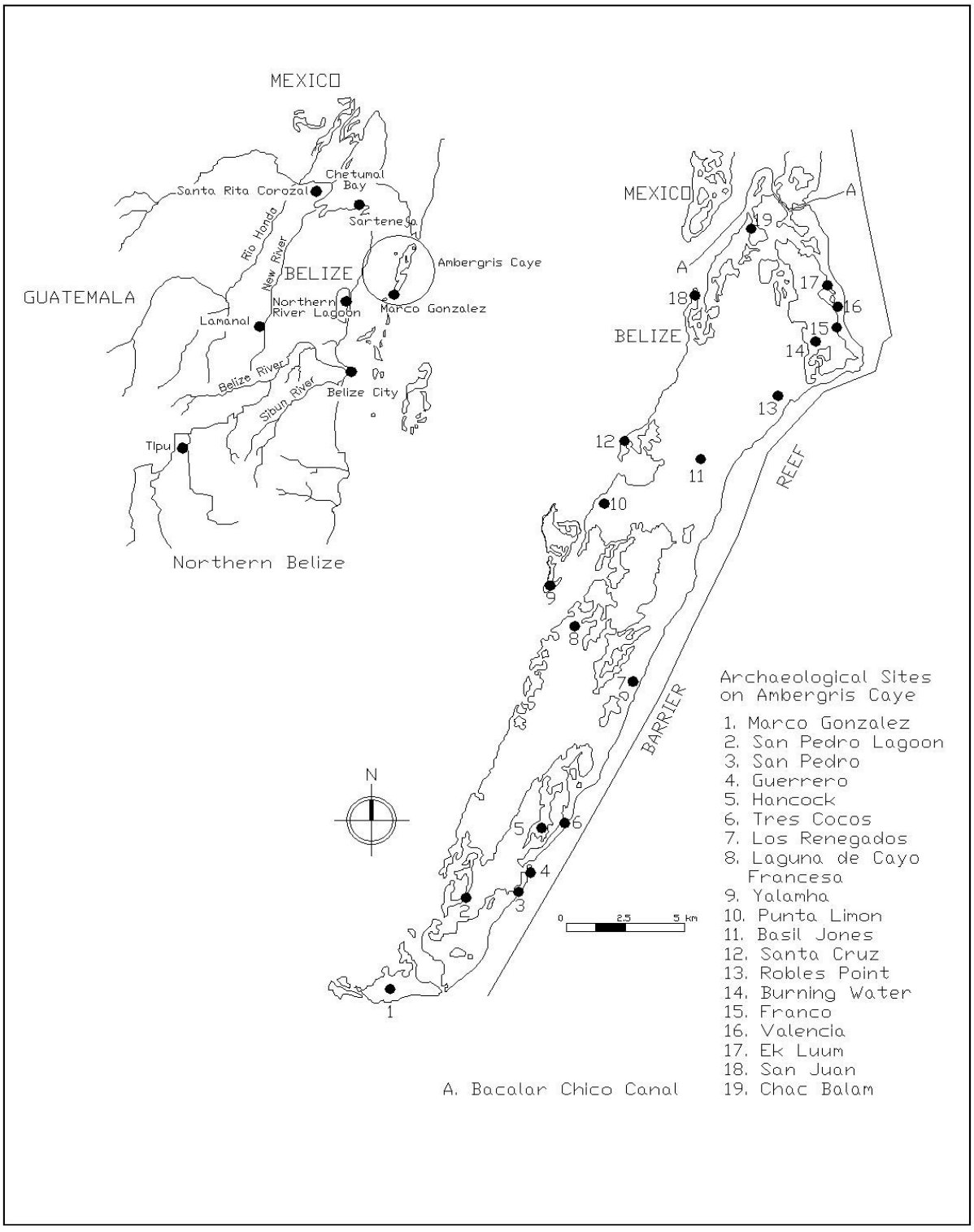

Figure 1: Location of Marco Gonzalez and other Ambergris Caye archaeological sites. Drawing by Jon Begue.

the east. Waters within the reef, owing to the shallow depth of the coastal shelf, are significantly calmer than outside the reef, but we know that the Maya plied the waters outside the reef as well as inside because evidence of Maya activity has been found at two of the atolls (MacKie 1963; Graham 1989). The reef and the coastal shelf it borders afforded protection from storms and large waves and also provided an ample supply of marine foods.

Although Thomas Gann was the first to survey Ambergris Caye nearly a century ago (Gann 1926), Tom Guderjan and the other members of the Ambergris Caye Archaeological Project (ACAP) conducted the first comprehensive archaeological survey of the island between 1983 and 1990 (Guderjan and Garber 1995). They identified 22 separate sites and 2 canal complexes, and excavated portions of several of these, including San Juan, Chac Balam, and Ek Luum (Guderjan 1995; Guderjan et al. 1989), three of the northernmost sites on the island (Figure 1). Information from these sites is compared here with information from our work at Marco Gonzalez as a way to gain a more comprehensive picture of changing Maya lifeways on Belize's largest barrier island.

In terms of settlement dichotomy, all but one of the sites on the leeward side of the island are classified as large in size (large at least for the island), whereas all of the sites on the windward side are either small or medium in size. All leeward sites also have harbor features of some kind, formal architecture, and quantities of exotic materials such as obsidian, jade and ceramics obtained through coastal trade (Guderjan 1995:29). It appears that the larger sites with access to the leeward side of the caye, including Marco Gonzalez, were active participants in coastal trade, while the smaller sites on the windward side of the island focused primarily on marine resource acquisition (Guderjan et al. 1989).

A prominent feature of Ambergris Caye is the Bacalar Chico Canal (Figure 1), a tidal passage that now separates Mexico's Xcalac Peninsula from Ambergris Caye. Use of the canal would have been advantageous to Maya traders in at least two key ways: it would have allowed them to avoid the perils of going outside the protection of the barrier reef at the aptly named Rocky Point, where the coral reef converges with the shore of the island for around 1 kilometer; and it would have greatly shortened the distance traders coming from the north would need to travel to reach the calmer waters of Chetumal Bay and inland rivers beyond.

The work of the ACAP has shown that most sites on the island were occupied during Late and Terminal Classic times. Marco Gonzalez, however, has earlier Late Preclassic and Early Classic components, although the deposits dating to these periods are now largely below present sea level (Graham and Simmons 2012a). Marco Gonzalez was intensively occupied until the 13th century or so, after which time mangrove encroachment and coastal sedimentation impeded access to the sea (Dunn and Mazzullo 1993). After this time, some activity continued, if intermittently, until the early historic period, although the main center of activity on the island from the Middle to Late Postclassic period was San Pedro, the modern town that lies about 8 km north of Marco Gonzalez (Graham and Pendergast 1987, 1989, 1994; Pendergast and Graham 1987, 1990).

Marco Gonzalez, Ambergris Caye, Belize

Marco Gonzalez, the largest site on the caye, is located near the southern tip of the island (Figure 2). It is now a relatively small area of elevated terrain measuring approximately 355 m x 185 m, or about 6.6 hectares in size (Graham and Pendergast 1989). It is surrounded largely by

Figure 2: Air photo of southern tip of Ambergris Caye. The Marco Gonzalez site can be seen as the oblong-shaped stand of trees in the left-center of the image. View southeast.

mangrove vegetation that is seasonally inundated (*Rhizophora mangle, Avicennia germinans, Conocarpus erectus*). In contrast, vegetation on the site itself is characterized by species such as gumbolimbo (*Bursera simaruba*), strangler fig (*Ficus sp.*) saltwater palmettos (*Thrinax* sp.), white poisonwood or *chechem* (*Cameraria belizensis*) and coconut palms (*Cocos nucifera*).

Geomorphological research has revealed that over the last two millennia, sea levels have risen about 60 cm on Ambergris Caye (Dunn and Mazzullo 1993) and there has also been accretion of sediments, which, as noted above, ultimately encouraged the growth of mangrove around the site. In the Late Preclassic period, however, and through most of its history as an active settlement, Marco Gonzalez seems to have been open to sea breezes with access to the sea on both windward and leeward sides (Dunn and Mazzullo 1993; Graham 1989).

Differences in plant communities on the site are believed to be attributable to the nature of the anthrosols and their parent materials, and although we cannot say much at present, a recent botanical survey will yield information on the details of plant biodiversity. The soils are mined locally for gardens on the island, and indications are that anthropogenic components of the archaeological sediments—fish and animal bones, human bones, other food refuse, pyrogenic carbon that resulted from Late Classic salt processing activity, and thousands of shells from Precolumbian middens—may have played a role in the formation of the surface soil characteristics (Graham 2006).

Brief Excavation History of Marco Gonzalez

The information we have on Marco Gonzalez

comes from a number of small-scale excavations (Graham 1989; Graham and Pendergast 1989; Graham and Simmons 2012b; Pendergast and Graham 1987, 1990). After being taken to the site by a young San Pedrano named Marco Gonzalez, Pendergast and Graham began test excavations at the site in 1986 (Graham and Pendergast 1989). More intensive excavations were carried out in 1990, with more limited work in 1992 and 1993. These investigations revealed that the site had been both a busy and prosperous trading port in the Terminal Classic and Early Postclassic periods. Similarities of pre-Terminal Classic deposits to strata encountered at the Colson Point sites in Stann Creek (Graham 1994)—as well as to other sites on the caye and the mainland—led Graham to consider that the site was also a locus of salt production.

After a 17-year hiatus, work directed by the co-authors began in 2010 and continues today (Graham and Simmons 2012a, 2012b; Simmons and Graham 2014). To date 49 separate structures have been identified and mapped at Marco Gonzalez (Figure 3). All are fairly low platforms ranging in height from 30 cm to 4.2 m. Six different plaza groups have been identified and these are spread throughout the area of the site. A number of isolated structures also are present, including several in the northwestern area of the site, Structures 26, 27 and 28, that are made up of no less than 50,000 conch, mainly Queen Conch (*Strombus gigas*), West Indian chank (*Turbinella angulata*) and helmet shells (*Cassis tuberosa*). Shells also litter the surface of the site and spread out into the mangrove swamp. All reflect ancient midden deposition as well as "swamp filler." The shells and other midden debris, such as discarded potsherds, comprise what remains of core material used, probably in the Early Postclassic, in the construction of platforms, which originally were terraced and faced with reefstone. The facing stones were likely quarried from Pleistocene limestone deposits—generally called reefstone—located in the shallow waters of the leeward-side lagoon. This limestone material, formed on the coastal shelf and made up of dead coral, compressed shell and sand, was used in the construction of low platforms beginning at least as early as the Early Classic (Graham and Simmons 2012b). Other structures in the site's center, such as Structures 12, 14 and 19, used the vast deposits of salt processing debris as core material, but platform terrace faces were constructed of reefstone.

Local Chronology, Trade and Exchange

Although a number of structures have been tested throughout the site area, excavations have focused mainly on two adjacent large residential structures at the south end of the central plaza, Structures 12 and 14 (Figure 3). Evidence so far indicates that these structures were first built at the end of the Classic period, perhaps in the latter half of the 8th century, with occupation continuing through the 9th and part of the 10th century. Modifications seem to have taken place, including the addition of giant riser stairs on Structure 12, probably in the late 10th or 11th century, with occupation continuing into the Early Postclassic. The origins and kinds of grave goods accompanying many of the 44 sub-floor burials indicate that the residents of both structures enjoyed some level of elevated social standing in the community. Ceramics from the graves date from the end of the Late Classic period through Terminal Classic times. Polychromes, generally simple in design, are present but give way to monochrome wares such as Fine Orange, plumbate, Augustine Red, and possibly Teabo Red.

During at least the Late Classic and possibly earlier the Maya of Ambergris Caye were clearly engaged in the production of shell objects. Artisans at Marco Gonzalez, San Juan, Ek Luum

Figure 3: Marco Gonzalez Site Plan.

and Chac Balam were fashioning ornamental shell objects as well as more utilitarian forms, including 'cups' or possibly eating utensils made from cut shells (Garber 1995:125-135)(Figure 4). No formal studies have been completed on shell production as an aspect of economic life at Marco Gonzalez, although one is underway by Petra Cunningham. Numerous cut shell pieces, along with shell "blanks" and finished objects, have been observed during excavations and on the ground surface. Many of the pieces of manufacturing debris as well as worked conch and olive shell objects are nearly identical to those reported at other lowland sites (Alonso

Figure 4: Shell jewelry from Marco Gonzalez. Note the quadripartite and quincunx designs. The quincunx shaped conch piece was recovered with a group of grave goods found at the left elbow of Burial 14/35.

2013; Emery and Aoyama 2007; Hohmann 2002; Isaza 2004). Olive shells, many of which have had their spires removed, were notched, drilled, incised or otherwise worked. Such shells were often sewn together on garments as tinklers used in extravagant performances by Classic Period rulers (Finamore and Houston 2010:35, 103, 104; Miller and Taube 1993:153) and have a wide distribution throughout the Preclassic and Classic periods in the lowlands (Kidder et al. 1946). In addition to tinklers, finely made shell pieces including adornos, ear pendants and other ear ornaments very similar to those found at Marco Gonzalez have been recovered from the northern Ambergris Caye sites of Chac Balam and San Juan (Garber 1995:128).

Shell jewelry and other grave goods recovered in association with burials excavated at Marco Gonzalez, and at northern caye sites, reveal the strength of trade and exchange connections enjoyed by the island's elites from the closing years of the Late Classic, through the Terminal Classic to about A.D. 1200. At Marco Gonzalez a number of burials in Structure 14 included goods obtained from distant locations as

Figure 5: Burial 14/35 from Structure 14. Note the grave goods at left elbow.

well as finely crafted objects from local sources. For instance, excavation of Burial 14/35 revealed a group of objects that had been placed on the left elbow of the individual (Figure 5)(Graham and Simmons 2012a). Two exhausted obsidian cores from El Chayal, a bone spatulate object, and two worked shell ornaments, including a finely crafted quincunx style piece (Figure 4) were found. Other Structure 14 burials included distinctive polychromes, including one with the

Figure 6: Polychrome vessel with sectioned conch shell design from Str. 14 (l). Illustration by Louise Belanger (r).

image of a sectioned conch shell with spiral designs (Figure 6).

A number of the burials at the Ambergris Caye sites were found in either flexed or supine positions, with a great many at Marco Gonzalez lying either face down or less frequently on their backs with knees bent and lower legs crossed (Figure 5). Some of the burials encountered at Chac Balam and San Juan were in these same positions. Further connections among the islands' sites can be seen in the ceramics they shared. Tohil Plumbate and Augustine Red vessels were found accompanying burials at both San Juan and Marco Gonzalez (Valdez et al 1995; Simmons and Graham 2014). For example, San Juan Burial 5 in Structure 3 and Marco Gonzalez Burial 32 in Structure 14 each had an almost identical pedestal -based Augustine Red tulip-shaped vase (Figure 7). These various lines of evidence lead us to speculate about the nature of the relationships that existed among the Maya living in these island communities. Their locations, similar occupation histories, and the regularity of coastal canoe travel suggest that the Maya of San Juan and Marco Gonzalez were almost certainly in communication, perhaps regularly.

With regard to post-Terminal Classic occupation at Marco Gonzalez, Early Postclassic (Zakpah Orange-red and Zalal Gouge-incised) pottery appears in quantity but largely as sherds on the surface and in immediate sub-surface deposits, and seems to be associated with activity in which the Terminal Classic structures were modified ("giant riser stairs") and used until about the beginning of the 13th century. After this point any intensive activity at the site decreases. Research carried out by Dunn and Mazzullo (1993) suggests that this decrease in activity occurred sometime around A.D. 1200, owing to the increasingly dense mangrove vegetation that

Figure 7: Nearly identical pedestal based Augustine Red tulip-shaped vases found at San Juan (l) and Marco Gonzalez (r).

ultimately cut off the site from the sea and the lagoon. Beyond the 13th century A.D. there is evidence of only occasional activity, such as the deposition of a cache in the early Colonial period, we think 16th century, in which vessels with applied effigy heads were buried in the giant riser stairs of Structure 12 (Graham and Pendergast 1989).

At the other end of the continuum, Chicanel pottery occurs but is out of context and mixed with later deposits. Its presence tells us that the site was occupied during the Late Preclassic—to be conservative around 100 B.C., but very possibly earlier. Late Preclassic and a portion of the Early Classic deposits lie below the modern water table and are therefore very difficult to investigate. Early Classic and specifically Tzakol 1 deposits, however, have recently been delineated in test pits excavated in 2013. Two Tzakol 1 basal flange polychromes were discovered in the process of removing a soil micromorphology monolith from a section wall of Op 13-1, Str. 14. Both were heavily fragmented but seem to have been deposited one inverted atop the other. Whether they were part of a cache or were burial accompaniments was not possible to determine.

The Early Classic deposits are reasonably substantial. Str. 14 overlies an Early Classic reefstone platform of some kind, and an Early Classic floor showed up in a looter's pit, which was cleared in 1986. Early Classic and Terminal Preclassic levels have produced thousands of fish bones and shells that were apparently food refuse, as well as a great deal of debris from chert knapping. Some of this chert knapping may be related to the production of shell tools and ornaments at the site (Simmons and Graham 2014). Overall the information we have on the Early Classic suggests that a substantial community resided at the tip of the caye. They were heavily involved in marine resource extraction but were also involved in trade, with a main item being polychrome pottery. The

indication is that polychrome vessels were being transported up and down the coast and then to inland trade networks (Graham 1994).

By the beginning of the Late Classic—ca. A.D. 550/600, we see a remarkable change at the site. Large quantities of crude, unslipped, orange-paste sherds from quartz-tempered bowls are found layered with spreads of ash and charcoal. Called originally Coconut Walk unslipped ware by Graham (1994:153-156), the pottery comprises poorly fired ceramic bowls, which initially were thought to have functioned as moulds for salt cakes. They are generally above 30 cm in diameter, however, which could be too large for a cake. The bowls seem to have been used to contain the brine as the water was driven off by heating (McKillop 2007; Reina and Monaghan 1981). No bowl bases have yet been recovered; all of the sherds are from the sides and rims. This suggests strongly that the bowls were set directly on or over fires or hearths and that the bases disintegrated in the heating process. In any case the bowls seem to have been discarded once the water from the salt had evaporated and the salt was removed. Coconut Walk sherds have been recovered in abundance from San Juan, Chac Balam, Ek Luum and San Pedro Town (Graham and Pendergast 1994; Guderjan and Garber 1995; Valdez et al. 1995).

All indications are that salt processing was not a subsistence activity but instead was a major export industry in Late Classic times, and compelling archaeological evidence exists for the production of substantial quantities of salt all along the Belize coast at this time (Andrews and Mock 2002; Graham and Pendergast 1989; McKillop 2002, 2005, 2007; McKinnon and Kepecs 1989; Mock 1994). Processing activity at Marco Gonzalez seems to diminish at the end of the Late Classic, probably sometime in the late 8th century AD. The timing entangles the cessation of salt supply with the mainland political collapse, but in what ways we do not yet know.

Following the cessation of the Belize salt industry in the late 8th century, or perhaps as early as A.D. 750, the saltworks along the coast of Yucatan leap to prominence (Andrews 1983; Andrews and Mock 2002; Kepecs 2003; McKillop 2002). Nonetheless the prosperity of the Terminal Classic town built over the remains of the salt industry at Marco Gonzalez seems to have been undiminished, although its wealth and power must have been derived from a source other than salt export. Capitalizing on coastal trade and exchange as a "service" may have become a prominent part of economic life on the caye once more (Graham 1989).

Evidence for a range of other activities is abundant at the site but cannot be correlated to restricted periods, and it is likely that these activities may well have been indicative of many periods. For example, Maya merchants on Ambergris Caye brokered trade and exchange in ceramics, lithics (both chert and obsidian), shell and presumably other items such as salted fish and other marine resources. Jade artifacts have surfaced on the island—the occasional bead or even ear flare brought up by the land crabs, and a jade celt was discarded, presumably by accident, by looters (Graham and Pendergast 1989), but the quantity recovered is minimal enough to suggest that the jade may have been the property of individuals living on the caye rather than a trade item. Curiously, no copper artifacts have been found as yet at the Ambergris Caye sites, although copper objects were circulating around the Yucatan Peninsula by Early Postclassic times, if not earlier (Simmons and Shugar 2013). This seems likely the result of sampling bias, at least at Marco Gonzalez, as much of the work conducted there to date has focused on Terminal Classic and earlier deposits. It is clear, however, that the efforts of these coastal merchants and their families resulted in the economic integration of

communities on the caye into larger commercial networks that operated throughout the highlands and lowlands over time.

For example, recently completed X-Ray fluorescence analysis of 110 pieces of obsidian from various contexts at Marco Gonzalez indicates that the volcanic stone was obtained from eight different highland sources. Just over 80% of the assemblage comes from El Chayal and Ixtepeque, whereas lesser amounts of central Mexican obsidian from Pachuca and Ucareo are present. Provenience analyses of obsidian from San Juan (Guderjan et al. 1989) revealed five different source locations, with nearly three quarters of the sample originating from El Chayal. By comparison, excavations at Isla Cerritos, the probable trading port for Chichén Itzá, produced obsidian from seven different sources, with Pachuca obsidian comprising almost half (48%) of the assemblage (Andrews 1990; Andrews et al. 1988:204). Although it appears that the Ambergris Caye sites probably functioned more as coastal transshipment points rather than specialized ports of trade for large inland polities, the range of sources from which obsidian came to the Ambergris Caye sites and Isla Cerritos is comparable. Unfortunately, solidly datable contexts are lacking for much of the sample from Marco Gonzalez, so it is not yet possible to examine trends in obsidian procurement over time.

Interaction, migration, exchange

We have described above how our data bear on knowledge of the kinds of objects and materials exchanged and when these exchanges occurred, but what can be said about interaction and migration? Although all periods involve interaction with both the mainland and other coastal communities, there do seem to be periods when Marco Gonzalez is more focused on delivery to the nearby mainland communities and other times when energies are directed towards keeping circum-peninsular traffic and commodities moving. For example, we hazard on the basis of present information that the Late Classic salt trade was directed towards nearby lowland mainland communities; Terminal Classic energies were taken up in circum-peninsular movement of commodities; Early Postclassic activity again focused on the mainland, and particularly Lamanai and other communities producing Zakpah Orange-red and Zalal Gouged-incised pottery (Howie 2012; Ting 2013). Then in the later Postclassic, as indicated by work at the San Pedro site, circum-peninsular currents picked up again with intensity.

Migration is often more difficult to discern from the archaeological record. Nonetheless, the appearance of the face-down, bent-leg burial position in the Terminal Classic seems to represent a significant change in worldview (Graham et al. 2013). The face-down position, from its first appearance at Marco Gonzalez, San Juan and Chac Balam in the Terminal Classic, seems to dominate on the caye through the Postclassic, as evidenced at San Pedro up until contact (Glassman 1995:74-75; Pendergast and Graham 1990:4). Are we seeing new people on the caye in the Terminal Classic? Or have locals simply adopted a new religious or cultural orientation? These questions cannot be answered at this juncture, although isotope and other analyses may one day shed light on this issue. What we can propose, however, is that coastal communities were probably always mixed, and exposed to international trends and currents on a frequent basis as the result of trading activities. Combined with information from mainland communities that can be dated to specific periods, it may be possible to track movements of people or ideas across landscapes as well as seascapes. In any case it is clear that seascapes cannot be excluded in addressing major questions of

regional or inter-regional interaction among the ancient Maya.

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NOTE

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