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Connections beyond Chunchucmil

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12

Connections beyond Chunchucmil

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The previous chapter used configurational, contextual, and distributional evidence to demonstrate the presence of a marketplace at Chunchucmil. The even distribution of obsidian presented in that chapter shows that at least a portion of the goods peddled at this market represent long-distance trade. For reasons that we discuss below, the distribution of obsidian on a regional scale (the "spatial approach"; Hirth 1998:454) suggests that Chunchucmil was a *gateway site*: a key node in the movement of long-distance goods (Hirth 1978). In this chapter, we provide a number of lines of evidence to strengthen the argument that Chunchucmil's marketplace was a center not just for local trade but for long-distance trade as well. In other words, this chapter highlights the macroeconomic scale of commerce at Chunchucmil (see Chase and Chase 2014:246; Feinman and Garraty 2010:179). A deep involvement in long-distance trade should manifest itself in three general ways in the archaeological record. First, there should be compelling evidence that the city was positioned on an important long-distance trade route. Second, Chunchucmil should represent a critical juncture or "gateway" along this route. Third, the material culture at the site should show evidence for long-distance contacts. We begin with the first of these expectations.

CHUNCHUCMIL'S LONG-DISTANCE TRADE ROUTE

The most archaeologically visible long-distance good at Chunchucmil is obsidian from the El Chayal source in the Guatemalan highlands. Two routes have been

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suggested to connect El Chayal with the northwest corner of Yucatán: an overland route and a Gulf Coast route along the western edge of the Yucatán Peninsula (figure 12.1; Hammond 1972a; Nelson 1989). In this section we reconstruct both of these routes and present features that strongly suggest that Chunchucmil participated in the Gulf Coast trade route. Before discussing these two trade routes, we eliminate doubt about the likelihood of canoe-based merchants plying the west coast of the Yucatán Peninsula in the Classic period.

Descriptions of a trade expedition encountered by Spaniards on the coast of Honduras in 1502 provide details of seagoing merchants. Members of Christopher Columbus's fourth and final voyage to the New World came across a dugout canoe with a thatch roof in the middle, propelled by 25 oarsman and packed with trade goods as well as women and children (we comment on the gendered aspects of commerce in the next chapter). The encounter off Honduras suggests the importance of waterborne trade around the Yucatán Peninsula in the Postclassic. This trade route, which connects the Central Mexican highlands, the Maya highlands, and the southern Maya lowlands with the northern lowlands and lower Central America, is one of Mesoamerica's most vigorous maritime trade routes (Dahlin and Ardren 2002:254), yet several authors once thought that waterborne trade around the Yucatán Peninsula was popular only in the Postclassic period (Nelson 1989; Sabloff and Rathje 1975). Others stated that such trade, including the Gulf Coast route, existed much earlier (Hammond 1972a; Rovner 1976). The peak period for this trade route may in fact have been the Terminal Classic period (AD 800–1100), when Chichén Itzá and its port, Isla Cerritos, imported obsidian and other products from Central Mexico and brought them to Yucatán in canoes plying the edge of the Gulf Coast (A. P. Andrews and Gallareta Negrón 1986; A. P. Andrews et al. 1989; Ardren and Lowry 2011a; Braswell 2010). The port site of Uaymil, located along the Gulf Coast to the southwest of Chunchucmil, was also part of this Terminal Classic network (Inurreta Díaz 2004).

There is also unequivocal evidence for the use of the Gulf Coast trade route prior to the Terminal Classic (A. P. Andrews and Mock 2002). On the northwest coast of the Yucatán Peninsula, the Costayuc project (A. P. Andrews and Robles Castellanos 2004) discovered a series of port sites—Xcopte, Tzikul, El Cerrito—and estuarine settlements—Cerros de Caracoles, Petenes de Xlabarco—between Celestún and Progreso. All of these had Classic-period occupation and were heavily engaged in coastal trading activities as well as collection of salt and marine resources. East of Progreso, Xcambo served as the port for the major Early Classic center of Izamal (Sierra Sosa 1999). Xcambo had an abundance of Petén-style polychromes. The quickest route from Xcambo to the Petén follows the Gulf Coast on the western side of the Yucatán Peninsula, passing near Chunchucmil. Thus, evidence from

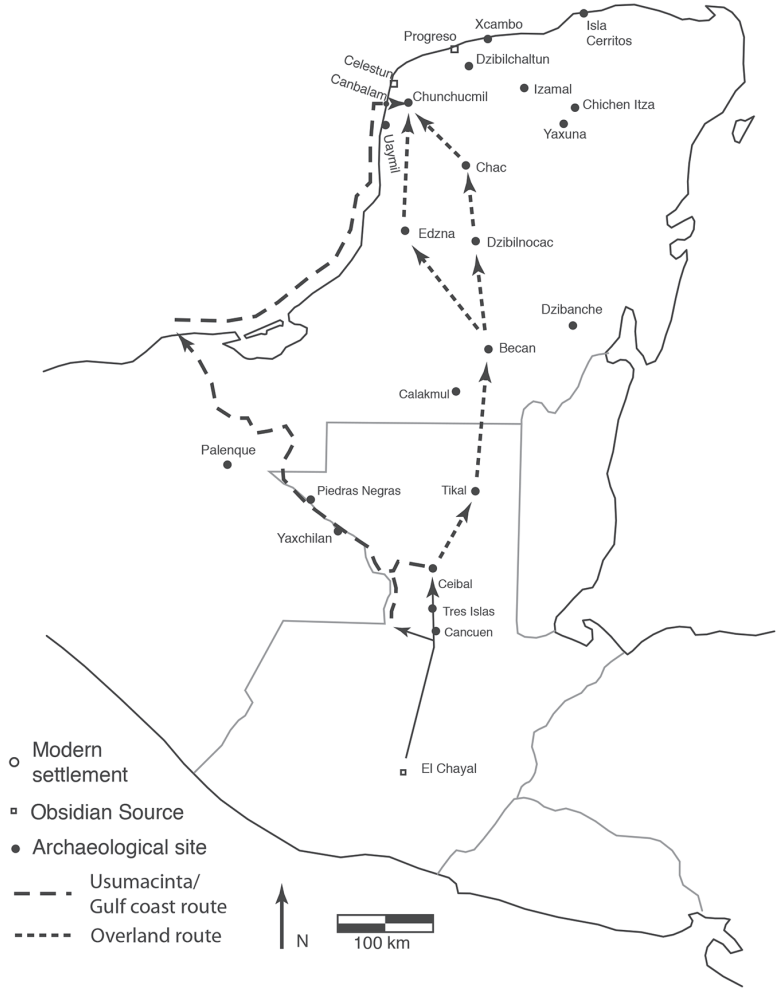

Figure 12.1. Map of the Maya area showing potential land-based and sea-based trade routes from the highlands to Chunchucmil as well as other sites mentioned in the chapter.

other archaeological projects adds to what we present below about the importance of Gulf Coast trade during the time of Chunchucmil.

Charting the Gulf Coast route as well as the overland route to the Guatemalan highlands begins by asking precisely where in the Guatemalan highlands such routes originated. For obsidian sourcing, we followed the standard practice (e.g.,

Moholy Nagy 2003) of combining instrumental sourcing (120 artifacts analyzed by X-ray fluorescence) with visual sourcing (of 2,230 artifacts, performed by Daniel Mazeau, who was trained by Geoffrey Braswell). The El Chayal source, located 670 km from Chunchucmil as the crow flies, near the ruin of Kaminaljuyú, accounted for 96 percent of the obsidian at Chunchucmil. Both of the routes that account for the passage of obsidian from El Chayal to Chunchucmil begin with overland portage from El Chayal north to the Pasión River in the lowlands, passing through the Salama Valley in the Alta Verapaz region. In colonial times, this overland segment was known as the Chinaja trail (Adams 1978:32). Mayanists have discussed this route, which Demarest and Fahsen (2002) call the "Great Western Trade Route," for over 40 years (Hammond 1972a). Alternatively, obsidian could move east from El Chayal toward the Caribbean as part of a seaborne route that runs north along the eastern side of the Yucatán Peninsula (McKillop 1996, 2005), but using such a route to get to Chunchucmil involves a substantially longer journey and is not as well supported by archaeological evidence from the Early Classic period. Once porters completed the Chinaja trail and arrived at the head of the Pasión River, just upriver from Cancuen, material can go by boat downstream, passing Cancuén, Tres Islas, and Ceibal, to the Usumacinta River on the western edge of the Petén. Or, traders could turn westward just before reaching Cancuén and go overland along what is known as the "transversal," the interface between the lowlands and the highlands (Demarest et al. 2014), eventually linking with the Chixoy drainage, which flows north before its confluence with the Usumacinta. Beyond obsidian, porters could have also carried jade and other highland products.

Woodfill and Andrieu (2012) make a strong argument that Tikal and its allies oversaw the portion of the route between Ceibal and the headwaters of the Pasión in the Early Classic. In the seventh century, Calakmul took over this route (Freidel et al. 2007; Martin and Grube 2008). Though the Early Classic population along this route was minimal, Tres Islas Stela 2 and ceramic deposits in caves along the way show strong iconographic and stylistic similarities to material from Tikal. Tikal had an abundance of obsidian and jade in the Early Classic. El Chayal obsidian was so plentiful that obsidian debitage was more than double the amount of chert debitage in the Early Classic, an extremely unusual circumstance that is also found at Chunchucmil. Regarding jade, 79 percent of Tikal's jade comes from Early Classic contexts and Tikal is the only lowland site at the time that has evidence of jade production. Tikal's association with the Great Western Trade Route helps explain how it amassed so much jade and obsidian during the Early Classic.

Whereas the Usumacinta/Gulf Coast route and the overland route to northern Yucatán both make use of the Great Western Trade Route, the two routes to northern Yucatán diverge at or around Ceibal (alternatively, the Usamacinta/Gulf Coast

route could instead use the tranversal and the Chixoy, therefore bypassing Ceibal). In the overland route, porters would have taken obsidian, jade, and other products from the banks of the Pasión near Ceibal to Tikal. Though Willey's excavations at Ceibal revealed only two obsidian artifacts—one from El Chayal, the other from Jilotepeque/Río Pixcaya—in Early Classic contexts (Nelson et al. 1978), El Chayal is the dominant obsidian source in recent excavations of Early Classic contexts at Ceibal (Kazuo Aoyama, personal communication to Hutson, October 2015), reinforcing the suggestion that El Chayal obsidian traveled along the Pasión River. From Tikal, Nelson's (1989) map of overland obsidian exchange shows a route to northern Yucatán passing through Becán, Dzibilinocac, and the Puuc hills, where it would finally reach a place like Chunchucmil.

In the Usumacinta/Gulf Coast route, obsidian and other highland goods continue down the Pasión (or Chixoy) River to the Usumacinta River, which drains to the Gulf of Mexico. However, portions of the upper Usumacinta are quite difficult to navigate (Webster and Houston 2003:429), forcing occasional portages parallel to the river. In the seventh and eighth centuries, antagonism between Piedras Negras and Yaxchilán led to fortifications at several sites along the river (Golden et al. 2008). Moving goods along the river at this time period would have been difficult, requiring very delicate political negotiations. However, Chunchucmil's merchants would have been working the river in the fifth and sixth centuries, when things were relatively quiet and outsiders could have passed through without much trouble (Stephen Houston and Andrew Scherer, personal communication, February 2014). Having reached the Gulf, trade goods would have been taken northeast along the coast of the Yucatán Peninsula until they reached the coastal site of Canbalam, at the mouth of the Celestún estuary. From here, goods could continue north and east along the coast, taking advantage of the protected Celestún estuary, or they could go inland to Chunchucmil.

Canbalam would have been critical to Chunchucmil's participation in the Gulf Coast trade route, and the situation therefore requires additional comments. As discussed in chapter 8, the exact location of Canbalam is difficult to pinpoint. Though the densest concentration of artifacts is at Punta Canbalam, located 14 km south of modern-day Celestún, wave action has spread artifacts across a 10-km stretch of beach (Dahlin et al. 1998). Regardless of where in that stretch Canbalam was, its general location marks it as an important port (see below). As discussed in chapter 8, the site of Canbalam had access to a variety of items acquired through long-distance trade, such as jade, obsidian, chert, and fancy ceramics, supporting its role as a port of trade. Chapter 8 also notes that the full chronology of Canbalam is less clear. Due to poor preservation of ceramics, most of the potsherds (more than 65%) could not be dated. Most of the 19–34 percent of sherds that Tony Andrews

and Fernando Robles were able to classify in the mid-1990s date to the Late Classic and Terminal Classic periods. Muna slatewares and fine orange and fine gray wares were identified by their pastes. Plumbate, the only pottery whose slip still adhered to the paste, was identified by its distinctive slip. A small amount of Late Preclassic and Early Classic pottery was identified on the basis of distinctive rims and flanges. It is likely that a significant portion of the pottery that was not identified dates to the time when Chunchucmil was at its apex. Knowledge of Early and Late Classic pastes found at Chunchucmil and neighboring sites (Varela Torrecilla 1998) has improved to the point that some of the pottery unidentifiable in the early 1990s might now be identifiable by paste alone.

Are there any data that suggest that traders would have turned inland from Canbalam and traveled to Chunchucmil? The likelihood of a well-traveled route between Chunchucmil and Canbalam receives support from history, ethnography, and archaeology.

Maps from the mid-eighteenth century and onward often portray a trail running northwest from the Puuc hills to the coast (A. P. Andrews 2001). The trail usually hits the coast at the mouth of the Celestún estuary about 3 km north of Punta Canbalam, suggesting that the trail served to bring salt inland from the Celestún salt flats. In some cases, such as a 1798 map drafted by Juan José de León, the trail goes directly through Chunchucmil (A. P. Andrews 2001). In the 1890s, a portlet named Venezia was established at the end of the trail at the mouth of the Celestún estuary (figure 1.2). An undated historic canal, used to bring logwood out to the coast, begins at Rancho San Simón and comes within 500 m of Venezia. In the 1890s, the owner of Chunchucmil, Simón Peón, had the Venezia/San Simón canal dredged and built a narrow-gauge rail—a *tranvia*—alongside it for part of the way from San Simón to Venezia (A. P. Andrews 2001). The *tranvía* extended eastward from San Simón to the hacienda of Chunchucmil.

The elders of modern-day Chunchucmil still remember using the *tranvía* during the henequen era of the nineteenth and early twentieth centuries. During this era, monoculture of henequen fiber, which received the name "green gold" because of the riches it brought to plantation owners, limited the food that families could grow. Therefore, ties to the coast were critical for balancing a modest income and produce from the interior. At least one member of each family in Chunchucmil would travel quite extensively afield to make *milpa* during the henequen boom, providing their families with enough produce to augment the meager servant wages (paid in hacienda monies) and subsistence allowances provided by the hacienda owners. Those who chose to travel west for this venture often augmented their swidden production with wetland extraction and trade with the coast.

Inland families and communities during the henequen era built up long-lasting trading relationships with coastal fishing communities, becoming accustomed to coastal diets, and helping the coastal communities (who were at that time very isolated from the interior by modern standards) augment their maritime diet with corn, beans, and dooryard products that could not grow in the sandy soils along the coast. A symbiotic relationship grew, with each community (inland and coastal) relying principally upon their immediate environment for their dietary needs, but augmenting what was lacking through regular and repeated trade with the other. During the dry season, when there was less need for labor in the henequen fields or in outfield *milpas* aside from the felling and burning of trees or overgrowth, men from the interior would (and still do) travel to the coast for seasonal employment collecting salt or fishing. Even today, the villagers of Chunchucmil consider their sister-city to be the coastal village of Isla Arena, while another inland community known today as Tetiz (just north of Chunchucmil) has a historic and long-lasting relationship with the coastal town of Celestún.

To get to the coast, villagers used the *tranvías* as narrow raised footpaths through the wetlands, carrying loads on their backs using the same tumpline technology depicted in Maya art from the Classic period. For this leg of the journey to the coast, the Classic-period feature analogous to the *tranvía* system is the network of *andadores* discovered during our surveys (see below). When the *tranvía* ended at the edge of the perennial wetlands beyond San Simón, the historic Maya used the canal tow paths (*plataformas*, designed for beasts of burden to pull cargo down the canals) as footpaths to their destination along the coast. While the straightest of the canals seen today are likely postconquest, this does not eliminate the possibility that the natural canals from which they were created (springing as they did from *ojos de agua*, and meandering only slightly on their path to the Gulf of Mexico) could not be navigated by ancient Maya watercrafts. This possibility would have made the journey between the interior and the coast as easy, or even easier, in the ancient past as it was in the more recent past, since the economic system of the Classic period would not have precluded a trader's access to boats or additional porters.

A transportation network similar to the historic pattern may be found in the system of *andadores* linking sites and resources west of Chunchucmil in the western seasonal wetlands. These informal rock alignments, made of roughly hewn stones laid end-to-end (see also chapter 8), act as stepping stones through areas of inundation, disappearing when dry land is reached, then continuing again when reaching another area of inundation (figure 12.2). Figure 12.3 shows a map of *andadores* crossing a seasonal wetland near the site of Chen Huech, located approximately 8 km west of Chunchucmil. The compass bearing of the longest alignments nearly parallels the historic *tranvía* lines and point toward Punta Canbalam, indicating

Figure 12.2. Photo of an *andador*.

that the network of *andadores* as a whole would have facilitated travel between the Chunchucmil hinterland and the coast near the port facility (Hixson 2011).

A. P. Andrews (1990, 2004) noted that such *andadores* are a hallmark of Maya coastal ports of trade along the north coast of Yucatán, as are occasional canals.

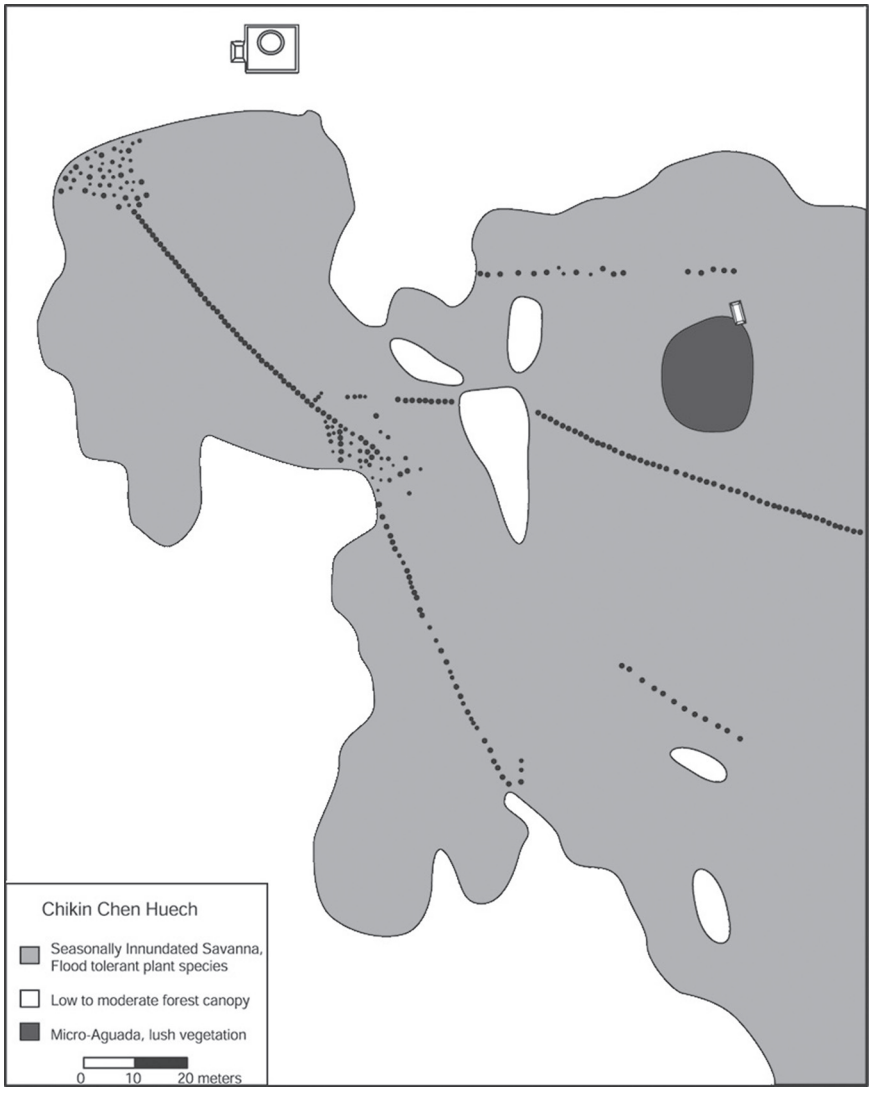

Figure 12.3. Map of *andadores* near Chen Huech, about 8 km west of Chunchucmil

These features combine to link the interior with the coastal trade route. Sites such as Xcambo (Sierra Sosa 1999), Isla Cerritos (A. P. Andrews 2008), and Vista Alegre (Rissolo 2007) are all connected to the coast through *andadores*, along with many other proposed ports, including Isla Providencia, Petén Xnuc, and El Muc along the north coast of Yucatán (Covarrubias Reyna et al. 2012).

The longest *andadores* of the wetlands west of Chunchucmil extend approximately 2 km (with small breaks when drier ground is crossed), yet these appear to align with other walkways several kilometers away (figure 8.2). All of the longer alignments are oriented from the southeast near the outskirts of Chunchucmil, to the northwest, pointing directly toward Punta Canbalam. The *andadores* near Chen Huech (see figure 12.3) show this same orientation. In particular, two of the largest suburban communities southwest of Chunchucmil (Kum and Chun Chen) appear to be the points where these connective avenues begin. *Andadores* pass near Pochol Chen, the largest site documented thus far in the seasonally inundated savanna to the west of Chunchucmil (see figures 8.1 and 8.2).

While these alignments were not surveyed beyond the region of perennial inundation, it is possible that at some point the footpaths end when the water becomes too deep. From that portion of the perennial wetlands, natural navigable streams flow from the *petenes* and would have functioned like the canal system of the historic era. One such natural stream empties into the Gulf precisely at Punta Canbalam. Therefore, the network of *andadores,* combined with the streams between *petenes*, may literally represent the transportation and communication route between Chunchucmil and the coast "set in stone."

CHUNCHUCMIL AS A GATEWAY CENTER

In the section above, we demonstrated that Chunchucmil had access to the Gulf Coast trade route, a vigorous maritime passage that encircled the Yucatán Peninsula. We now show that Chunchucmil played a major role in trade along this route as opposed to the overland route. Specifically, in this section we argue that Chunchucmil was a gateway through which waterborne goods such as obsidian entered the interior of the Yucatán Peninsula.

According to Hirth's (1978) model, a gateway site is a large settlement that controls the movement of commodities due to its location along a key juncture of a natural trade route. Hirth discussed many expectations that a site should meet if it served as a gateway city. Dahlin and Ardren (2002) used data available in 2000 to suggest that Chunchucmil met several of these expectations. Data from the 2001 to 2006 field seasons, including more mapping at Chunchucmil (chapter 2), a site-wide test-pitting program (chapter 3), and regional survey (see chapter 8), enable us to address these expectations more directly. As a result, we can now make a stronger argument for Chunchucmil's status as a gateway city. More specifically, we argue that obsidian and other highland goods that came north along the Gulf Coast entered the northern lowlands at Chunchucmil and were then distributed from there across the western side of Northern Yucatán.

Our first expectation of a gateway city is straightforward: large volumes of long-distance trade pass through them. As Renfrew (1977) and others have argued (see Dahlin and Ardren 2002:252), sites that serve as major points on trade routes do not merely pass all the trade goods on to other sites: they consume a significant portion of them. Thus, if Chunchucmil were a major gateway on a long-distance trade route, its residents should have enjoyed elevated access to the goods on that route, such as obsidian. On the other hand, if Chunchucmil merely received long-distance goods from the overland route, it should not have much obsidian at all: Chunchucmil is at the very end of the overland route. Thus, we have clear expectations of the relative amounts of obsidian Chunchucmil would consume if it were a gateway city as opposed to the last stop on an overland trade route.

Quantities of obsidian at Chunchucmil and inland sites do not follow expectations for overland trade. Once obsidian left the western Petén rivers and began its overland route north to Chunchucmil, it would pass through a series of central places, beginning with Tikal, as suggested by directional models. In the directional model each central place represents a peak in the multimodal fall-off curve for obsidian (Renfrew 1977:86, figure 5). In other words, the next center after Tikal will have more obsidian than secondary sites in between it and Tikal. Nevertheless, this center will have slightly less obsidian than Tikal: each peak in the directional fall-off curve is lower than the previous peak. Thus, if we look at central places alone and disregard secondary sites, the "law of monotonic decrement" (Renfrew 1977) should prevail: from Tikal to Chunchucmil, each subsequent central place should have less obsidian than the previous center on the route because only a portion of the obsidian entering these sites from the south would get passed on to the north.

The most direct way of measuring access to obsidian at a particular site examines ratios of obsidian to some other entity. Sidrys (1977) measured obsidian as a ratio with volume of excavation and then multiplied the result by distance from the source. Chunchucmil would rank highly in Sidrys's "trade index," but this index does not account for differences in the length of occupation (the ratio of artifact to matrix at Chunchucmil increases the longer the site is occupied due to the relative lack of sources of sedimentation), nor for differences in depositional contexts (Rovner 1989). Expressing obsidian as a ratio to utilitarian artifacts such as pottery avoids this problem. Unfortunately, few sites have quantified obsidian data in a way that is appropriate for intersite comparison.

Given the presence of Tikal-style material culture at sites along the Great Western Trade Route to the El Chayal obsidian source in the Guatemalan highlands (Woodfill and Andrieu 2012), Tikal should have lots of obsidian in the Early Classic. It certainly does. Though obsidian from the University of Pennsylvania project at Tikal was not collected systematically, a recent estimate of well over

300,000 artifacts seems highly plausible (Moholy Nagy 1997). Unlike the sample at Chunchucmil, most of the obsidian recovered at Tikal is debitage.

Nelson (1989) provides the most detailed model of an overland obsidian trade route from Tikal to northwestern Yucatán. As predicted by the directional model for overland trade, Tikal has more obsidian than the next central place to the north: Calakmul. Yet during the Early Classic, obsidian probably did not pass from Tikal to Calakmul at all. Extensive excavations at four major Calakmul structures, each of which has at least minor Early Classic occupation, recovered only 107 obsidian artifacts (Domínguez Carrasco et al. 1996). This might have to do with the fact that Tikal and the Caan polity, eventually centered at Calakmul, were major enemies in the sixth century (Martin and Grube 1995). Whereas Calakmul was certainly the capital of the Caan polity in the Late Classic, the site of Dzibanche, located further to the east in Quintana Roo, may have been the Caan capital in the Early Classic (Hansen and Guenter 2005; Martin 2003). North of Calakmul, Nelson's proposed overland route stipulates that Becán is the next central place (figure 12.1). Like Calakmul, Becán has far less obsidian than Tikal: 138 artifacts from the 1969–1971 Tulane excavations, 96 of which come from Early Classic contexts (Dreiss and Brown 1989; Rovner and Lewenstein 1997:119). An additional 147 obsidian artifacts came from excavations in 1973 (Stoltman 1978). Without precise information on the volume of excavation or ratios with ceramics, the Becán data are hard to interpret. Furthermore, most excavation lots at Becán were not screened. Nevertheless, El Chayal is the dominant obsidian source at Becán during the Early Classic and El Chayal obsidian in Belize appears to have arrived from Becán as part of an overland route (Dreiss and Brown 1989).

North of Becán, Nelson's model stipulates Dzibilnocac as the next central place, but excavations at Dzibilnocac revealed almost no Early Classic occupation (Nelson 1973:136). This reflects the fact that for portions of the proposed overland route between Tikal to Chunchucmil, we do not know exactly which sites the route would have passed through. Nearer to Chunchucmil, however, quantitative data are available from Early Classic components at two sites that would be good candidates as central places on the purported overland obsidian chain: Chac and Edzná.

At Chac, Michael Smyth's excavations in Early and Middle Classic contexts yielded 110.4 g of obsidian (79 artifacts, 81% of which come from El Chayal) and 377.51 kg of pottery (Michael Smyth, personal communication, 2008). The ratio of grams of obsidian to kilograms of ceramics is therefore 0.29. At Edzná, 96 obsidian artifacts have been reported from the New World Archaeological Foundation excavations (Nelson et al. 1977, 1983), though only nine of these come from Early Classic contexts. Obsidian data from Ramón Carrasco's more recent project at Edzná are not available. Excavations of approximately 133 m^3 in residential contexts

in the northwest portion of the site yielded six obsidian blades from contexts where Early Classic ceramics dominated or made up a large portion of the ceramic debris (Matheny et al. 1983). Quantification of obsidian as a ratio with ceramics is difficult for Edzná because ceramic weights are not given. Furthermore, not all excavations were screened. However, assuming that each sherd has a mass of 10 g, the ratio of grams of obsidian per kilogram of sherds at Edzna is 0.15. The representative sample of houselots excavated at Chunchucmil (see chapter 3) put the figures for Chac and Edzná in perspective. Whereas the ratios of grams of obsidian per kilogram of sherds at Chac and Edzná are 0.29 and 0.15, respectively, the ratio at Chunchucmil is 0.99. The ratio of obsidian to volume of excavation at Edzná was approximately 0.14g of obsidian per cubic meter, as opposed to 2.20 g of obsidian per cubic meter at Chunchucmil.

Thus, both Edzná and Chac received much less obsidian than Chunchucmil. This does not fit the model of directional trade overland, in which Chunchucmil, located furthest from the source, should have the smallest amount of obsidian. We therefore conclude that the main obsidian trade route for Chunchucmil was not overland. The comparison with Edzná and Chac suggests that Chunchucmil was a gateway community (Hirth 1978) for obsidian that would eventually be distributed across the western side of northern Yucatán (Dahlin and Ardren 2002). In other words, obsidian went to Chunchucmil first via the Gulf route and then to sites with ample Early Classic populations further inland, such as Chac and Yaxuná. Excavations at Yaxuná in the 1990s (Stanton et al. 2010) were of a comparable scale to those of Chunchucmil and recovered a total of only 199 obsidian artifacts (Dave Johnstone, personal communication 2006; see also Braswell and Glascock 2002).

We argue that this regional spatial approach (Hirth 1998:454; Renfrew 1977), which highlights the high quantities of obsidian at Chunchucmil compared to other sites with appreciable Early Classic settlement in northern Yucatán, such as Yaxuná, Edzná, and Chac, suggests that Chunchucmil was a gateway for obsidian that would eventually be distributed across the western side of northern Yucatán. Alternatively, it may be possible to argue that Chunchucmil had more obsidian than other sites because chert was scarce. Yet chapter 11 makes the case that the relative abundance of obsidian at Chunchucmil has little to do with access to chert. The fact that Chunchucmil has substantially more obsidian than other Early Classic sites in northern Yucatán only makes sense if the obsidian that arrived in northern Yucatán entered the peninsula by sea near Chunchucmil, which acted as a gateway for distribution to sites further inland.

Thus, Chunchucmil meets a major expectation of the gateway model: it had lots of trade goods. Another important expectation is that gateways should stand at a spot in between two natural or cultural regions or at the juncture of two distinct

legs of a trade route where the cost of moving goods might change. At these junctures, gateway merchants can control the flow of goods. Chunchucmil and its port, Canbalam, meet this expectation because they stand where seaborne goods come inland and begin to travel by foot. Though any port on the coast sits at the juncture between sea and land, Canbalam sits at the entrance to the Celestún estuary and therefore receives protection from the sea by the barrier beach at the southern tip of the Celestún Peninsula. Merchants moving north from Canbalam along the coastline will not find another protected harbor for another 100 km, thus making Canbalam a logical stopping point. The Celestún estuary itself provides a watercourse that parallels the coast and extends northward as far as Progreso. Though this waterway is unstable due to unconsolidated sand dunes, it is protected from the sea and navigable during some parts of the year. Since Canbalam sits at the entrance to the estuary, Chunchucmil could control this waterway.

A third expectation is that gateways should be located at the edge of a region. Chunchucmil satisfies this expectation since it is located as close to the Gulf of Mexico as a large site could possibly be. The land to the west of Chunchucmil, as discussed in chapter 6, consists of seasonally inundated savanna. Dahlin initially thought that Chunchucmil's hinterland settlement pattern should look like a fan, with the area to the west—the savanna—unoccupied with the exception of a corridor of sites along the route to Canbalam. This string of sites would be the handle of the fan. As chapter 8 shows, there are many more sites in this area than just those on the "corridor" to Canbalam, each with houses perched upon small *tzekeles* that stay dry year round. Thus, the idea of a fan-shaped distribution is incorrect (see also Hixson 2011). Nevertheless, since the small size of the *tzekeles* limits the amount of people who can live in the savanna, it is still the case that a large site like Chunchucmil could not exist any further to the west of where it is currently located. Chunchucmil therefore still meets the expectation of a gateway because it is a large site located at the edge of a distinct ecological region: the semiarid karstic plains.

A fourth expectation is that gateway cities should have facilities that enhance trade and the transport of commodities. Beyond having a major central market, which has been demonstrated at Chunchucmil (Dahlin et al. 2007; chapter 11, this volume), such facilities could involve clear paths in and out of the city, constructed routes that facilitate transport across rough terrain beyond the city, and way stations for travelers. The Chunchucmil site-mapping project (chapter 2) and Dave Hixson's regional survey to the west of Chunchucmil (chapter 8) have identified all of these. To the west of Chunchucmil, there are the *andadores* and way stations, described at the end of the previous section, that assist travelers and porters plying the route to and from Canbalam, on the Gulf Coast. Within

Figure 12.4. Map of Chunchucmil showing the hub-and-spoke pattern that connects residential zones to the site center through causeways and *callejuelas*. With the exception of the Aak and Lool groups, all labeled architectural groups are monumental.

Chunchucmil, *callejuelas* serve as clear paths in and out of the city. The layout of *callejuelas* at Chunchucmil resembles a hub-and-spoke pattern, with major *callejuelas* serving as spokes connecting the site center—the hub—to the edges of the site (figure 12.4).

NON-LOCAL MATERIAL CULTURE

For a site deeply involved in long-distance trade, we would expect the material culture at the site to show evidence for long-distance contacts. With regard to ceramics, this might manifest itself in the presence of a high proportion of foreign imports. For example, imports at the Epiclassic market center of Xochicalco make up 3–6 percent of domestic assemblages (Hirth 1998:459). Furthermore, Xcambo, the Early Classic coastal port of trade for the massive inland center of Izamal, had an abundance of Petén-style polychrome pots in its burials (Sierra Sosa 1999). Though Chunchucmil lacks a burial sample comparable to Xcambo, the sample of excavations in over 100 residential groups from the Early Classic revealed that it has far fewer foreign ceramics than Xochicalco's households. However, the ceramics of the Oxkintok Regional Complex, which dominated Chunchucmil's pottery when the city was at its apogee, contains both southern lowland modes (see chapter 4) and details also found in Central Mexican pottery (Hutson 2012b). In this section we call attention to other forms of material culture that reflect non-local influence. We begin by considering the layout of quadrangles and then move to the two extensively excavated residential groups—Lool and Aak—that have remarkable foreign attributes.

In personal communication, E. Wyllys Andrews V has suggested that the form of Chunchucmil's quadrangles resembles Templo-Patio-Adoratorio (TPA) complexes at Monte Albán and other sites in Oaxaca (see Winter 1986). Figure 12.5 presents an array of TPAs from Oaxaca juxtaposed with a type 1 quadrangle from Chunchucmil (see chapter 3 for Chunchumcil's architectural types). The authors of this chapter have mixed opinions regarding the notion that the similarities between TPAs and quadrangles result from contact between people from Oaxaca and Chunchucmil. One of us believes that the resemblance between TPAs and quadrangles suggests the expression of ideological connections with pan-Mesoamerican traditions. The dissenting voices among us highlight details that challenge the analogy. First, Winter's exemplars of the TPA category at Monte Albán (Systems IV and M) have a platform on the opposite side of the patio from the temple but not on the flanking sides (figure 12.5a). Some examples of TPAs do not have a dominant temple (figure 12.5b, c). In fact, of the 24 examples of TPAs given by Winter (1986), only four meet the minimal requirements (one large temple, a patio, a central altar, low structures on the other three sides of the patio) of quadrangles as defined at Chunchucmil. Some TPAs, such as that depicted in figure 12.5c, have little in common with quadrangles. In sum, TPAs as defined by Winter are not close, formal analogs for quadrangles. Second, the extensive excavations in the Pich quadrangle (N1E1-C, see chapter 5) failed to recover any artifacts of Oaxacan inspiration.

Finally, the form shared by Chunchucmil's quadrangles could easily be regarded as a manifestation of an architectural tradition found closer to home, within the

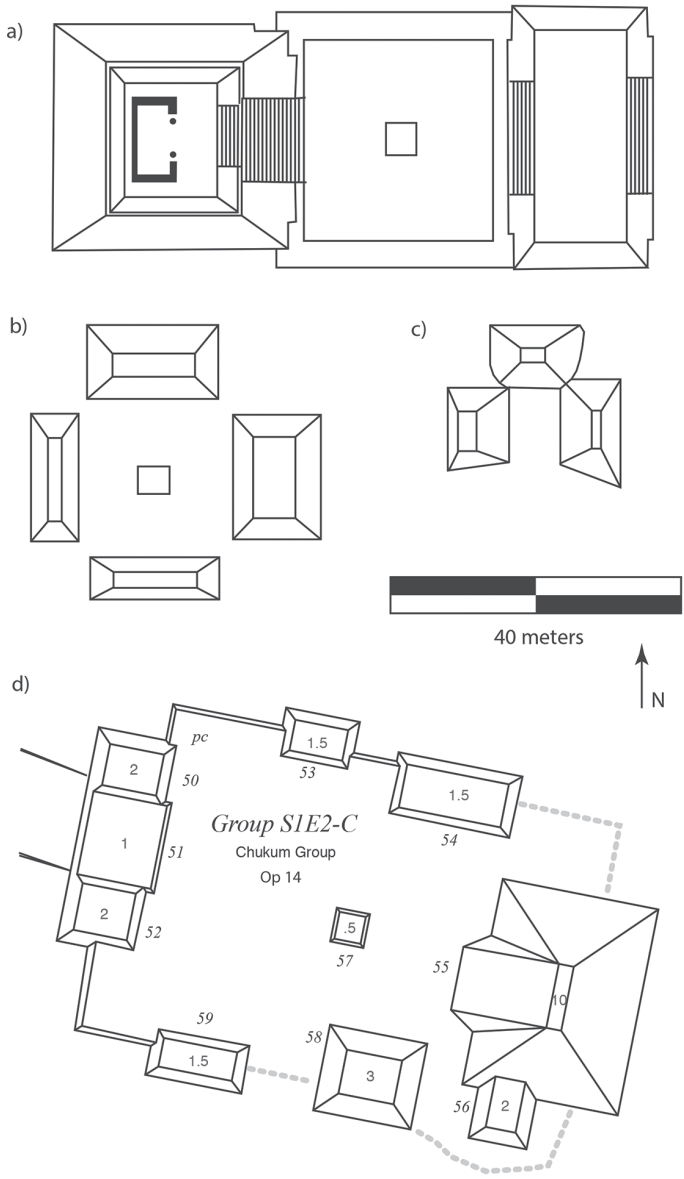

Figure 12.5. Templo-Patio-Adoratorio (TPA) complexes from Oaxaca juxtaposed with a type 1 quadrangle from Chunchucmil: (a) System M, Monte Albán; (b) Terrace 1449, Monte Albán; (c) Terrace 1455, Cerro de la Cruz; (d) Group S1E2-C from Chunchucmil. (a, b, and c adapted from Winter 1986:figures 3 and 5.)

Maya. Chapter 3 lists examples of quadrangles from the Puuc area and southern Quintana Roo. More broadly, the basic plan—a four-sided plaza with a temple pyramid on one side and low platforms on the others—is found widely in the Maya area. George Andrews (1975:11) argues that this plan is the prototype for the basic ceremonial group across the lowlands (see also Kubler 1961). Such a plan manifests itself in contexts ranging from the first ceremonial plazas at Preclassic Cuello, Belize (Hammond 1999:50), to Plaza Plan 2 identified in the Classic-period Petén (Becker 1991). In closer resemblance to Plaza Plan 2, the temples in 12 of the 15 type 1 and 2 quadrangles at Chunchucmil are on the east side of the patio (see also chapter 3), a pattern not seen in Oaxaca. Of course, the phenomenon of a temple facing a quadrilateral courtyard is in fact general enough to include examples from well beyond the Maya area. Though it would be more parsimonious to suggest that the people from Chunchucmil followed local cultural traditions, we cannot refute the notion that their embrace of this general form might also reflect cosmopolitan ambitions.

THE LOOL RESIDENTIAL GROUP

Horizontal excavations at the Lool houselot (group N2E2-N, Op. 13) uncovered three structures situated around the northern, eastern, and southern sides of a small central patio (figure 12.6). The Lool group is labeled in figure 5.1 directly northeast of the Pich group near the northeast edge of the site center (see also figure 12.4). The remains of a quadrangular structure can be found on the west side of the patio and a *chich* pile is in the center. The northern structure, Structure 74, is a very low platform with the remains of a small circular enclosure on its western edge. The eastern structure, Structure 75, is an approximately 3-m-tall platform built in the *talud-tablero* style (figure 12.6) with associated artifacts that likewise demonstrate a strong connection to traditions best known from outside the Maya area. The southern structure, Structure 76, consists of a low platform that supported an elaborate residence with four rooms, a bench, and two columns facing the patio. The Lool group is disturbed by a gravel road that cuts through the group immediately to the east of Structure 75. Based on ceramic evidence and a single radiocarbon date, the three main structures of this group were all built during the late facet of the Early Classic period and retained little evidence of later modifications. Structure 75, the platform, had a smaller interior substructure, only a few meters square, that was likely the original houselot shrine. Structure 76, the residential area, had a few minor additions, such as the bench. Phosphorus sampling confirmed the location of an outdoor kitchen area immediately adjacent to Structure 76.

The stone walls that enclose the Lool houselot circumscribe an area of approximately 3,400 m^2, which is below the mean (4,197 m^2) but close to the median (3,575

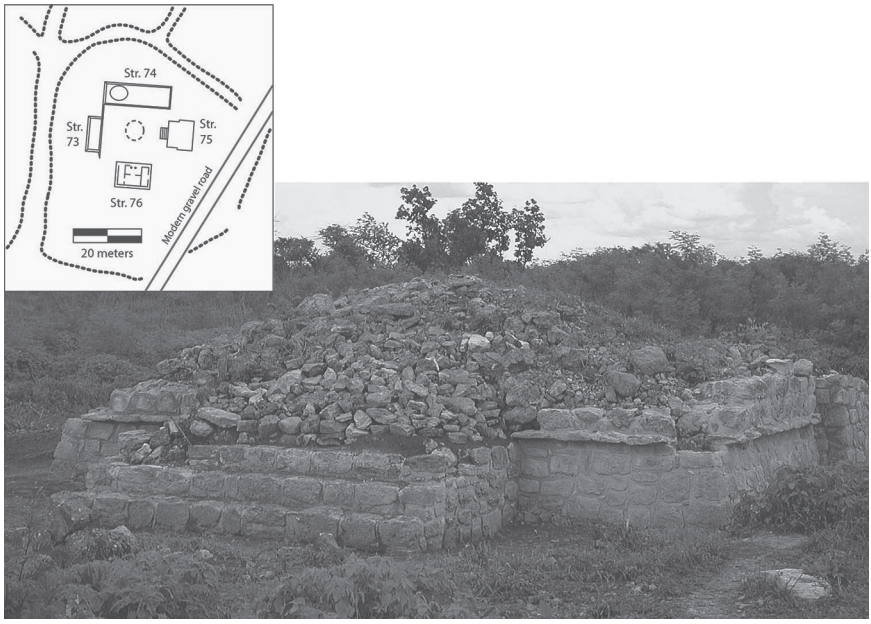

Figure 12.6. Photo of Structure N2E2-75, showing *talud-tablero* façade. The map at upper left shows the location of this structure within Group N2E2-N/Lool.

m^2) for a sample of 392 architectural groups that are mostly enclosed by *albarrada* walls (Magnoni et al. 2012). The volume of architecture is 440 m^3, which is right at the median but predictably below the mean (770 m^3), given that the site's monumental quadrangles skew the large end of the distribution. Structure 75, on the east side of the group, is a platform whose base measures approximately 7 m east/west by 8 m north/south. It has a single staircase on the western or patio side that leads half way up the structure. There are no other points of access into the building and like eastern structures at other residential houselots at Chunchucmil, this platform was likely a focus for ancestral activities. The front and side walls of Structure 75 were made of evenly cut, worked stone set in thick mortar. The back of the structure, however, was made of very irregular stones set with larger amounts of stucco and plaster. The structure displays the distinctive *talud-tablero* design of outward sloping walls topped with slab stones, and was covered originally with simple modeled stucco. The basal portions of the northern, southern, and eastern walls were battered at a slope of 70 degrees. Along the northern and southern walls (but not the east), at approximately 80 cm above ground surface, was a single horizontal line of rough-hewn slab stones (*lajas*) that projected from the platform. The *lajas*

supported a row of larger cut stones, ranging between 30 and 40 cm in length and 20 and 30 cm in height that projected farther out than either the lower wall or the slightly inset upper wall. The configuration of a vertical face on top of a battered foundation, separated by a line of *lajas*, is an example of the *talud-tablero* architectural style associated with the Central Mexican site of Teotihuacan but found throughout Mesoamerica from the Late Preclassic through Postclassic periods (Gendrop 1984; Giddens 1995; Heyden and Gendrop 1980; Marquina 1964). A limited number of sites in the region surrounding Chunchucmil also contain *talud-tablero* architecture, at both elite and houselot settings, and these particular sites were likely also engaged in heightened commercial activity in the Early Classic period (E. W. Andrews IV and E. W. Andrews V 1980; Ardren and Lowry 2011b; Rodríguez Pérez et al. 2011; Stanton 2005).

Limited excavation into the area behind the stairs on the western (patio) side of Structure 75 revealed a very small substructure (80-cm-x-1.2-m) with a cache completely encased by the construction of the stairs and *talud-tablero* walls of the platform. Just below the surface of the Structure 75 stairway and in front of the substructure, an unusual cache vessel and burial had been placed into the construction fill. The cache consisted of a 15-cm-tall cylindrical tripod vase with a small inverted bowl for a lid, set into loose reddish soil stained with hematite. The Teotihuacan-style vase contained the same reddish brown soil and a large quantity of small bone fragments. The bones have been identified as the remains of a human cremation (Vera Tiesler, personal communication 2002). At Teotihuacan, cremated burials are relatively more common than they are in the Maya area, and both Manzanilla and Rattray assert that the most important individuals from each compound at Teotihuacan were cremated (Manzanilla 2002; Rattray 1992). Within Teotihuacan's Merchants' Barrio, which has cultural affinities with what is now coastal Veracruz, burials are often placed inside altars or ancestral shrines, and tripod cylinder vessels are a common burial offering (Manzanilla 2002; Rattray and Civera Cerecedo 1999).

Conservation revealed polychrome hieroglyphic painting on the exterior of the cylinder vase. While small glyphic elements are recognizably Maya, others are not identifiable and the inscription overall is both very early and very poorly preserved. Analysis of the text indicates it is Early Classic but largely undecipherable (Alfonso Lacadena, David Stuart, and John Justeson, personal communication 2004, 2012). Given the rarity of finding such an intact vessel in the northern lowlands, it is difficult to assign the cache vessel to existing ceramic types. The red slip and black line drawing over a buff paste is consistent with northern lowland ceramic technology and practice during the Early Classic period, and it is unlikely the vessel is a true import but is rather a local copy, or homology, of a form known best from Central Mexico (Ball 1983; Stanton 2005). The open-work supports do not match the most

common form of such supports found in the Maya area, but rather a style (Type D in the Ortíz and Santley schema) found most often at Teotihuacan (Hutson 2012b; Ortíz Ceballos and Santley 1998).

Ceramics from Structure 75 fall within the Oxkintok Regional complex, and both local and imported wares were recovered. Local types include those from the Hunabchen and Kochol groups, and imported types include wares from the Balanza group that show connections with the central Maya lowlands as well as Dos Arroyos from the southern lowlands (Varela Torrecilla and Braswell 2003:261). Varela Torrecilla and others have described the Oxkintok Regional complex as exhibiting an "inter-regionalism" of ideas and materials from throughout Mesoamerica, in stark contrast to the regionally specific traditions of the beginning of the Early Classic period (Varela Torrecilla and Braswell 2003; Rodríguez Pérez et al. 2011).

The deliberate use of non-local stylistic elements in the architecture, artifacts, and burial patterns of the Lool houselot group signals an effort by residents of this modest household near the center of the site to express ideological connections with pan-Mesoamerican traditions also known as Early Classic internationalism. While the architecture and ceramics of the Lool group are not true imports from outside the northern lowlands, they nonetheless fall outside local (and highly conservative) traditions. Data from the Lool group reflects the intense hybridization that occurred at Chunchucmil during this time, likely as a result of the active Gulf Coast trading systems. The *talud-tablero* ancestral shrine, cylinder vase, and cremation burial practice can also be seen as material elements that reinforced an identity based on commercial (rather than primarily agricultural) economic activity (Ardren 2015; Magnoni et al. 2014).

THE AAK RESIDENTIAL GROUP

Horizontal excavations in the Aak houselot (group S2E2-F, Op. 9c/3g) uncovered a surprising amount of foreign goods. This houselot, located approximately 600 m southeast of the site center, consists of five stone structures, four of which were built on an artificially and naturally raised patio platform (figure 12.7). It is labeled to the southeast of the site center in figure 5.1, south of Area F (see also figure 12.4). A total of 336 m^2 was excavated in the Aak houselot, including three completely cleared structures (S2E2–22, 23, and 24). Three of the four structures on the patio platform are residences. The structure on the east side of the patio (S2E2–23) is an ancestor shrine. Before the shrine was built, a house with a plaster floor (23-sub1) occupied the location. At a point early in the history of the group, the floor was broken, a stone-lined cist with two burials was prepared, and the cist and burials were covered by a square platform. At this same time, the patio platform and the

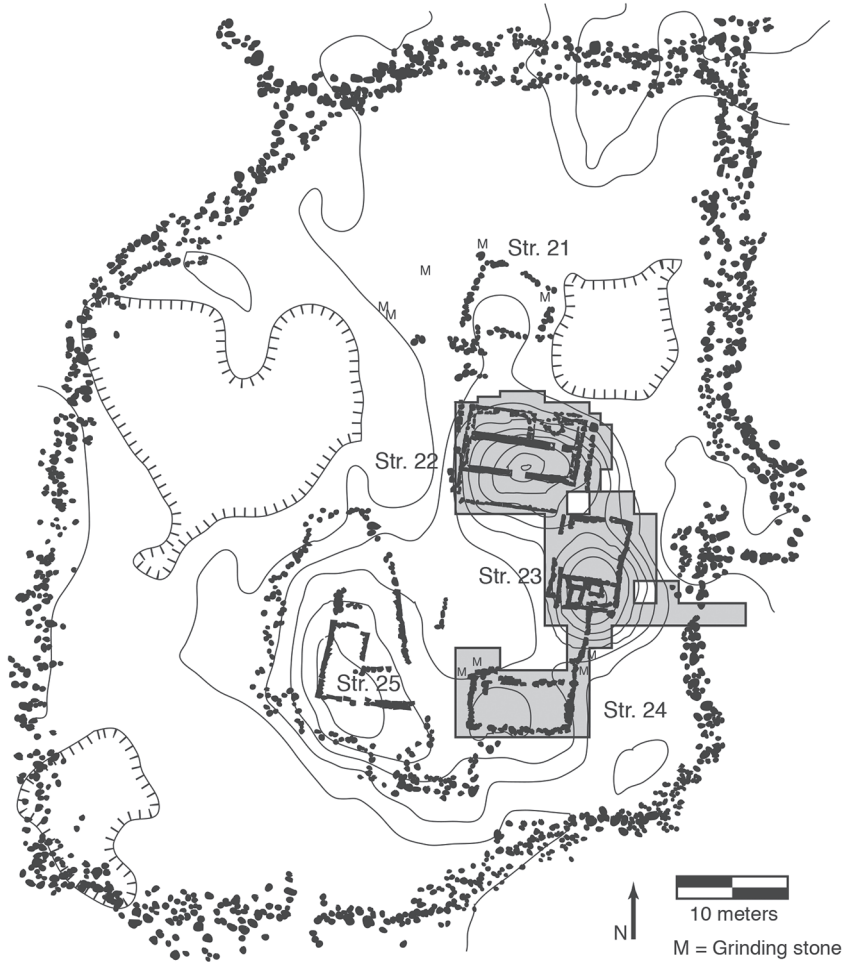

Figure 12.7. Map of Group S2E2-F/Aak. Contour lines are 25 cm.

house on the north side of the patio (S2E2–22) were built. This house had masonry walls extending to the roof, which was built of wood beams and mortar. The other two houses (S2E2–24 and 25) were built later. They had stone walls rising perhaps halfway to their roofs, which were perishable. Of the three houses, S2E2–22 was clearly the most elaborate and required the most effort to build. Presuming that there were three nuclear families living in the Aak houselot in its final stages, the head family of the group probably lived in S2E2–22. The building located off the patio (S2E2–21) was an auxiliary structure, probably a kitchen, given the presence

of *metates* nearby. It sat on its own stone platform but was smaller than the houses on the patio and lacked stone walls.

Architectural modifications allow the chronology of the houselot to be divided into five stages. The first stage is not well known and corresponds to 23-sub1, prior to the construction of the patio platform and the shrine. The next stage is marked by the construction of the shrine, patio platform, and S2E2–22. The final three stages correspond to modifications to the temple as well as other changes. For example, at the beginning of the fourth stage, the construction of Structure S2E2–24 demolished and covered an earlier kitchen located to the southwest of the shrine, presumably triggering the construction of the S2E2–21 kitchen off the patio. Elsewhere we have suggested that the latter four stages pertain to four human generations (Hutson et al. 2004).

The *albarrada* that encircles the Aak houselot encloses an area of 3,910 m^2, which is close to both the median and mean area (3,597 m^2 and 4,197 m^2, respectively) of the 392 architectural groups that were sufficiently well enclosed to permit an area measurement (Magnoni et al. 2012; see also Hutson et al. 2006). The total volume of the structures and platforms in the Aak houselot is 370 m^3, which is below the mean and median volumes (443 m^3 and 740 m^3, respectively) for that same sample of 392 groups. Thus, to the extent that household wealth can be assessed by the volume of architecture (Abrams 1994; M. E. Smith 1987) and the amount of terrain for gardening associated with the houselot (Hutson et al. 2006:87; Smyth, Dore, and Dunning 1995; Tourtellot and Sabloff 1994), the Aak group would be considered average or below average.

The Aak group's average/below-average rank among other houselots at Chunchucmil is what makes the quantity of foreign goods a surprise. These goods include 670 obsidian artifacts, 58 jade ornaments, 15 *Spondylus*-shell ornaments, 15 *Spondylus*-shell fragments, and sherds from a Teotihuacan-style cylinder tripod vessel. All of the *Spondylus*-shell and all but one of the jade ornaments came from the two burials placed in the cist in the center of the shrine. The other jade ornament was encountered on the plaster floor of one of three stone compartments built immediately south of the shrine in the second and third stages. These compartments were filled in and incorporated by the shrine during the fourth stage. The obsidian, consisting almost entirely of prismatic blade fragments, was found throughout the group, although a bit more than half of the artifacts came from a midden off the northeast corner of the patio. Microscopic use-wear analysis suggests that the occupants used much of the obsidian to process fibers (Hutson et al. 2007). The Teotihuacan-style sherds consist of open-work rectangular supports from two separate vessels. One vessel is a cylinder tripod pertaining to the Chencoh ceramic group, a thin pottery with red slip common at nearby Oxkintok at the end of the Early Classic. The other

vessel cannot be described because the support to which the vessel was attached was broken off the vessel in such a way that it does not contain diagnostic information on vessel form or finish. Open-work supports are common on vases with plano-relief incision at both Teotihuacan (Rattray 2001) and Veracruz (Ortíz Ceballos and Santley 1998). Ortíz Ceballos and Santley present six types of open-work supports, distinguished by their decorations. The two examples from the Aak group are different from each other and pertain to none of Ortíz Ceballos and Santley's six types (Hutson 2012b). Approximately 2 percent of Aak obsidian came from the Pachuca source in Central Mexico, which was controlled by Teotihuacan.

Based on their familiarity with cosmopolitan styles and access to exotic foreign goods (jade, Pachuca obsidian), the occupants of the rather modest Aak houselot (and probably others not yet explored intensively) appear to have been involved in Chunchucmil's long-distance commerce. This differs from a pattern proposed earlier in which elites monopolized long-distance trade in the Classic period (McAnany 1993). At Chunchucmil, it appears that elites (presumed to reside in the quadrangles) cooperated with lower-status households at the site.

CONCLUSION

Chapters 10 and 11 established the presence of marketplace exchange at Chunchucmil and the role of a variety of commodities from within the Chunchucmil economic region; this chapter establishes the role that Chunchucmil played in economic processes that extended well beyond Chunchucmil. Caracol stands as an analogy to Chunchucmil when considering the role it played in long-distance trade. According to Chase and Chase (2014:246) Caracol managed "the flow of metamorphic and other resources out of the Maya Mountains into the Peten, thus impacting trade throughout central Belize and the southeast Peten." LiDAR imagery supports this claim insofar as it shows that Caracol's causeway system extended nearly all the way east to the source of metamorphic rock and west at least to the border of Guatemala (Chase et al. 2014:215). We have argued that Chunchucmil's role in Gulf Coast trade, which minimally involved obsidian, made it a key node—a gateway center—in a much larger economic system: a macroeconomy.

Not surprisingly, Chunchucmil's status as a gateway center exposed it to non-local practices and material culture. Some households, like the one that occupied Group N2E2-N/Lool embraced such non-local traits, expressing ideological connections with pan-Mesoamerican traditions also known as Early Classic internationalism. People in the Aak houselot (Group S2E2-F) also embraced internationalism, though in different ways. The other five extensively excavated contexts show less evidence for non-local influence. Nevertheless, the Oxkintok Regional ceramic

assemblages from these residential groups exhibit an interregional flavor that contrasts with the starkly local and conservative Early Classic ceramic traditions from elsewhere in the northern lowlands. A variety of hypotheses could account for variation in the degree to which households embraced material culture that broadcasts long-distance ties: differences in occupation, differences in the intensity of ties to quadrangles and other leadership institutions, different consumer preferences, and more. We lack the data to test these hypotheses.

The next chapter presses further into Chunchucmil's macroeconomy with a consideration of trade in foodstuffs beyond Chunchucmil's hinterlands to the east.