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## Conclusions

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## Conclusions

SCOTT R. HUTSON

Thus far in this book, we have established a number of points about ancient Chunchucmil and its economy. We showed that the city's population was between 31,000 and 48,000 at the end of the Early Classic period (chapters 4 and 5). At this time, the number of people living in Chunchucmil's hinterland was at least as large as the number of people within the site itself (chapter 8). Extensive soil studies showed that the land around Chunchucmil could not have provided enough food to support all of these people (chapter 9). At the same time, Chunchucmil and its hinterland sites to the west were located in a way that enabled them to take advantage of a variety of environmental niches and non-food resources, such as salt, cordage, roofing thatch, and more (chapters 6 and 10). These contextual lines of evidence (see also chapter 11) strongly suggest that Chunchucmil engaged in commerce, exchanging non-food resources to ameliorate the shortfall in food production from local land. The identification of a central marketplace and evenly distributed commodities throughout the site further strengthens the argument for the importance of commerce (chapter 11). Chunchucmil's central marketplace offered both food and non-food items. The preceding chapter (12) presented lines of evidence that meet other expectations derived from the hypothesis that commerce was central to Chunchucmil's economy. For example, a Gulf Coast-based trade route extending into the highlands to the south was viable when Chunchucmil was booming, Chunchucmil had a port on the Gulf Coast, there were features that facilitated travel between the port and Chunchucmil, and there is evidence

within Chunchucmil of material culture resembling that of faraway places. In sum, Chunchucmil was a gateway center.

The picture, however, is incomplete in a variety of ways. Among other things, the authors in this book have not discussed who managed trade, where food came from and how it got to Chunchucmil, nor the political and social consequences of an economy that was based heavily on commerce. The present chapter aspires to tie up these loose ends. I have saved much of this discussion for the final chapter because some of these themes involve a greater degree of speculation. I begin by discussing some of the mechanics of trade (leadership behind long-distance ventures, transport of bulk goods, currencies) and then move to the consequences.

#### HOW DID TRADE WORK AT CHUNCHUCMIL?

Discussing the mechanics of trade involves a series of interlocking factors, some of which have been discussed already. For example, we know where Chunchucmil's main market was, we know that this market supplied food (as seen in the high phosphate signatures), pottery, and obsidian (as seen in distributional data), we know the trade routes upon which obsidian traveled from the highlands to Chunchucmil, and we suspect that these distant suppliers got salt in return for obsidian. But precisely who managed this long-distance trade?

To begin the discussion of who managed long-distance trade and how, I focus on trade to the south of Chunchucmil, along the Gulf Coast and then inland to the Petén and beyond. I highlight two goods, salt (because it is an excellent candidate for export from Chunchucmil) and obsidian (because of the ease of tracking trade routes to El Chayal, the main source for Chunchucmil obsidian), while also recognizing first that a broad variety of other goods (greenstone, cacao, feathers, pelts, slaves, dyes, etc.) would also have been on the move and second that trade could have been much more complex than simply salt for obsidian, perhaps involving currencies (see below) and other items. Later in this section I discuss the movement of bulk goods like staple foods.

Revisions of our understanding of the extent of Teotihuacan's obsidian business (Clark 1986) and reconsiderations of the evidence of Teotihuacan influence at Kaminaljuyú (Braswell 2003) make it difficult to claim that Teotihuacan merchants managed the trade of El Chayal obsidian across the Maya area (cf. Brown 1977). Though it may still be safe to assume that elites at Kaminaljuyú controlled access to the El Chayal source (Dreiss and Brown 1989; Nelson 1985), there is room to speculate on who managed the circulation of El Chayal obsidian (and other goods) to and through the lowlands. Given Tikal's presence along the Pasión River in the Early Classic (see chapter 12), the notion that Tikaleños engaged directly in trade

with the highlands or served as an intermediary marketing hub (Dreiss and Brown 1989:85) is likely.

Even if Tikaleños moved obsidian and other goods not just along the *Pasión* but also down the *Usumacinta* and along the Gulf Coast, there is a compelling reason to speculate that people from Chunchucmil also got involved in Gulf Coast/*Usumacinta* trade. While Mayanists now recognize that more and more Classic-period cities depended for their livelihoods on trade (Freidel and Shaw 2000; King 2015; Masson and Freidel 2012), we have argued in this book that Chunchucmil was in a particularly tight spot in terms of getting a very basic thing: food. Chunchucmileños might have waited for other merchants to bring them what they needed. For example, in the contact period there is documentation of Zoque towns bringing food to towns in the Chontalpa (the area of the Gulf Coast that is now part of the modern Mexican state of Tabasco) that specialized in cacao and salt production but were not agriculturally self-sufficient. Yet to my mind, the people of Chunchucmil, facing food shortages, would have been especially motivated not just to wait for trade but to initiate it on their own. This does not mean that Chunchucmil “controlled” Gulf Coast commerce, nor does it mean that other merchants didn’t use Chunchucmil as a port of trade. Chunchucmil may not have gotten much staple food in their trade down the Gulf Coast and into the southern lowlands; I argue below that much of the food trade to Chunchucmil came from people to the east. Even so, trade for non-food goods down the Gulf Coast and into the southern lowlands would still have been linked to basic subsistence at Chunchucmil if we presume, as we did in chapter 12 (see also Hutson et al. 2010), that merchants from Chunchucmil passed on these goods (obsidian, for example) to inland sites. Thus, I speculate that Chunchucmileños organized long-distance trade ventures to the south.

The logistics of these ventures imply coordination and cooperation of many actors (Rathje 1971; Clark 1987:273; Rice 1987:80). These logistics include stimulating the production of surplus goods (such as salt) to exchange for obsidian, outfitting trading expeditions with canoes and other equipment to make the journey, gaining knowledge of and access to provisions and freshwater sources along the route, negotiating safe passage through foreign territory, maintaining trade relationships with producers/suppliers of polyhedral cores far to the south, and conducting the exchange itself, possibly in different languages.

Thus, getting obsidian (and other goods) was a collective enterprise requiring leadership above the level of the household, but probably not so complex an enterprise as to require a centralized state (Chase 1992; Clark 1986). Though the amount of obsidian coming into Chunchucmil and passing through it on the way to other inland sites was not enormous (see Hutson et al. 2010), obsidian was probably not

the only good coming north to Chunchucmil on canoes. Greenstone (see chapter 11, this volume; Woodfill and Andrieu 2012), feathers, and cacao are also candidates. The volume of trade once again suggests a collective enterprise requiring the guidance of large, resourceful corporate groups. Dahlin (Dahlin and Arden 2002:269; Hutson et al. 2010) suspected that each quadrangle may have been the headquarters of such a group, serving to store goods, receive visiting merchants, and more. Excavations at the Pich quadrangle (Group N1E1-C, chapter 5) indicate that it served as a ceremonial space as well as a high-status residence and had the capacity to store goods and receive merchants. The quantities of labor required to construct the pyramids within the quadrangles suggest that the leaders who lived there had the skill, managerial experience, and clout to be able to coordinate local surplus production and long-distance exchange. The labor invested in the pyramids also suggests that these leaders could count on the willing cooperation of some sector of the site's population. Feasts that took place inside the quadrangles (Dahlin et al. 2010:211–212) may have been a reward for followers. An independent line of evidence supports the notion that quadrangles were affiliated with constituencies of supporters. Most quadrangles at Chunchucmil have *callejuelas* that connect them to a wedge-shaped conglomeration of houselots (Hutson 2016). These conglomerations hold anywhere from 100 to 2000 people and the ceremonial patios of each quadrangle are large enough to accommodate these numbers of people.

The role of leaders in the quadrangles probably extended beyond sponsorship of long-distance trade expeditions. They probably organized the salt harvest, oversaw the central market, and perhaps negotiated trade for foodstuffs. Salt, because it is extremely patchy, occurring only in the salt flats, is a commodity subject to control by a limited number of actors. I imagine that the occupants of quadrangles may have been some of the first settlers at Chunchucmil and claimed ownership over the most productive salt flats (i.e., the principle of first occupancy: McAnany 1995:112; Webster 1992). It makes sense for leaders to covet salt because it was a strategic trade good in high demand across the lowlands. In the Terminal Classic period, Chichén Itzá controlled salt works located over 100 km away (Kepecs 2003). Following a well-documented contact-era pattern of followers working the estates of leaders (Foias 2002:227), the laborers who actually worked a particular quadrangle's salt flats were most likely people from the houselots affiliated with that quadrangle, though they could also have been drawn from the small sites to the west of Chunchucmil (see chapter 8). I assume that these saltworkers benefited from their loyalty to the leaders of the quadrangles: they probably received, via redistribution, some of the other exotic goods that came from the trade expeditions organized by quadrangles, such as jade. Excavations in Chunchucmil houselots show access to jade (chapter 12, this volume; Dahlin 2009; Hutson et

al. 2010:90–91). Households working the salt flats may also have been allowed to pocket their own salt. Perhaps they worked as tenant harvesters. Less-productive salt flats may not have been under the control of quadrangles.

Chunchucmil's central marketplace was probably sponsored and regulated by a coalition of quadrangles because it is located right at the crux of the *sacbe* system that links the quadrangles. The leaders in the quadrangles had much to gain from a smoothly running market. By selling obsidian and perhaps other long-distance goods at the central market, leaders could get access to goods whose production, unlike salt, they most likely could not control, such as pottery, fibers, cordage, thatch, honey, fish, lumber, and so on (West 2002). By sponsoring marketplaces, they could perhaps levy a charge on vendors who wanted to use a booth at the marketplace (Shaw 2012). Even if leaders could not benefit economically from marketplaces, they could gain a degree of prestige or symbolic capital from hosting them (Hirth 2010) and could gain an outlet for exchanging goods they collected as tribute (Garraty 2010:20–21).

Thus far, I have considered (1) exchange between Chunchucmil and people far to the south and (2) exchange within Chunchucmil. A third kind of exchange involves that between people from Chunchucmil and those producing food surpluses beyond Chunchucmil. This is the least-understood aspect of Chunchucmil's economy. To restate the theme of chapter 9, the people of Chunchucmil grew corn in low-yield outfields beyond the site and in small houselot gardens (see Groups S2E1-G/Kaab' and S4W8-F/Balam, chapter 5) and likely hunted and fished to the west, but they probably needed additional sources of food to feed the minimum number of people (60,000) in the area. Dahlin often noted that some of the best land for farming in Yucatán is located between 50 and 100 km to the east, just north of the Sierrita de Ticul between the modern towns of Muna and Oxkutzcab. This area was a major granary of Yucatán during the colonial period (Patch 1977; Kurjack et al. 1979; Kurjack and Garza Tarazona de González 1981; Robles Castellanos and Andrews 1986). Compared to the Chunchucmil region, this area was relatively underpopulated when Chunchucmil reached its peak (Garza Tarazona de González and Kurjack 1980), suggesting that it could have been a breadbasket during the Classic period as well. Roman Piña Chan's (1978) survey of the 1549 *Lista de Tributos* showed that people from this exact area, the Maní province, produced major surpluses in corn. The people from the Ah Canul province, located in between Chunchucmil and the Maní territory, also produced surplus corn.

A number of studies show that in Mesoamerica, distances of between 50 and 100 km are entirely feasible in terms of costs and benefits for humans transporting bulk foods like corn by foot. Drennan (1984a, 1984b) estimated that costs outweigh benefits once the travel distance reaches 137.5 km, or 275 km round trip (see also

Cowgill 1993; Sluyter 1993). According to Sahagún, maize came to the Tlatelolco market from as far as 200 km away (Hirth 2013:93). Elsewhere in Central Mexico during the contact period, the *Relaciones Geográficas* document families traveling between 50 and 160 km to get maize, and people regularly moving crops 100 km in times of local shortfalls (Hirth 2013:93). Using tumplines or backracks, porters could carry loads of 40 kg (McAnany 2010:254) and perhaps up to 90 kg (Hirth 2013:92). As Masson and Freidel note (2012:477; 2013:219), food interdependency among regions separated by such distances was probably very common among the ancient Maya. Culbert (1988) argued that Tikal imported food from up to 100 km away in the Late Classic period. Average annual rainfall may vary up to 50 cm per year in adjacent areas and it is also the case that within a single area that receives similar average rainfall per year, some places by mere chance alone get more or less rain in any given year. Thus, localized droughts and fluctuations in agricultural productivity drove a need for bulk food exchange (Freidel and Shaw 2000; Masson and Peraza Lope 2014:274). We have argued in this book that bulk food exchange at Chunchucmil occurred steadily, as opposed to merely on the occasion of drought. Corn could be stored for up to three years and leaders amassed currencies such as shell beads to trade for corn (Freidel and Shaw 2000). Marketplaces in Mesoamerica played a key role here because they “had an enormous effect in mobilizing bulk resources over short to intermediate distances of 30 to 150 km” (Hirth and Pillsbury 2013a:15; see also Hirth 2013; Tokovinine and Beliaev 2013:170).

The difficulty resides in specifying the details of exchange with food producers 50–100 km to the east. Such producers would not have been part of Chunchucmil’s polity. If they were part of some other polity, we need to consider how goods moved from one polity to another. Carol Smith (1976) provided several models for this sort of movement (see also chapter 11). In the solar marketing model, each polity would have a major market in the polity capital and producers in the hinterlands were only able to use markets at their capital. If a solar market model was in operation, a limited amount of goods crossed polity boundaries and they did so as part of official diplomatic missions. Alternatively, in an interlocking market system, political boundaries did not heavily affect economic boundaries. Unlike a solar marketing system, there would have been several secondary markets and producers could choose which market to use. Evidence can be found for both solar market systems and interlocking market systems. At Tikal and Palenque, common utilitarian pottery appears to have circulated within polity bounds, as part of a solar marketing system (West 2002). Sheets (2000) argues that villagers at Cerén in El Salvador had a choice of which markets to use, thus implying an interlinked market system. The presence of markets not just at large cities but also at smaller Classic-period centers like Motul de San José, Buenavista, and Trinidad de Nosotros leads



Masson and Freidel (2012:478, 2013:220) to argue for interlinked market systems in the southern lowlands. Tokovinine and Beliaev (2013:170–172) review contact-era ethnohistorical sources from highland Chiapas that indicate voluminous trade across political boundaries, falling in line with a broader argument about more-intensive commercialism in the Postclassic (Masson 2002b; Sabloff and Rathje 1975). Braswell (2010) has argued that the degree of boundedness in market systems correlates with the degree of political centralization: areas or eras of decentralization feature less-bounded market systems. Competing political alliances affected the flow of goods during the highly centralized Late Postclassic in Central Mexico (Minc 2006) and during Classic-period antagonisms between Tikal and Calakmul (see below).

At present, we do not understand the archaeology between Chunchucmil and the potential breadbasket to the east during the middle of the Classic period well enough to specify precisely how exchange across this distance occurred. In a solar market system, high-level leaders would be more heavily involved. Yet the lack of massive Early Classic sites in the area between Muna and Oxkutzcab suggests that there may not have been strong leaders involved. In a less bounded system, a variety of types of actors and groups could get involved. Quadrangle leaders could have commissioned porters to take salt or long-distance goods such as obsidian to the east in exchange for food. Alternatively, smaller social units, such as large households, could have amassed a surplus of coastal, estuarine, and savanna resources and sent a few people eastward to exchange them for food. They could consume that food themselves or sell it at Chunchucmil's market in exchange for obsidian or perhaps more fungible equivalencies. The chemical data presented in chapter 10 and elsewhere (Dahlin et al. 2007, 2010) certainly point to sales of food at Chunchucmil, as do the murals at Calakmul, though a case can be made that this kind of food selling is more like a restaurant and less like a grocery (Speal 2014).

Speaking of equivalencies, did any of this trade involve currency? Freidel and Shaw (2000) argue that currencies would have been particularly useful in non-local trade for maize. Currencies used widely in Postclassic Mesoamerica include cacao beans, metal bells, salt, and cotton mantles (Berdan 2003). In the Maya area, jade and *Spondylus* beads could also have been used as currency (Freidel et al. 2002). The use of beads and cacao beans as currency in Classic-period Maya markets would blur the distinction between what Hirth (2010:233) calls staple goods markets and prestige goods markets. Indeed, Masson and Freidel (2013:201) call for precisely the kinds of economic models that reconnect staple and wealth finance. Very few commercial items have an exchange equivalence of precisely the same value; one usually costs more than the other. Here, a currency such as salt, which is infinitely partible and divisible, could have served as a third item, added to the value of the

less-expensive item, to establish the equivalency of a transaction. Such currencies may also have been used to pay for services along trade routes. Finally, traders who had established mutual trust through multiple successful exchanges may have used credit in some transactions.

#### HOW DID CHUNCHUCMIL'S ECONOMY DEVELOP?

Given the scarcity of pure Late Preclassic contexts at Chunchucmil (chapter 4), we have difficulty understanding precisely how Chunchucmil grew from a modest settlement to a large city engrossed in commerce. Based on a survey of premodern societies across the world, Blanton and Fargher (2010) note that highly commercialized economies develop in contexts where there is collective political organization, large population, and potential for agricultural surplus (see also Sanders and Webster 1988; Trigger 1972:582–584). Chunchucmil never had much potential for agricultural surplus. In place of agricultural surplus, Chunchucmil could have maximized several other resources such as salt. When Chunchucmil was booming, it appears to have had collective political organization (see below) and a large population, yet large population could have been a result of commercialization as opposed to a cause of it (Ardren 2015). Marketplaces attract people because they make exchange more efficient. They provide a space where buyers can find a variety of sellers and goods, and where sellers can find a critical mass of buyers. This spares buyers and sellers from having to travel very far to complete their transactions. Marketplaces also help households provision themselves. Furthermore, as an outlet for exchanging surpluses, marketplaces provide an incentive for households to specialize in crafts and increase surplus production (Hirth and Pillsbury 2013a:16).

Whereas these attractions of marketplaces tend toward the economic, marketplaces also provided other kinds of attractions. The best information for this comes from ethnohistorical sources on Central Mexican markets in the sixteenth century (Hutson 2000). The variety of goods for sale at the Tlatelolco marketplace, adjacent to the Aztec capital of Tenochtitlán, astounded the first Spaniards who saw it. Many people went to the market just to see what was sold. Others came to gossip, socialize, and stroll. Clendinnen (1991:147–148) drew explicit attention to the possibility that the social excitement of the market was its main draw: like any other “large, promiscuous social gathering,” the Aztec market “exercised a powerful attraction over its habitués.” Natives found great pleasure in visiting the market (Durán 1951:2:216–217; Torquemada 1943:556). A variety of spectacles occurred at the marketplace: slaves performing, slaves attempting to escape, executions of thieves, foreigners with distinctive clothing, and occasional carnival-style buffoonery with bodily humor. Young men and women caroused and flirted (Durán 1951:1:256). I

have argued before that Mesoamerican marketplaces were liminal spaces where social-status hierarchies were suspended, encouraging not only unpredictable interactions but also commerce between people who might not interact with each other in other contexts (Blanton 2013; Hutson 2000).

In any event, once a properly run market gets going, it can bring fame to a settlement and attract more people to it (Hirth 2010; Hutson 2016). In both the Maya area and Central Mexico, authorities boosted the attractiveness of markets by enforcing honesty and order (Hirth 2010:238; Masson and Freidel 2013:208). Not all markets have such oversight features. The fact that Chunchucmil boomed as a market city suggests early elite oversight of its market. Yet we do not really know which came first at Chunchucmil, the market or the masses of people. Chunchucmil had Late Preclassic settlement and the fact that Canbalam had Late Preclassic pottery implies that Chunchucmil's Late Preclassic population was active on the Gulf Coast. If Late Preclassic Chunchucmil were a port of trade active in obsidian, as was Classic-period Chunchucmil, we might expect some blades from the San Martín Jilotepeque/Río Pixcaya source, which boomed in the Late Preclassic (Braswell 2002). Yet such blades are absent at Chunchucmil. Thus, we simply do not know whether Chunchucmil had a deep history as a port of trade (cf. Caracol, which played a major role in long-distance exchange well before its period of peak occupation; Chase and Chase 2014:246).

Though we are uncertain about precisely how commercialism developed at Chunchucmil, Dahlin believed that the timing of this development fits well in a sequence proposed by Blanton and colleagues (2005:273–275). This sequence consists of three empirically derived if loosely defined and overlapping stages. The sequence begins in the Preclassic period with the production of prestige goods, items that conferred “symbolic and processual significance in the political realm” (2005:274). They included, for example, cacao, jaguar skins, fine ceramics, jade adornments, and iron pyrite mirrors. They entailed, among other things, changes in pottery-making methods and lapidary methods in semiprecious stone as chiefdoms and early states emerged from purely egalitarian societies. The transformation from this exclusively prestige economy to a “regional goods” economy began somewhat later in the Preclassic. The regional goods economy characterized some parts of prehistoric Mesoamerica throughout the Classic and Postclassic periods and persists in the market economies of the region to this day. “Regional goods developed primarily in the context of regional-scale systems of tribute flows and periodic markets” (Blanton et al. 2005:274). In addition to prestige goods, a regional goods economy included the production and exchange of utilitarian items on a broad and intensified scale as responses to production problems attendant upon (1) regional population pressures and urbanization, (2) new demands imposed by state formation,

and (3) the innovation of new, more-intensive production technologies. Blanton et al. list utilitarian pottery, cotton, salt and obsidian as examples. Chunchucmil's exchange system fits the regional goods stage. Finally, Blanton et al., following Kepecs (2003, 2005), postulate an era of trade in "bulk luxury goods" that is characteristic of greater Mesoamerica's Postclassic period.

Though Chunchucmil stands as an example of a regional goods economy, the traditional point of view is that most Maya sites were regal-ritual cities with little commerce prior to the Postclassic period (Sanders and Webster 1988). Within this context, Dahlin (2009) referred to Chunchucmil as being "ahead of its time." Dahlin's claim that Chunchucmil was ahead of its time implies that most other Classic-period Maya economies were indeed relatively un-commercialized. If this were the case, then Chunchucmil would be a mere outlier among Maya cities and therefore inconsequential to a general understanding of the ancient Maya. In the following section, I argue that this is not the case; that the narrative presented in this book brings about several important consequences regarding our understanding of Maya life.

#### CONSEQUENCES OF THE IMPORTANCE OF MARKETING

What makes this book's full findings about Chunchucmil and its hinterland more important is the fact that they do not stand alone. Since Dahlin and Ardren's 2002 hypothesis that there was a high degree of commercialism at Chunchucmil, convincing data on marketplaces have come from several major cities, such as Caracol (Chase and Chase 2014), Tikal (Masson and Freidel 2012; Jones 2015), Calakmul (Martin 2012) and Cobá (Coronel et al. 2015). For example, in showing that the distribution of artifacts at Tikal nearly matches that of Postclassic Mayapán, Masson and Freidel (2012) demonstrate that Chunchucmil was only slightly ahead of its time.

Unquestionably, marketing occurred alongside other forms of exchange, such as redistribution (LeCount 1999; 2001), but archaeologists can no longer claim that redistribution anchored Maya political economies (Aoyama 2001a, 2001b; Webster 1998). Managing urban economies with redistribution would have been too large an undertaking for Maya leaders (Dahlin et al. 2010; McAnany 2010:263; Shaw 2012). Close studies of historical records from many eras and many parts of the world suggest that redistribution as a kind of economy (see Polanyi 1944; Sahlins 1963) never really existed (Earle 1977; Feinman and Garraty 2010). Finally, marketplace exchange can explain distributions of objects said to be produced by redistribution (Hirth 2010; Hutson et al. 2010).

Were Maya cities as commercialized as Tlatelolco/Tenochtitlán or Teotihuacan? No, but it should be noted that such Central Mexican behemoths were outliers

(Manzanilla 2012:55): the more common, smaller Central Mexican cities were also not as commercialized as Tenochtitlán (M. E. Smith 2008). Furthermore, similarities between contact-period markets in the Maya area and Central Mexico are extensive (Masson and Freidel 2013:table 8.1). Were all Maya economies as highly commercialized as Chunchucmil? No. Maya settlements can be arranged on a continuum from less commercial to more commercial (Garraty 2010:18; Masson and Freidel 2013:221; M. E. Smith 2004). One might be tempted to say that the high degree of commercialism at places like Caracol, Tikal, and Chunchucmil was unique to large cities. However, research in the countryside shows that marketing played an important role in rural economies as well. For example, Scarborough and Valdez (2009) argue that resource-specialized communities in northwest Belize were economically interdependent and exchanged surpluses with each other in rural markets. Sheets (2000) finds that within the small community of Cerén, different households specialized in specific crafts and bartered surpluses with each other but also brought surpluses to regional market centers to exchange for goods like Copador polychrome offered by elites.

The topic of interaction between farmers and elites (or lack thereof, as Scarborough and Valdez [2009] maintain) brings forward the notion of a dual economy, consisting of an elite sphere involving production and exchange of very prestigious goods (exquisite polychrome pottery, jade adornments) that exhibits little or no overlap with the production and exchange, by non-elites, of mundane goods such as utilitarian pottery. The cooperation between quadrangle leaders and affiliated houselots at Chunchucmil, as put forward above, challenges the separations inherent in the dual-economy model (see also Hutson et al. 2010). This challenge becomes more consequential when paired with studies like that of Kovacevich (2007, 2013), which show that the production of jade ornaments at Cancuén involved both noble and humble households (see also McAnany 2010:267 on interdependency).

What we have found at Chunchucmil also has consequences for broader debates about the kinds of cities one finds in the Maya area. Chunchucmil lacks the massive monumental architecture normally found in cities of similar size and, with the exception of the marketplace, has no broad, central plaza/performance space. Instead, the biggest architecture (temples ranging from 8 to 17 m high) and the clearest formal ceremonial spaces are found inside the quadrangles. The largest quadrangle—N1E1-G/Chakah—is not drastically larger than the others, though it is the only architectural compound at Chunchucmil with a ballcourt. If N1E1-G were the seat of authority at Chunchucmil (Dahlin and Ardren 2002:269 refer to it as the first among equals), it was not a major regal-ritual focus, because it lacked a large performance space. The size of patios in quadrangles ranges from 0.1 to 0.6 ha, with a mean of 0.25 ha (Hutson 2016:table 4.1). Though the entire city could

fit in the patios of the site's quadrangles, no single patio could hold more than a small fraction of the site's population. This stands in contrast to other lowland Maya cities in which a single massive monumental architectural complex towered over others and served as a stage for public civic/religious (Inomata 2006). Thus, there is reason to think that Chunchucmil's growth and urban development were not driven by a desire to provide a public ritual venue for a divine king and his retinue. Instead, Chunchucmil's urban form reflects a concern for trade. If each of the 15 quadrangles in the site core represents a faction, or competing trade cartel, the fact that they are all linked to each other by a network of causeways (see figure 2.5) suggests they had a stake not just in competition but also cooperation (Hutson et al. 2010). Maya cities were central places for more than just the leadership of the polity (Chase et al. 1990; Masson and Freidel 2012:476; M. E. Smith 1989; Trigger 2003:121; cf. Sanders and Webster 1988; Webster and Sanders 2001). Chunchucmil was a central place for commerce.

The finding that Chunchucmil was not a regal-ritual center leads to one of the most commonly posed questions: how did economy and authority intersect? In the context of markets, Hirth (2010:234–235; see also Garraty 2010) frames this as a question of top-down or bottom-up. Did the development of marketplaces require elite management, as Polanyi argued, or did marketplaces grow organically from reciprocal exchanges between households? Hirth prefers the bottom-up approach, not merely because there is documentation of markets that flourished without strong government involvement (Blanton and Fargher 2010), but because households are generally not self-sufficient. All over the world households therefore seek an efficient exchange mechanism for provisioning themselves. Graeber (2011) arrives at a very different conclusion by approaching the topic from the question of the origins of currency and debt. According to Graeber, nearly all economists agree (alongside Hirth and others) that households produce only a portion of their needs and therefore must enter into exchange with other households. Since barter is too inefficient, markets and currency appear. In arguing for an essentially government-free origin for markets, contemporary economists retain a cornerstone of Adam Smith's *Wealth of Nations*—that money, property, and exchange predate political institutions—while also justifying once again the existence of economics as a field of human inquiry distinct from (not embedded in) politics or ethics (Graeber 2011:24–25). Yet Graeber points out that barter as the primeval form of exchange never existed. Other kinds of exchange, often involving gifting, delayed returns, and extended-kin networks, precede markets. When they make their first appearance in places like Sumeria, markets do so as an adjunct to temple and palace institutions.

What can Chunchucmil contribute to this top-down/bottom-up debate? On the one hand, markets at Chunchucmil existed independently of the kind of

ruling institution found at other large Maya cities if only because such an institution does not appear to have existed at Chunchucmil. On the other hand, I argue above that suprahousehold institution anchored in Chunchucmil's quadrangles organized local surplus production and long-distance trade ventures. This activity kept Chunchucmil viable in a land of low agricultural returns. Though no particular quadrangle controlled Chunchucmil's marketplace, each of the quadrangles as trade factions benefited from and depended on the marketplace and likely worked together to ensure its continued existence.

As a final consequence, this study shines a light on gender in Maya cities. Royal and noble men and women are often displayed in Maya art (Joyce 1996), but depictions of non-noble men and women are less common. Figurines and decorated pottery show women weaving, preparing food, and rearing children, while men hunt and wage war (Hendon 1997; Joyce 1993). It is difficult to state who did other things, such as tending bees, gathering materials as diverse as water, herbal medicine, and firewood, and making everything from baskets to stone tools to pots to plaster. For example, essentially no art depicts the practice of farming. Robin (2006) shows the risks in using ethnohistorical and ethnographic evidence to infer men's or women's participation in farming (Robin 2006). It is even more difficult to assess how particular activities might have empowered ancient actors. Getting at the gender of commerce is no easier, but there are some very promising leads. Commerce was a public domain in which Mesoamerican women played extensive roles. In Aztec marketplaces, women worked as both vendors and administrators. Though some women who worked in markets may have been poor (Brumfiel 1991), they could both gain prosperity in the market (Sahagún 1950–1982:4:2) and, as administrators, control some aspects of its development. In other words, marketplaces appear to be a realm in which women could excel (Blanton 2013; Hutson 2000) and contest unequal gender ideologies (Brumfiel 1996).

Ethnohistorical evidence from the Maya area implies strong participation of women not only as buyers and sellers in the marketplace (King 2015; Wurtzburg 2015) but as participants in long-distance trade voyages: Christopher Columbus found women on a seagoing merchant's canoe off the coast of Honduras (Colón 1959:232). The murals in the Calakmul marketplace confirm what ethnohistorical sources suggest: they depict both women and men selling various goods, implying that the marketplace featured as much social diversity as could be seen at Tlatelolco. Houston (2014) infers female prostitution at Classic-period Maya marketplaces, something also found at Tlatelolco. If we take the leap of engendering the faces found in a trade center like Chunchucmil, we would see many active and empowered men and women (Tringham 1991). I don't think Chunchucmil was alone in this regard.

## THE END

Taken together, the chapters in this book suggest that Chunchucmil's growth and urban development were driven by long-distance trade, that the success of this trade attracted a population that eventually exceeded local carrying capacity, and that a burgeoning market economy in staple supplies compensated for food deficits. But by 700 CE, the city had shrunk to less than a tenth of its peak size (Magnoni 2008). How did Chunchucmil's success come to an end? Chunchucmil was unquestionably linked to a Mesoamerica-wide sphere of exchange. The collapse of Teotihuacan in the seventh century upset some aspects of this sphere, but more compelling causes for Chunchucmil's decline can be found within the Maya area.

For example, the Pasión River portion of the trade route that brought obsidian to Chunchucmil was heavily influenced by Tikal in the Early Classic but came under Calakmul's control in the seventh century (Freidel et al. 2007; Martin and Grube 2008). Unlike many sites in the northern lowlands during the Early Classic (see, for example, Puuc sites like Chac II [Smyth and Rogart 2004: figure 2] or sites in the Ucí/Izamal/Aké area [Hutson and Welch 2014]), Chunchucmil's domestic architecture conforms closely to Petén-like *plazuela* groups (see chapter 3). This suggests that Chunchucmil had close ties to the southern lowlands and may have been affected by Calakmul's ascendancy, unquestionably the largest transformation in southern lowlands politics at the time. We do not think that southern lowland kings intervened directly in Chunchucmil's affairs (cf. Suhler and Freidel 1998), but we do believe that political upheaval in the south could have disrupted Chunchucmil's commercial system. Furthermore, competition from Salinas de los Nueve Cerros, a major salt producer in the southern lowlands, might have reduced the southern lowland demand for Chunchucmil's salt in the Late classic, precisely when Chunchucmil declines. Only 6 percent of the pottery at Salinas de los Nueve Cerros dates to the Early Classic, but 56 percent dates to the Late Classic (Woodfill et al. 2015: table 2), suggesting that Salinas de los Nueve Cerros's salt production was not substantial in the Early Classic but boomed in the Late Classic, potentially elbowing out Chunchucmil.

Even closer to home, the leaders of Oxkintok, located 27 km to the east of Chunchucmil, constructed monumental architecture and erected carvings with long-count dates during the exact time when Chunchucmil experienced its major periods of growth, the fifth and sixth centuries CE. As noted in chapter 4, these two sites used nearly identical pottery at the time. Though settlement survey at Oxkintok shows that the site was much smaller than Chunchucmil when Chunchucmil reached its apogee, Oxkintok began a growth spurt toward the end of the seventh century (Velázquez Morlet and López de la Rosa 1995). Oxkintok stands directly in between Chunchucmil and the area 50–100 km to the east from which we believe



Chunchucmil acquired some of its food. The fact that Chunchucmil declined as Oxkintok grew may not be a coincidence. The rise of Oxkintok as a regional power may have enabled it to limit Chunchucmil's access to nearby foodstuffs.

Disruption of trade routes near and far serve merely as a trigger (cf. Willey 1974) that upset what was at root a precarious subsistence strategy. In other words, once Chunchucmil had grown to the point that it needed overland food imports from 50 to 100 km away, a series of variables not fully under Chunchucmil's control had to realign continually in order to keep the city afloat. If one of those variables changed—if diplomacy between Chunchucmil and its suppliers went awry, if the suppliers encountered unexpected difficulties in producing surpluses (due, for example, to fluctuations in rainfall), or if the suppliers were forced to deliver their surplus elsewhere (to Oxkintok, to Calakmul)—Chunchucmil could go belly up. In a manner perhaps analogous to the boom-and-bust cycles that propelled spectacular but short-lived Terminal Classic cities in the nearby Puuc hills (Carmean et al. 2004; Isendahl et al. 2014), Chunchucmil's prosperity simply could not be sustained.

The fact that Chunchucmil collapsed does not mean, however, that Chunchucmil was a hopeless experiment and that, by extension, commercial development in the Maya area was doomed to fail. Data from many other sites, gathered partly in response to Dahlin's stimulating ideas, join data from Chunchucmil demonstrating that marketplaces were a key component of Classic-period Maya economies. To the extent that economic systems are the foundation of complex societies, the archaeological debate over the relative importance of markets and other forms of exchange can only grow. Like a venerated ancestor continuing to bear witness to the goings-on of kith and kin, Dahlin will be pleased to see this.