

# **Motul de San José**

Politics, History, and Economy  
in a Classic Maya Polity

Edited by Antonia E. Foias  
and Kitty F. Emery

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transcripts” of the tiny figurines that display both elaborately clothed rulers and many different animals and supernaturals, there is also a common concern with both state ideology and ritual running through all of them (Halperin 2007, this volume; Foias, forthcoming). In sum, Classic Maya society at Motul de San José was both heterarchical and hierarchical and partly, but unevenly, integrated.

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## Control without Controlling

Motul de San José and Its Environs from an Outsider's  
Perspective

ELIZABETH GRAHAM

In their introduction to this volume, Foias and Emery construct a framework for reporting the results of the investigations at Motul de San José by drawing on existing debates about the nature of Maya political organization during the Classic period. Most debates have been concerned with whether forces of centralization or decentralization were at work among Maya polities or whether there existed multiple trajectories of expansion and contraction (e.g., Chase and Chase 1996; Demarest 1992; 1996; Houston 1993; J. Marcus 1973, 1998; see Lucero 1999, 212–16). Other approaches have attempted to identify the nature of the tensions between organizational structures, such as those between kinship and kingship, that could have given rise to forces of centralization and decentralization (Iannone 2002; McAnany 1995). Foias and Emery observe that centralization and decentralization are generalized concepts that are not particularly informative about the dynamics of power or, in their words, about the “mechanisms used by . . . political actors and/or factions to gain more power” or “to pursue their agendas within their individual polities.” They also make the point—in my view the most important factor driving the research represented in the volume—that power, however political, was tied to economic matters.

If we accept that links between economy and power were inextricable, then dichotomies such as kinship versus kingship can be misleading because neither term serves to describe or explain the dynamics behind dispersal (kinship) or concentration (kingship) of power and authority (Iannone 2002, 74; McAnany 1995, 131). Power and authority are actualized through differential access to wealth and resources and can take a number

of forms the dynamics of which need not be dependent on replacing factions based on kinship with those that are not. Competition was important, but we cannot assume that factions were based (solely) on kinship or that the role of kinship was necessarily diminished with the institution of kingship. The critical element in these deliberations is how the economy functioned. Who had access to what, how much, and how? In answering these questions, interpolity relationships reflect much about the reach and limits of Maya centers and the economic practices of their leaders, but how wealth was distributed *within* Maya polities, such as Motul de San José, is also an important indicator of power because whatever decentralizing or centralizing forces existed would have affected internal as much as external relationships.

Discovering the mechanisms used by actors to gain power or to effect control may be archaeologically as elusive as evidence for whether or not an ancient Maya authority distributed administrative functions. Nevertheless, in the research on Motul de San José and its environs, the emphasis placed by Foias, Emery, and their colleagues on the range of ways agendas were pursued and goals achieved as reflected in material culture—and on the kinds of productive activities that existed and where they were carried out—has provided highly valuable new insights into Maya state organization. Evidence from Motul de San José and from sites such as Trinidad de Nosotros and Akte, as well as Chäkokot, shows that both a range of products and productive activities crosscut the ranks of society. Differential distributions of ground stone, spindle whorls, chert and bone tool debris, figurines, fragmented vessels, pottery wasters, faunal remains, and chemical traces in soils all highlight that different social strata were involved in distinct activities at different scales and intensities (see the specific chapters in this volume). Although economic power was concentrated in the hands of the royal or noble families, lower-status households had access to many of these productive activities and indeed engaged in production on their own, a feature of complex societies that is by no means unique to Maya economy (Baines and Yoffee 1998, 227–28; E. Graham 2002; Lucero 1999, 231, 234–36).

Owing to the preservation of stone stelae and polychrome pottery, our picture of Maya society is crowded with the images and activities of the uppermost echelon. We are fortunate to have this information, but the complexities of elite machinations are only part of the picture. Evidence over the years from Belize tells us that ancient cities such as Lamanai and the towns and villages along the coast and cayes with which Lamanai was connected

through trade comprised households engaged in a variety of production activities—procuring fish and shellfish for subsistence and export; processing salt, which in the Late Classic was destined predominantly for export; and acting as ports and way stations for goods as part of circum-peninsular trade but also to move products such as dried fish, shells, pottery, and obsidian to inland locations (E. Graham 2011). None of these households, with the possible exception of a few families at Lamanai, seems to represent the uppermost stratum of elites, and even in the Lamanai case, the preserved material culture of the uppermost echelon is relatively depauperate in comparison to the material culture associated with ruling families of the cities of the Petén lakes. Nevertheless, the material culture is rich and varied, the sites represent cosmopolitan communities, and perhaps most important, these communities continued to thrive throughout the period of the Maya collapse.

### Centralization and Decentralization

One conclusion of Foias and her colleagues on the basis of the investigations at Motul de San José is that the evidence indicates political decentralization. Certainly the state control over economy envisaged by some researchers is not borne out by the Motul de San José evidence, but the nature of the political system and how it might have operated remains clouded.

The concepts of centralization and decentralization are useful at one level of understanding. They imply either that an individual or small group of individuals is attempting to increase the range of decision-making for which they are responsible by holding office or title (centralization) or that decision-making is distributed and left in the hands of many individuals (decentralization). A political system can, however, be centralized and decentralized at the same time. In the United States, federal taxes represent a feature of political centralization whereas state and city taxes reflect a level of decentralization. With regard to economy, U.S. dynamics are even more difficult to characterize. Holding a political or administrative office can provide an individual with greater access to economic resources or opportunities than he would otherwise have had, but economic control in which community resources are openly and publicly funneled to the individual is generally not part of the mandate of office. It is also significant that most of those who control the greatest amount of wealth not only in the United States but throughout the world hold no political offices. The upshot is that in describing any state system, terms such as *centralization*



and *decentralization* may not only reflect fluctuation of political trends over time (J. Marcus 1998), but also concurrent and competing practices (Iannone 2002).

Although the modern world is not the Maya world of the first millennium AD, we can still learn a great deal from thinking about how systems work today. I do not mean to imply identity but rather to build on dynamics with which we are familiar and we know are complex and difficult to describe. When we then proceed to extrapolate from an understanding of these dynamics in all their complexity, we are less likely to simplify the dynamics of the past. If we take modern Cuba as an example of a state in which both political and economic power are centralized, the most telling evidence—and such evidence is potentially detectable archaeologically—is the relative dearth of open local markets and commerce and the comparatively limited range of material goods that can be found in households. At the same time, all households can be found to have access to a basic range of foods and materials as the result of state controls and distribution. Skeletal indicators should also reflect the accessibility of excellent health care.

Even a cursory review of sites in the Maya area, including Motul de San José and the sites in its environs, does not produce evidence of a high degree of control. Skeletal health varies a great deal both in space and in time, and households display considerable variety in material goods. In terms of food intake, results from both Motul de San José (Emery, this volume) and Trinidad de Nosotros (Thornton, this volume) show a rather broadly distributed access to high-value species such as white-tailed deer and turtle. This does not mean that elites might not have got the best cuts or monopolized particular kinds of products such as marine shell made into jewelry, but only that access to species seems not to have been restricted according to rank.

The most telling argument against centralized control in the Maya lowlands is, however, the evidence for lively and extensive commerce and exchange—seaborne, riverine, and overland—that extends back to Preclassic times (Andrews 1990; Andrews and Mock 2002; E. Graham 1989, 1994; McKillop 1996, 2002) and, more recently, the evidence for markets (Carrasco Vargas et al. 2009; Dahlin et al. 2007, 2009). The time-depth and importance of trade and exchange are strongly in evidence at Motul de San José in the variety of goods available to its inhabitants, in the engagement of a range of people in both the subsistence and prestige economy, and in the probable presence of a market plaza (Blair and Terry, this volume). Nearby communities such as Trinidad de Nosotros and Akte have the additional feature of being positioned to take advantage of waterborne travel and

trade (Moriarty, this volume; Yorgey and Moriarty, this volume). Whereas only minor occupations prior to Late Classic florescence have been found at Motul de San José, excavations at Trinidad de Nosotros on Lake Petén Itzá have documented the longest and most complete record of occupation in the Motul de San José region. Such continuity seems more likely to be a feature of a society in which a number of groups or strata were involved in accessing, distributing, and exchanging goods. It can also be said that the ability of diverse groups to adjust readily to changing conditions would not be likely under conditions of centralization in which elites controlled economic infrastructure.

There are other kinds of centralization in which the political power of a central authority can affect the economy. For example, European countries such as Sweden, France, and Germany have lively economies but the state extracts high taxes (which we can see as a kind of tribute), controls health care, and to some extent controls wealth distribution, at least to a greater extent than is the case in the United States (see Wilkinson and Pickett 2010). It therefore seems misleading to use a single term (*centralized* versus *decentralized*) to characterize state organization and activity.

I made the point above that wide-ranging commerce and exchange initiatives would be limited under conditions of centralization such as exist in Cuba. On the other hand, it is worth noting that the more equitable distribution of wealth such as exists in Cuba reflects greater controls by a state apparatus. In Western democracies, studies show that the existence of strong trade unions and successful social democratic parties correlates with greater wealth equality as regards income distribution (Stephens 1979). Thus, rather counterintuitively, more equitable wealth distribution is correlated with centralization: political centralization in the case of Western Europe and both political and economic centralization in the case of Cuba. I say “counterintuitively” because the general belief in democracies is that minimal state control fosters the widest economic opportunities. In the United States, which defines itself as a democracy, statistics show that wealth<sup>1</sup> is highly concentrated in a relatively few hands (Domhoff 2010; Wilkinson and Pickett 2010). In 2007, the top 1 percent of households owned 34.6 percent of privately held wealth; the next 19 percent, which comprised managerial, professional, and small business strata, had 50.5 percent. This means that 20 percent of the people owned 85 percent of the wealth, leaving 15 percent of the wealth for the remaining 80 percent. In terms of financial wealth,<sup>2</sup> the top 1 percent of U.S. households controlled an even larger share of 42.7 percent (Domhoff 2010).

Wealth can therefore be centralized even in cases in which decentralization characterizes the economic and to some extent the political system. We could describe the top 1 percent who have 30–35 percent of the wealth, or the top 20 percent who have 84 percent of the wealth, as elites (see Foias et al., this volume, for definitions of “elites”) and the rest as nonelites or commoners. In terms of wealth distribution, this has validity and indeed represents an important dynamic in the study of social change. On closer inspection, however, we would find that the nonelites include bankers, businessmen, corporate executives, corporate employees, merchants, IT executives, stockbrokers, butchers, bakers, plumbers, politicians, teachers, university professors, civil service employees, police, firemen, waitresses, maids, laborers, and those on the dole. Clearly there is a level of analysis (or several levels) at which the elite versus commoner distinction, although “true,” is not helpful; this is especially the case if we are interested in the productive activities of society across the board, which includes the majority—either the 99 percent or the 84 percent who are not elite, depending on the chosen criteria of wealth. Although I have used the United States as an example, my point—which is that we need to think in terms of different levels of analysis and define our terms accordingly—is applicable to the elucidation of Maya social stratification.

Do the top 20 percent or top 1 percent wealthiest in the United States have power? It is theoretically possible for someone to have power over others and be poor,<sup>3</sup> but most studies tell us that distribution of wealth is a good indicator of power (Domhoff 1990, 2010). Despite the modern worldwide concentration of wealth in the hands of the few (Shah 2010), most of us would characterize the United States or the UK or Mexico or France or Belize as open societies—economically decentralized with varying degrees of political centralization or devolvement—and not as states in which political or economic power is concentrated in the hands of one person or a small group. We elect local officials; we have rights to (own) houses or flats or land; some of us cultivate land and raise animals; we exchange our income for subsistence and utilitarian and luxury goods; we present gifts to each other; we have families both nuclear and extended; we raise children who can be sons, daughters, or nieces or nephews or fictive kin; some of our sons and daughters become soldiers who go to war to “keep the world safe”; we dine out at restaurants or go to pubs with friends and family (feasting); we travel; some of us pray and venerate deities or ancestors; others of us do not think much about life after death; all of us die and are buried and decay, or we are cremated. Our allegiances are to the neighborhood or *barrio*, to

the city or township, to the state or county, to the region, or to the country, but we do not generally think of ourselves as controlled by a centralized state. Yet in economic terms there is a real question as to whether those of us who are not part of the economic elite in the United States or UK or France or Mexico or Belize exercise much power at all. It remains true, however, that if we believe we exercise power via participation in particular levels of political expression or through opportunities for some level of economic involvement, the world system with its elite monopoly is safe and will be reproduced.

These complex dynamics suggest that the forces represented by centralization and decentralization are perceived in different ways both by those characterizing a state and by those within the state. Foias and Emery (this volume) observe that researchers correlate political centralization among the Maya with elite control over economic infrastructure whereas they correlate decentralization or weak centralization with a lack of elite involvement in economic matters of production and exchange beyond the tribute system. This seems to make sense, but closer inspection of operating systems reveals a blurred image. Political centralization can be correlated with control over economic infrastructure, as in the case of modern Cuba, but a number of Western European nations provide examples of political centralization in which wealth distribution is controlled to some extent (through taxation) but productive activity (the generation of wealth) is not. Weak centralization can theoretically be associated with lack of elite involvement in economic matters of production and exchange beyond the tribute system, but as the evidence from Motul de San José and its environs suggests, all segments of Maya society, including elites, seem to have been involved in economic matters of production and exchange. This suggests that the state, through its officeholders (the *kaloonte'* or *baahkab* or *sajal*), made no attempt to control economy *directly* through the power of political office. Yet it is interesting from a historical point of view that such “weak” systems nevertheless result in a small percentage of the population controlling most of the wealth. What seems to be the case, perhaps a bit like Annette Weiner’s keeping-while-giving (1992), is that we have elites, both ancient and modern, who control by not controlling.

### Tribute, Wealth, and Power

Tribute was a major vehicle by which wealth was appropriated but there is no reason to believe that the generation of products and labor that were

diverted to tribute constituted a separate economy. It is highly likely that productive activities overlapped and that goods generated for tribute also circulated more widely, and goods that might initially have been restricted locally (e.g., particular processed foods or the products of a particular ceramics workshop) worked their way rapidly into the tribute system. Nevertheless, the desire for expansion of tribute networks is most likely to have been an important stimulus behind the appropriation of (and possibly qualitative changes in) political power, a matter I will discuss shortly.

As noted above, the evidence from Motul de San José, Trinidad de Nosotros, and Akte tells us that those with the highest status in Maya society had access to a good deal of wealth and power. Outside of this group, as indicated by the variability within and between archaeological indices such as architecture, artifact distributions, and political and economic activities (Foias et al., this volume), there is likely to have been a mix in which some people of lower status had local political positions but a modicum of wealth whereas others, perhaps merchants and traders, had a chunk of wealth but less or no political power and perhaps a status appropriate to their station.

Conditions such as these are not in accord with the centralized state model in which the largest Maya cities are said to be characterized by rulers who amassed and concentrated considerable political power. Rulers do indeed seem to have wielded power, but whether or not this involved attempts to increase central authority is a critical question. If, as I suggest, the economic infrastructure of Maya city-states evolved outside of elite control, then any attempt to centralize or alter the nature of political power could potentially have destabilized the economy. Before we consider this, let us turn again to evidence from Motul de San José and its environs.

Even when the epigraphic record indicates that Motul or Tikal or Calakmul experienced conflict and challenged other centers or their leaders militarily, this need not have meant that individuals who ruled a polity were seeking direct political control or authority over other polities (Martin and Grube 2008, 20–21). It is important to note that when in the literature archaeologists talk about “Motul” or “Tikal” waging war on another “polity” that the vision conjured up is of a bounded group attempting to increase the perimeters of its territory. But successful intercity warfare as recorded in the hieroglyphic texts does not seem to have resulted consistently in increases in territory or even in political administration. The evidence assembled by Tokovinine and Zender (this volume) from the Ik’á vase paintings gives no indication of expansion of governors or other administrative officials under Tayel Chan K’inich’s reign (sometime between AD 711 and

734). During the tenure of K’inich Lamaw Ek’, however, who acceded to power between 763 and 767, *sajal* officials at court constituted an additional level of subordinates. One wonders whether the emergence of *sajalob* represents an attempt at increased political control (more territory, so more people are needed to administer it), or increased economic power (more tribute, so more people are needed to keep track of it), or a relatively safe method of absorbing proliferating nobility.

The epigraphic and pictorial records suggest strongly that one of the major concerns of ruling elites was the appropriation of wealth by the expansion of access to tribute (Martin and Grube 2008, 21). This can be seen in interpolity marriage alliances, in the attention given to hierarchical relationships, in the depiction of tribute on vases, and in the frequent depiction of captives who almost certainly had their rights to tribute appropriated. I have argued (E. Graham 2006, 2011, 29–58) that the drive behind captive-taking was not to kill people in temples (“sacrifice”) but to increase income, because capturing an individual in war gave the captor rights to his captive’s tribute. Hence, in addition to expanding tribute through marriage alliances, tribute was increased by wars that were fought to allow the taking of captives and appropriation of their tribute rights. Such wealth appropriation can be highly successful and can reinforce the wealth of elites even under conditions in which the state (rulers, officials, nobles) makes no attempt politically—via territorial expansion or by changing the nature and obligations of the political office—to control the economy.

To some extent the Maya world system and the subsequent Aztec world system—the latter often described as a hegemonic empire (Berdan et al. 1996; Hassig 1985, 92)—were not entirely different from the modern world system in that they were driven, as are modern states, by an emphasis on appropriation of resources rather than on territorial expansion (see also Hassig 1985, 90–94). Yet evolutionary scenarios would have us believe that the direction of progress is from a hegemonic state to a territorial one. As the Motul de San José project framework makes clear, many if not most of the critical things we need to know about the Maya “state” or “states” lie beyond evolutionary issues. States based on gobbling up territory to gain access to resources can be shorter lived and less stable than states that are seen to be fragmented but have an integrated economic infrastructure (Smith 1986).

If Maya leaders were not driven toward political centralization, this need not be seen as a weakness and hence something we have to grasp at straws to explain; it may have been what made their world system startlingly modern



in its mechanisms for achieving economic strength and resilience. In other words, as long as elite individuals of all cities and communities were able to control a range of resources through the tribute system—through warfare or marriage or various forms of negotiation—annexing territory was unnecessary and a waste of time and energy. In the same way, as long as elites in the United States and the UK and Saudi Arabia share rights to oil and hence stand to gain by reinforcing each other's social status and economic position, territorial expansion is unnecessary and a waste of resources.

In conditions such as these, we would expect that a great deal of attention would have been devoted to cementing or expanding interpersonal relationships and obligations, particularly where tribute obligations were involved. As families grew, marriages were negotiated, wars were fought, and trade and commerce expanded, the goods involved and the flow of tribute would have fluctuated. Making clear who owed what to whom—and who was obligated to whom—was essential. Evidence from Motul de San José (Reents-Budet et al., this volume; Tokovinine and Zender, this volume) suggests that the scenes on polychrome vases are just such statements of important hierarchical relationships. Unlike stelae, which were public statements, the audience for the vases was an in-group. As M. Smith (1986) argues for the Aztecs, elites were constantly juggling among themselves for power but at the same time were heavily invested in the system of which they were all a part. Each lord or ruler or noble was not seeking to destroy the system but only to partake of a bigger share of it. Among the Maya, polychrome vases represent the system at its finest.

The nature of hierarchical relationships seems to be a major theme on the vessels. Each person depicted holds a particular stylized position and displays a range of gestures that are to be read in terms of where he or she falls in relation to the others who are depicted. Yet the broadcasting of political position per se does not seem to have been the driving force behind such display. It is true that the depictions generally make the titles and offices clear within naming statements, but no vessel begins and ends with a single person. The vessel scenes illustrate *what people's positions entail* with respect to others, and there seems to be a significant concern with who is subordinate to whom, and by implication who owes what to whom. Tribute scenes appear on vases, and the importance of the painter or scribe is consonant with the role of the scribe as recorder of and witness to important transactions (especially in view of such a "witnessing" role for elites in Contact period Yucatán, see Restall 1997).

It is also worth considering that if the direction and flow of tribute constituted the major dynamic of power, Taj Yal Chan K'inich (Reents-Budet et al., this volume; Tokovinine and Zender, this volume) could have been a *kaloomte'* and received tribute in his own right at the same time that—through warfare or as a consequence of a marriage alliance—he paid tribute to a lord at Dos Pilas. What we would call kingdoms or polities seem to have been places to which particular families had historical rights, and no Maya ruler could annex or occupy (conquer) a place to which he or his family had no historical ties. He could, however, take captives, which would enable him to access the resources of the place from which the captives came. This would explain why, as Reents-Budet and colleagues observe, "there are no known instances of sub-lords of one kingdom offering tribute or kneeling in obeisance to the lord of a foreign kingdom, unless as captives."

Where Maya city-states may have erred in the Late Classic is in the use by some rulers of traditional political offices as vehicles for legitimizing wars the outcome of which stood only to increase (through tribute) the wealth of their families and vassals. The political system as it existed in the Late Classic did not survive, or at least it did not survive intact. The fact that Motul de San José was still functioning in AD 849 as the seat of one of four prominent dynasties, mentioned on Seibal Stela 10, suggests that not all rulers used their political positions for economic aggrandizement. The presence of several Emblem Glyphs in the Ik' ceramic corpus and the monumental inscriptions does suggest, as Reents-Budet and colleagues (this volume) observe, that alliances among local families gave strength to what became the Ik' polity, but such alliances must almost certainly have entailed intermarriages. This would have kept tribute and the rights to the products of the land in the hands of a number of related individuals.

Akte is an interesting case in that it is set in agriculturally marginal savanna land (although fruit trees such as cashew, kinép, and calabash thrive in such soils), but the presence of stelae suggests strongly that there was some connection to Motul de San José, albeit a predominantly reactive one in which Akte's rulers were attempting to carve out their own political and economic niche during a time of intense competition among noble families in the region. Tokovinine and Zender (this volume) describe a stela with an unfamiliar Emblem Glyph erected by a local lord at Akte in AD 747. At this time, the Ik'a' lord at Motul de San José, Yajawte' K'inich, had suffered a defeat at the hands of K'awiil Chan K'inich of Dos Pilas and may well have been funneling resources to Dos Pilas via tribute.



Historically, Motul de San José families and others in the region would already have had access (through tribute rights) to the products of agriculturally viable land in their vicinity. Hence the use of marginal land for a settlement such as Akte suggests a degree of land pressure as the result of elite competition and the proliferation of nobility in the Late Classic (Tokovinine and Zender, this volume). One possibility is that the presence of Akte reflects a marriage alliance between a noblewoman from Motul de San José and a lord who was not from Motul de San José, or vice versa, which could explain Akte's distinctive architectural style and planning. By this I mean that the non-Motul de San José individual would have had access to a different kind of tribute network with resource bases and patterns of culture outside the Motul de San José cultural sphere. Yet Akte is close enough to Motul de San José that any rights to local tribute (e.g., the distinctive local pottery as well as local products and the rights to cultivate land) would have been likely to come through the local families—hence my suggestion that some familial connection to Motul de San José is probable.

Akte would have had its own identity, but the evidence suggests strongly that it, like many towns and cities of the period, was perched precariously between balancing alliances with the major local power and at the same time seeking to increase wealth by expanding both tribute networks and commercial ties. The relatively limited access to obsidian suggests that times got tough.

The possible relocation of the Motul de San José court to Tayasal or Flores in AD 869 suggests that there were mechanisms by which cities and dynasties survived and tribute continued to flow, although in these cases, as must have also been the case at Lamanai, the political structure had altered. Such changes seem to have engendered an economic boom in circum-peninsular trade and commerce. Trinidad de Nosotros with its harbor clearly benefited, and if the Motul de San José court did indeed shift to Tayasal or Flores, the move can be seen as motivated by the desire to be positioned on a lakeshore to key into bustling trade routes, and a new era would have begun.

## Notes

### Chapter 1. Politics and Economics

1. Mathews (1991) describes in detail the nature of Emblem Glyphs. These are titles of the rulers of independent polities. The superfixes, postfixes, and prefixes are identical in all Emblem Glyphs and can be loosely translated as *k'ujul ahaw* or divine ruler. The main element of each Emblem Glyph is different for each independent state and is generally a place-name associated with the capital center of that state (Mathews 1991).

2. P. Rice (2004) has recently restated a more ritual model for Maya political structure in which Maya cities rotated hosting the *may* cycle of 256 years, based on Edmonson's original formulation for Postclassic Yucatán.

3. Emic definitions of political power among the Classic Maya (i.e., indigenous conceptions of power and legitimacy) appear to have focused on their exclusive control over access to the supernatural spheres (Schele and Freidel 1990) and need to be explored further.

4. Social power is also discussed by Blanton under the rubric of intermember power (1998, 145).

5. The twin pyramids of Motul de San José are found on the same platform and are quite distinct from the Twin Pyramid Complexes defined at Tikal. They are more comparable to the double pyramids of the Yucatán Peninsula. Although they are impressive at 18 meters in height, they both sport roof combs that add substantially to their height.

### Chapter 2. Lords of Windy Water

1. Much of the central caption on the monument was already gone even when Maler photographed it over a hundred years ago. The remaining section can be read as “[ . . . ] **yi-ta-ji 1-TSAK-TOOK' K'UH-i-tsa-AJAW** [ . . . ] **u-ti-ya-IK'-a**, or . . . *y-itaaj juun tsak took' k'uh[ul] itsa' ajaw . . . u[h]tiiy ik'a*,” and translated as “. . . Juun Tsak Took', holy Itsa' lord, accompanied him . . . it happened [at] Ik'a.”

2. One of the three carvers' signatures on Stela 2 gives his name as **ch'o-ko a-IK'-AJAW ch'ok ik'a' ajaw** “young Ik'a' lord”; the other name (its context is somewhat unclear) on Stela 4 is largely illegible except for the last two signs, **a-IK'-a 4-T544.501-ni**, which can be read as *aj-ik'a* “man of Ik'a” and an undeciphered title that seem to designate regional groups of lords and nonroyal individuals (Tokovinine 2008, 263–64).

3. The statement **u-to-ma 9-AJAW 18-SUUTS'**, or *utoom [ta] waxak ajaw waxaklajuun[te'] suuts'*, can be translated as “it shall happen on 9 Ajaw 18 Zotz.” Such prophetic statements usually refer to future period endings, in which case the Long Count of 9.12.10.0.0 seems to be the best possible reconstruction.

2. Species identification was made by Dr. Fred Thompson (Curator of Non-Marine Malacology, Florida Museum of Natural History).

### Chapter 13. In Search of Markets and Fields

1. Moriarty (2001) and Emery and Foias (this volume) note that savanna soils are known today by local Itzaj farmers to be of low maize agricultural potential but high potential for arboriculture. Motul consumed many animal species that are native to such savanna environments: armadillos and rabbits (Emery 2003a; Emery and Foias, this volume).

2. The numbering of the groups identified on the East Transect follows the pattern of name of transect (in this case E for east); number of the kilometer in which it is located (in this case, second kilometer); and a sequential letter designation based on the order in which the group was found (in this case, letter E, because groups A–D were found previously in the second kilometer).

### Chapter 15. Landscape, Economies, and the Politics of Power

1. D. Rice (1996) has found evidence for canals connecting Lake Petén Itzá with the smaller lakes toward the east.

2. Including Riachuelo K'ante't'u'ul that probably drained into Akte River, which then connected via Rio Seco into the west-flowing Rio San Pedro Martir (see Moriarty 2004d; Jones 1998, map 3; P. Rice and D. Rice 2009, map 1.3).

3. See discussion of this estimate in Foias and colleagues (this volume). We suspect that 2,000 is the ceiling for the population of Motul, and that it's more likely that it only reached half of this. Nevertheless, the polity's population must have been over twenty-five hundred people, considering the identification of many secondary and tertiary centers and intersite residences (Moriarty 2004d). If we use a conservative settlement density of 50 structures per square kilometer (taken from the density of the southern transect of 56 structures per square kilometer and of the northeastern transect of 52 structures per square kilometer) and the estimate for the areal extent of Motul's territory, we obtain a range for the total polity population between thirteen thousand and twenty-seven thousand people.

4. This territorial estimate is based on the presence of the very large site of Nixtun-Ch'ich approximately 10 kilometers south of Motul de San José. There is no doubt that this site was independent of Motul, so Motul's territory came short of it, and probably only encompassed the low-lying pocket that is clearly identifiable in Figure 1.4a.

5. Animal products were probably also brought into the capital from Chakokot (Emery, this volume).

6. Although most groups at Xilil are small, and probably would pertain to Rank 3 commoner households, Group B is more elaborate in scale. The largest structure in this group, Str. B1, was heavily looted and produced beautifully drawn polychromes, with the usual palace scenes we find on the Ik'-style vases; however, in this case, they are on tripod plates.

### Chapter 16. Control without Controlling

1. "Wealth" is generally defined as the value of everything a person or family owns, minus debts. The statistics provided here are based on wealth distribution, for which economists define "wealth" in terms of marketable assets such as real estate, stocks, and bonds and exclude consumer durables not readily converted into cash. A person's net worth is derived once all debts are subtracted from the value of all marketable assets (Domhoff 2010; Wolff 2004, 4–5). Income, which is what we earn from work or dividends, interest, or royalties, is distinguished by economists from wealth. According to Domhoff, those who own a great deal of wealth in theory may or may not have high incomes, but in reality those at the top of wealth distribution generally have the most income.

2. This is defined by economists as net worth minus net equity in owner-occupied housing. It reflects the resources that would be immediately available for consumption or other investments (Domhoff 2010; Wolff 2004, 5; Wolff 2010).

3. Such as Jesus Christ or Buddha, both poor but with significant power.