

were both making alliances with friendly neighbors and carrying out military campaigns, often coordinated with allies, against less friendly neighbors. The maximum growth of the civilization is marked across the southern Maya lowlands by Late Classic monumental architecture. It is these latest renovations that are seen by modern visitors to the southern lowland Maya sites. Maya royalty who publicly displayed their lives, alliances, and military conquests ruled city-states that extended from the Peten district of Guatemala to southern Belize and adjacent Mexico and western Honduras, as well as into Chiapas, Mexico. Northern Belize and the northern Maya lowlands, although beyond the areas that had concentrations of dated stelae, also were densely occupied. The story of the Classic Maya continues to unfold as the hieroglyphic record of Maya kings and queens is deciphered and as field archaeologists uncover new settlements of both the royal and common Maya.

Classic Maya Collapse

Perhaps the most frequently asked question about the ancient Maya is why the civilization collapsed. Many insightful theories have been advanced to explain the Classic Maya collapse, as noted, for example, in an edited volume resulting from a symposium, *The Classic Maya Collapse* (Culbert 1973). Invasion, earthquake, drought, hurricane, and civil war are featured among the various interpretations of the collapse. Three interpretations are popular among early twenty-first-century Maya archaeologists: a systemic ecological collapse model, a political/warfare model, and a drought model. The first model stresses ecological factors. The second model places more weight on cultural factors in the collapse of the Classic Maya civilization. The third model attributes the collapse to environmental change.

In order to evaluate the various competing theories about the collapse of the Classic Maya civilization, it is important to determine what collapsed. The descendants of the Classic Maya people still live in many parts of the Yucatan of Mexico, Guatemala, Belize, and Honduras where the Classic period civilization developed. The result of the Classic period collapse was a virtual abandonment of cities in the southern Maya lowlands. However, the rural population in the southern lowlands persisted, at least for several generations. It was the political and economic power of the urban royal Maya that fell apart. This did not happen as a single event but rather was associated with the defeat and abandonment of lowland city-states, one by one, at the hand of more powerful lowland city-states over the course of some 150 years. There was, in fact, a population increase along the coasts of the Yucatan and in the northern Maya lowlands. Perhaps some or much of this increase was due to migration of people from the southern Maya lowlands.

In the systemic/ecological collapse model, the tremendous population increase in some areas during the Late Classic placed burdensome taxation in labor and food on the common Maya farming families in those areas. At the same time, the rainforest was being more extensively cleared than before, and the fallow cycle for fields was diminished. There was more pressure on some areas of the land to produce more food to feed the growing populations. The

overuse of the land led to ecological disaster, coupled with a revolt of the common Maya, who felt overworked.

In the warfare/political model, by way of contrast, self-aggrandizing royal Maya precipitated the collapse. In a search for power and glory, they formed alliances and fought wars that got out of hand and led to their ultimate demise. Arthur Demarest is a leading proponent of the warfare/political explanation for the Classic Maya collapse, supported by fieldwork at Dos Pilas, Aguateca, and Tamarindito, among other sites, in the Petexbatun region of Guatemala. Demarest (1997) explains his warfare/political downfall model in these words: "increasing political rivalry, competition, and warfare spiraled out of control by the middle of the eighth century, disrupting cultural, economic, and ecological systems and leading to rapid depopulation and sociopolitical devolution." He focuses on the expanding and escalating competition among rival elites that was manifested in showy displays of exotic and high-crafted paraphernalia, more elaborate architecture, and elaborate ritual, as well as interregional alliances that further exacerbated tensions among elites. David Freidel (1992) also discusses the importance of warfare, specifically the capture of war victims for sacrifice, to Classic Maya kingship. He also finds that the fragmentation of the lowlands into many polities is related to this ritual aspect of warfare.

According to Demarest (1997), the effect of elite competition was a debilitating stress on the economic system, the local populations, and the area's resources. A cycle of endemic, destructive warfare began in the mid-eighth century, with fortifications, sieges, and devastation of the cities in the Petexbatun. One by one, the cities fell, monumental construction ended, and population levels dropped to 10 percent of their former sizes. As warfare progressed, settlements were fortified with walls and palisades. Finally, the rural population moved to defensible hilltops and the artificial fortified island of Punta de Chimino. The collapse in the Petexbatun was early (compared to the other areas in the southern lowland), between A.D. 760 and 830, is well dated on stela, and was associated with extensive defensive systems and dramatic depopulation of settlements. This seventy-year period also is marked by a decrease in imported Peten pottery and an increase in the variety of ceramic pastes—indicating more local manufacture of pottery vessels—and a general decline in the quality of artifacts.

The Petexbatun researchers (Demarest 1997; Dunning, Beach, and Rue 1997; Wright 1997) found that the agricultural and other subsistence systems were well adapted to the various environmental niches. Furthermore, according to osteological findings by Lori Wright (1997), the people were well nourished, so that ecological disaster (including overuse of the land, overpopulation, and nutritional stress) were not found to be factors in the collapse in the area. Soil cores studied by Nick Dunning and colleagues (Dunning, Beach, and Rue 1997) found that there were no climatological changes, so climate change was also not found to be a causal factor in the Petexbatun collapse. The production and distribution of pottery in the Petexbatun region indicates that the changes in the economy followed from the political turmoil and warfare of the late eighth century (Foias and Bishop 1997).

By the mid-eighth century, defensive position was the main criterion for the location of settlements, with settlements being situated along the edge of the Petexbatun escarpment, which was defensible but still near good arable land. As time went on, defensibility became of paramount concern, as reflected in the hilltop locations of sites, which were then located at some distance from arable land but in optimally defensive locations.

In the drought model of the Classic Maya collapse, it was a lack of rainfall that was said to have caused crop failure, famine, and massive loss of life. Geographers base the model of climatic change on analysis of sediment from soil cores in several lakes in the Maya area. Pollen identified from the cores documents a change to drier-climate vegetation. Of course, the change in climate could have followed an ecological disaster instead of precipitating cultural changes. The leading proponents of the drought model are David Hodell, Jason Curtis, and Mark Brenner (1995) and Richardson Gill (2000). Demarest (2001) alleges that the political disintegration was complete in the Petexbatun before the proposed desiccation occurred and cautions that the emphasis on climate in Gill's book appears to be environmental determinism.

There are various other interpretations of the Classic Maya collapse (see Culbert 1973). An old view of the collapse that remains popular is the intrusion by Mexicanized Maya, perhaps the Putun Maya traders, from the Xicalango region of the western base of the Yucatan. Both Seibal and Altar de Sacrificios had non-Maya, perhaps Mexican, stylistic influences during the ninth century A.D. This is also the time of the spread of Fine Orange and Fine Gray pottery from the Gulf coast to the southern Maya lowlands. Perhaps the effects of foreign intrusion into the Maya lowlands can be better understood with reference to the fall of the great city of Teotihuacan by A.D. 700 and the subsequent scrambling for political and economic power throughout Mesoamerica.

Importantly, the Terminal Classic period saw the rise to prominence of two great powers in Mesoamerica, Tula north of Mexico City and Chichen Itza in the northern Maya lowlands (Chase and Rice 1985; see http://www.le.ac.uk/cgi-bin/tab_int/server/docs/ar/image_collection/images.tab?operation=retrieve&record=240).

Lessons from the Classic Maya Collapse

The collapse of the Classic period Maya civilization in the southern lowlands is a sobering reminder of the eventual fate of many civilizations and begs the question as to whether there are any parallels with modern Western civilization. Certainly, overpopulation and overuse of the land for agriculture are pressing issues in today's world that many believe were also instrumental in the fall of the Classic Maya civilization. The ancient Maya cut the rainforest for farming, leading to soil erosion, depletion of the soil nutrients, and subsequent use of less desirable swamp land for farming. These internal forces seem difficult to manage and control, and clearly the ancient Maya were not able to do so.

According to Arthur Demarest (1997), this ecological model does not explain the Classic Maya collapse. As previously outlined, his research in the Petexbatun region of Guatemala indicates that internecine warfare founded on escalating elite competition was spiraling out of control and led to the reallocation

of resources and redirection of all activities toward defense. Certainly there are historic and modern parallels for the deleterious effects of warfare from ethnic, national, or international conflicts and competition. Whatever the factors precipitating Maya warfare, it did lead to their ultimate demise.

Perhaps more problematic in any culture's decline are external factors, such as invasion or climate change, that are unexpected and for which a culture is not prepared to deal. Changing vegetation patterns identified from soil cores in the Maya area point to sudden climatic changes at the end of the Classic period that may have precipitated the collapse or may have contributed in some way to the spiraling downfall (Gill 2000; Hodell, Curtis, and Brenner 1995). Whether there was a drought as some have argued, fluctuations in rainfall would have negatively impacted farming and the Late Classic Maya's ability to feed their society. Did the Classic Maya take steps to avert the effects of climate change? In coastal areas subject to sea level rise, buildings were raised onto stone platforms, and some low-lying locations were abandoned (McKillop 2002). Modern worldwide rise of sea level threatens to inundate low-lying coastal areas, including many heavily populated places. New Orleans is already below sea level and keeps its streets dry by pumping out water.

The collapse of the Classic Maya provides an opportunity for modern society to evaluate the consequences of increasing social, economic, and political complexity and the precarious relationship people have with the Earth's natural resources. In so doing, we may learn how to avert calamity in modern times.

THE TERMINAL CLASSIC FLORESCENCE IN THE NORTHERN MAYA LOWLANDS (A.D. 800–1000)

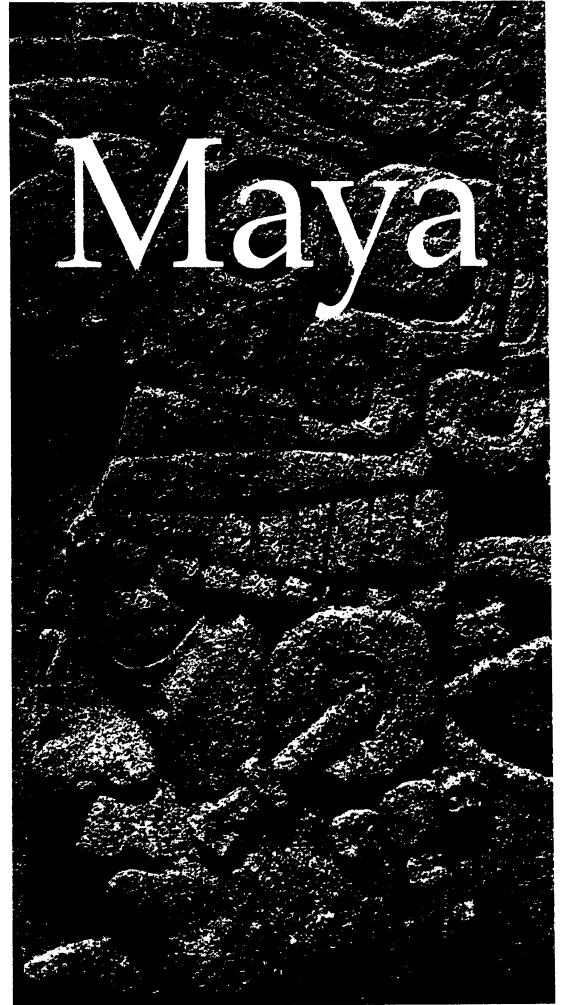
As the polities in the southern Maya lowlands collapsed and fell into obscurity, cities in the northern Maya lowlands rose to prominence. The impetus for the northern advances is unclear. Even some communities in the southern lowlands continued uninterrupted into the Postclassic. Among these, Lamanai, Santa Rita, and Wild Cane Cay are on waterways—an inland lagoon in the case of Lamanai, and the Caribbean for the others. Although some parts of the southern lowlands, such as Tikal and the northeastern Peten, were virtually abandoned, other nearby areas, such as the lakes district, experienced a continuity of settlement into the Postclassic. As work by Don and Prudence Rice (1990) has documented, there was a sharp population decline in the Terminal Classic period, but the population increased in the Early Postclassic period.

The diminution of the hinterland population after the collapse of Copan evidently was more gradual, occurring over several generations. According to David Webster (2002), one of the project directors of the Penn State Copan Project in the 1970s and 1980s, lesser nobility were vying for political control during the last reigns of the Copan dynasty. The lesser lords may have grasped power after the death of Yax Pac, the last king to leave hieroglyphic records on carved monuments at Copan. And people continued to live for several generations in the Copan hinterland, with migration and a gradually declining population ultimately contributing to the near abandonment of the area.

The Ancient Maya

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