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## Macroparasitism and Microparasitism in Mesoamerica The Aztec



**Figure 1.** Huitzilopochtli, the Aztec God of the Sun and War. Source: Balthazar, The Aztec Book of Days.

*Broken spears lie in the roads;*

*We have torn out our hair in grief;  
The houses are roofless now, and their walls  
are red with blood.*

*Worms are swarming in the streets and plazas,  
and the walls are splattered with gore.  
The water has turned red, as if it were dyed,  
and when we drink it,  
it has the taste of brine.*

*We have pounded our hands in despair  
against the adobe walls,  
for our inheritance, our city, is lost and dead.  
The shields of our warriors were its defense,  
but they could not save it.*

*Aztec lament [Coe p. 200]*

*...when we saw so many cities and villages built in the water and other great towns built on dry land and that straight and level causeway going towards Mexico, we were amazed... and some of our soldiers asked whether the things we saw were not a dream,...I stood looking at it and thought that never in the world would there be discovered other lands such as these...Of all these wonders that I then beheld today all is overthrown and lost, nothing left standing. Bernal Díaz del Castillo*

*Every species of animals naturally multiplies in proportion to the means of their subsistence, and no species can multiply beyond it - Adam Smith, The Wealth of Nations, 1776*

*Most civilizations have disappeared before they had time to fill the full measure of their promise. Joseph Schumpeter.*

At just about the same time that the classical Greco-Roman civilization of the “old world” was disintegrating the classical civilizations of the New World were moving toward florescence. Then, between 750 A.D and 900 A.D., the great civilization of Teotihuacan in Central Mexico and the Mayan Civilization of Central America vanished leaving behind only their magnificent monuments and their bones. The Greco-Roman Old World would rise anew and would transform itself through Renaissance, Reformation, and Revolution into modern industrial societies.

In the New World, the Aztec Civilization would merely retrace the steps of the older civilizations. In the Mesoamerican world there was no “progress” as we have come define it, just another iteration of what had come before. Little wonder then that the Mesoamerican mind imagined time, not as linear and progressive, but as circular, and that their calendar “measured centuries, endlessly repeated” [Fehrenbach p. 24]. Little wonder then that their attitudes were so fatalistic and their philosophies so “existential.”

As did the early civilizations of the Old World, the Mesoamericans imagined themselves and highly vulnerable to what appeared to them as a capricious natural world. As did the early civilizations of the Old World the Mesoamericans used magic and mysticism to attempt control of the natural world, or at least its pacification. But, unlike the Old World Mesoamerica never developed a scientific, mechanistic view of the world; “their magic was a surrogate for science” [Fehrenbach p. 25].

Due to its altitude, the central basin of Mexico was subject to early frosts, unseasonal snow and extensive droughts. But these were minor vexations. Central Mexico was also prone toward more cataclysmic natural disasters such as earth quakes and volcanoes and, consequently, the Aztecs fully expected their world, the “fifth Sun” would come to the some calamitous end. They knew of the ruins of Tula and Teotihuacan and fully expected that some future generation would know of the ruins of Mexico. The Aztecs were “deeply fatalistic,” despite the prolific construction of enormous monuments and temples and despite their sacrifices of blood, human hearts and even their most beautiful and perfect children to their fickle gods, they fully expected the disasters of the past to repeat themselves [Fehrenbach p. 25]. They could never have imagined the form that their impending calamity actually took.

Historically, the decline of the classical civilizations of Mesoamerica was probably due to far more mundane forces than a singular catastrophe. The cause, was surely to some extent

due to contact, an fully exogenous, random catastrophe. Weather and climate change may have also been part of the problem. The ultimate cause was endogenous and systemic forces - these civilizations eventually exceeded the carrying capacity of the ecological system in which they were embedded. Relentless population growth, aided by the fact that major epidemics of disease did not cull populations as they did in the Old World, and intensive agriculture leading to deforestation undermined ecological systems and produced new disease patterns. In the face of declining agricultural productivity, malnourished people became more susceptible to disease, morbidity, and mortality increased as fertility fell. At the same time the exactions of parasitic social elites increased. Not knowing what to do these societies simply relied on the more intense application of the principles that seemed to have worked in the past - more monuments, more human sacrifices, more deforestation, more soil erosion, less rain. As living standards fell, social order began to disintegrate. Violence, whether from internal rebellion, tribute seeking warfare, or from predatory barbarians preying on a enfeebled city, usually followed, or sometimes, as in the case of many Maya cities, the “producers,” the people simply picked up and left, faded into the rainforest or migrated elsewhere. After the conquest of Tenochtitlan, most of the people simply died from disease, overwork in mines, or broken hearts.

### *The great myth of the Conquistadores*

The central plateau of Mexico varies in altitude from 1000 to 4000 meters. At the time of European contact, the northern portion was covered by arid desert and was populated by nomadic barbarians [C & D p. 11]. In the southern part sat the basin of Mexico, a huge depression that included a shallow lake surrounded by rich volcanic soils. It was in this region that a succession of magnificent civilizations were built.

The Mesoamerican culture that had, by the time of European contact, most approximated a "modern" or "civilized" [State level] society was that of the Aztecs in central Mexico. The story of the Aztec is an “epic of social evolution - from band to tribe to Chiefdom, and finally into State, all in a period lasting only three or four centuries” [Farb 1978 p. 156].

The Aztec (actually the Mexica) had risen from obscurity as desert barbarians to rule the central basin of Mexico for two centuries, but there were many signs that the Aztec Civilization was beginning to disintegrate even before contact. But, despite its many problems, it might have survived were it not for the unmitigated catastrophe of the European invasion.

The “triumphalist” history of this invasion was for the most part written by the Spanish. The men who vanquished the Aztec are known in the history books as heroic *Conquistadores*. The “conquest” of millions of “Indians” by a mere handful of Spaniards is indeed the stuff of myth-making and much of what has been written of the conquest is, indeed, myth. Cortés was a brilliant general. His military brilliance was outshone only by his ambition, ruthlessness and avarice. Nevertheless, without a great deal of good luck his name surely would have found its way to Marx’s “dustbin of history.” Over the eons evolution and contingency had prepared the stage for Cortés victory, he played his part well but it had been written long before he was born. Given the meandering ways of humanity, it was inevitable that the Old World and the New World meet. When they did meet it was on terms that were uneven and the outcome was quite predictable. The Spanish arsenal of weapons, armor, horses, and disease overwhelmed the stone-age Aztecs. The result was the greatest demographic disaster in world history.

*Here today, gone tomorrow*

The Aztec Empire was the pinnacle<sup>1</sup> of precontact Mesoamerican civilization. When Columbus reached the New World, the Aztec Empire, based in the Central Valley of Mexico, had been extended to Acapulco on the Pacific coast, some 600 miles to the south to the border of Guatemala, and to the east to the Gulf of Mexico [Gruzinski p.57]. The Aztec empire fell before the horses, cannon, tactics and the germs of the Conquistadors led by Hernando Cortés and as a consequence of its own internal political and ideological "contradictions." We will never know how the future cultural evolution of the Aztec would have proceeded but there is much to suggest that it was on a terminal trajectory.

The Aztec civilization was not the first state-level, imperial civilization to arise in Mesoamerica. The great civilizations of the Olmec in the coastal lowlands in the southern region of Veracruz, the Maya of the Yucatan, Chiapas and Guatemala and the great society of Teotihuacan in the central valley had risen, perished and vanished in the preceding centuries. Each had great cities, each had some form of writing and an elaborate calendar for the timing of rituals and agricultural rituals, each produced great public works and monumental art. Moreover, in terms of structure, each had an elite class that administered the bureaucratic system and that had the power to coerce labor. The elites and artisan specialists in each case lived off the food surplus extracted from the laboring peasants. Each had an army and internal police force and was the center of a trading-tribute network [Coe p. 60-61]. The superstructures of each civilization contained complex pantheons and religious practices that involved human sacrifice and cannibalism. Most importantly, each was based on the maize-bean-squash, the Mesoamerican trinity, agricultural infrastructure. Thus, each society was different in some accidental ways, but was in terms of infrastructure, structure and superstructure were quite similar and thus represented no significant institutional evolution. This being said, there is little reason to believe that the Aztec civilization would not have met the fate of its predecessors.

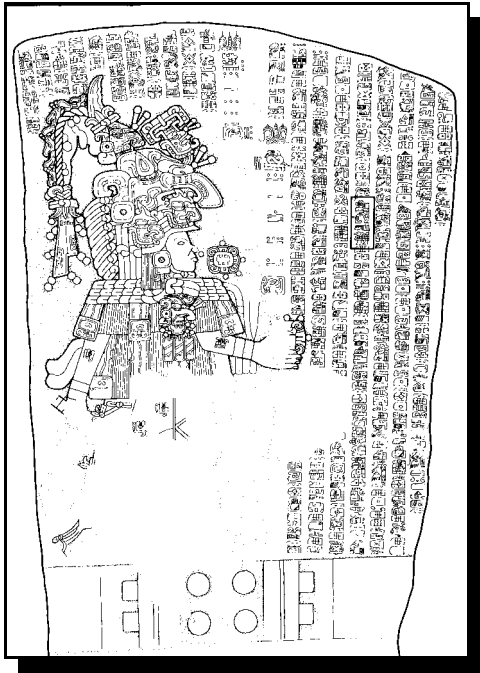
The Aztecs were conquered by Cortés, with the help of an alliance of oppressed tribes such as the Tlaxcaltecs, and most importantly by the micro-organisms Cortés brought with him. Within just a few decades of contact about 90% of the population of the Mexican plateau had died from small pox, typhus or measles. Aztec

Under the *ecomienda* system land and the services of Indians was given to the Conquistadors. The Conquistadors extracted tribute from the Indians in much the same way the Aztecs did. Hernán Cortés was opposed to the *ecomienda* system. His experience with the system in Cuba led him see it as a "demographic and economic disaster" [Fuentes p. 127]. The system as practiced, he thought, was far too hard on the Indians and, thus, not very productive. Indeed, after his return from Honduras, he was charged with, among other things, "defending the nobility of the Indians" [Fuentes p. 128]. History has, of course, proved Cortés correct.

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<sup>1</sup>I do not mean to suggest that the Aztec Civilization was in any real sense "progressive" relative to say that of Teotihuacan, or Palenque. I mean only that it represented the highest form of civilization ever reached in Mesoamerica which may have been achieved several times before.

population numbers fell from about 1.5 million to 325,000. Of course, not only the Aztecs "died like flies." [Fagan 286] In 1519 the population of central Mexico was estimated to be 11 million, but by 1540 it was down to 6 million [Fagan 286]. Those who survived got the privilege of becoming a virtual serf on one of the *Encomiendas*; an institution superficially similar to, but essentially different from the feudalism that dominated Europe during the middle ages. Others slaved away and died in *de ratos or rat holes*, the labyrinth of tunnels in the Spanish silver mines. Still others would serve on Haciendas as *Peons* or debt slaves. All would struggle economically within a Spanish dominated social system that was premised on the inherent racial inferiority of the *Indios*<sup>2</sup>.



**Figure 2:** The La Mojarra Stela. The earliest writing yet discovered in the New World. Source: National Geographic 184:5 [1993]. Drawn by George E. Stuart.,

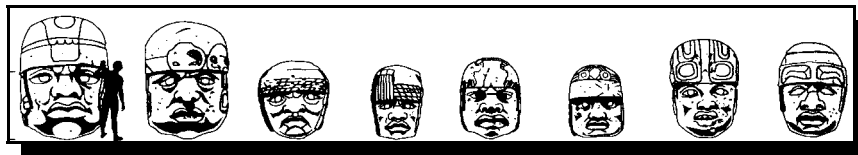
### The Olmec<sup>3</sup>

The Olmec were probably the founder society or “mother-culture” of all Mesoamerican civilizations, both Mexican and Mayan [Coe p. 62, Weaver p. 53]. The Olmecs, expert stone carvers, produced the first Mesoamerican monumental art and created a distinctive art style. The Olmec developed rubber-making and the weaving of cotton fiber into cloth [Feherenbach p. 17]. It was during the Olmec period the priests were “set-off from their fellows in appearance as well as prerogatives” and it was the Olmec that first constructed large-scale monuments for religious purposes [Wolf p. 70]. It is among the Olmec that we first see signs of political hierarchy, that is, of “nobility, uncommon status, domination and rulership.” Eric Wolf contends that the “Olmec art style spread so widely and exerted such lasting influence because it underlined new lines of cleavage within the social order” [Wolf, p. 73]. We see also new “rapacious deities” [Wolf p. 73]. Thus, the Olmec also probably originated auto-sacrifice or bloodletting and human sacrifice into the Mesoamerican cultural basket [Weaver p. 66, Feherenbach p. 17]. The

<sup>2</sup> The Spanish were racist in their attitude toward the aboriginal inhabitants of Mexico. As was the case of the word Negro, in the United States, in Latin America, the word Indio has come to be perceived as pejorative. Since the 1960s, as people have become aware of the oppression of the “Indians”, and the derogatory, racial connotation of the word, Indio has been replaced by the generic term *campesino* which means “peasant.” Elites, who continue to harbor racist attitudes still use the term Indio. We will use Indio in this chapter because, at the time it was the term used. The use of “campesino” would be anachronistic.

<sup>3</sup>The name Olmec derives from the Nahuatl word for rubber. At the time of contact rubber was an important Olmec product [Vásquez 125]. The people who inhabited the “Olmec” area when the Spaniards arrived called themselves Olmec, “people from the land of the rubber trees” No one knows what the ancient people called themselves [Carrasco p.30]

Olmec evidenced "enormous managerial talents" [Stuart 1993 p ] Olmec civilization flourished on Mexico's Gulf coast where the states of Veracruz and Tabasco meet at the Bay of Campeche. Olmec society flourished between 1200 and 400 B.C.- about the time between the Trojan war and the golden age of Athens [Stuart 1993, p.92] The center of Olmec civilization was the southern low- land region of what is now the state of Veracruz. The Olmec territory was blessed with many rivers, the annual floods of which deposited rich alluvial soil and enough rainfall to keep the soil moist enough to allow two maize crops per year [Coe p. 66, 69]. Maize was planted at La Venta as early as 2250 B.C. [Stuart 1993 p.104]. The Olmec obtained protein from abundant supplies of fish and dog meat. Human bones with butchering and burn marks are also found in Olmec sites [Coe p. 69]. At San Lorenzo great quantities of bones from the poisonous and thus inedible marine toad (*Bufo marinus*) were found. Michael Coe speculates that the poison was extracted and used to make the hallucinogen bufotenine [Coe p. 69]. The major sites of Olmec civilization were at La Venta [1200-400 B.C.] and San Lorenzo [1800-1200 B.C.] and Tres Zapotes. The three cities shared resources in a symbiotic relationship. La Venta was located on a coastal estuary and supplied the others with shellfish, fish, turtles and salt. Tres Zapotes was located at the foot of the volcanic Tuxtla mountains supplied basalt stone for sacred monuments; San Lorenzo was inland and was endowed with fertile levee soils for multi-cropping



**Figure 3:** Some of the 16 Olmec *cabeza colosal* found to date. The head at the far left is about 9 ft. tall. The largest found is 11 ft. tall. The heads weight up to 40 tons. Source: *National Geographic Magazine* 184:5 [1993]. Drawing by David S. Merrill

of maize and also had clay deposits for pottery [Stuart 1993, p.92].

Olmec society was the first state level society in Mesoamerica. The basis for the social stratification was the seizure by the elites of rich river basin land for themselves leaving the less fertile upland land to the commoners. Huge monumental sculptures<sup>4</sup>, most notably the colossal heads found at San Lorenzo and other gigantic public works suggest both the existence of an elite class and the power of these elites to compel labor [Coe p. 69]. In this regard the parallel to

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<sup>4</sup> Olmec architectural works are not impressive and are limited to platforms or mounds [[Vásquez 126]. The great clay pyramid at La Venta was 110 ft high. The "plateau" at San Lorenzo was 150 feet above the ground and 23 feet into it and was nearly 3/4 of a mile long. No one knows the purpose of these structures. The giant heads found at San Lorenzo (4) are nearly nine feet tall and may weigh as much as 40 tons [Coe p. 66,71, Carrasco p. 33]. The human figures in the Olmec style have broad faces, mongoloid eyes, flat noses and flared nostrils and wide lips set in a permanent snarl. It is called the "Olmec mouth" and is thought to resemble the mouth of a jaguar- a revered animal [Vásquez 125]. The "heads" also appear to be wearing football helmets. Some have also described these features as "Negroid."

Egypt is striking [Coe p. 69]. Stela C<sup>5</sup>, found in at Tres Zapotes is among the oldest dated monuments found in the new World. It carries the date Sept 3, 32 B.C. expressed in the so-called "Long Count" system later perfected by the Mayans [Coe p. 75]. The La Mojarra monument, found in 1986 near Tres Zapotes, is a stela 8x5 ft weighing 4 tons includes a figure and hundreds of glyphs in 21 columns. It is one of the longest texts found in Mesoamerica [Stuart 1993 p.108] The Stela was, in fact, a "political poster" for a warrior king called Harvest Mountain Lord. It details of his ascension to throne and his crushing of an attempted coup by his brother in law [Stuart p.110] and contains dates from long count system that correspond to May 21, 143 A.D. and July 13, 156 A.D.[Stuart p. 108]. The Stela glyphs anticipate Maya writing.

San Lorenzo was destroyed at about 1200 B.C. "either by invasion or revolution, or a combination of these. The grandiose monuments glorifying it rulers were ruthlessly smashed and defaced,..with a fury of destructive force.. and then ritually buried." [Coe p. 69]. Sometime between 400 and 300 B.C. La Venta suffered essentially the same fate. La Venta is now covered by an oil refinery and an oil slick. "Civilizations went out with a bang, not a whimper in early Mesoamerica" [Coe p. 70].

## Teotihuacan

Located some 25 miles northeast of Mexico City the remains of Teotihuacan, the first true urban center in the western hemisphere still impress. They city arose at the beginning of the Christian era and lasted seven centuries and thrived longer than imperial Rome. In 600 A.D Teotihuacan was the sixth largest city in the world [Coe p. 95]. Most of the city is now buried under five towns, a military base, farms and highways, but the ceremonial center still stands [Stuart 1995 p.11]. At the heart of the ceremonial center stands the Pyramid of the Sun<sup>6</sup>, which contains over one million cubic yards of earth and stone, Until the construction of a building to house the Space Program at Cape Kennedy, the Pyramid of the Sun in Teotihuacan, at 761 ft square and 261 feet high, was the largest structure in the western hemisphere [Feherenbach p. 29].

Every spring at the time of the vernal equinox, thousands of "New Ager" make the pilgrimage to the Pyramid of the Sun located in Teotihuacan, Mexico. The pyramid is believed to be vortex of celestial energy. They swarm over the pyramid like ants, surely marveling at the engineering skill, and army of laborers it must have taken to build it, and, of course, soaking in the "chi" energy it releases.

The contemporary observer of the remains of Teotihuacan fails to appreciate its real historic dimensions. The sacred center of the original city covered an area of at least eight square miles with "temples, palaces, schools, plazas, courtyards, and towering stone

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<sup>5</sup>When this stela was found in the 1930s it was believed to be Mayan. The National Geographic reported in 1939 that this finding extended the Mayan territory about 150 miles further north of what been previously believed to be the limit of the Mayan's territory. The Stela was found in an areas where some "giant heads" had been recently found. The Stela is now classified as Olmec not Mayan.

<sup>6</sup>Other major monuments include the Pyramid of the Moon and the Temple of Quetzalcoatl.

monuments" [Feherenbach p. 30]. The city contained some 600 ceremonial pyramids. The main thoroughfare, the "Avenue of the Dead," coursed some two miles through the center of the city [Thomas et al p. 53]. At its peak, Teotihuacan housed some 125,000 people including many immigrants, attracted from a vast trading network, in some 2,200 apartment houses [Harris C&K p. 141]. These multitudes were fed from the products of an agriculture watered by miles of irrigated fields fed by natural springs [Thomas et al p.53. Coe p. 94] and the annual monsoon which produced 80% of the annual precipitation in just five months<sup>7</sup> [Storey p. 254]. In the arid, highland environment, rich volcanic soil produced maize, beans, hot peppers, squash, amaranth, cactus, and cherries. Rabbits, deer, dogs, turkeys ducks and fish were also consumed [Stuart 1995 p.32-33]

Teotihuacan was the center for regional trade and controlled the only source of scarce obsidian in the region [Thomas et al p. 53]. Just as many medieval European cities built Cathedrals to attract tourists (then called Pilgrims), Teotihuacan also welcomed pilgrims, and no doubt, like Medieval cities, also profited handsomely from this trade. The Pyramid of the Sun was located over a cave containing a natural spring - a sacred place in Mesoamerican religions.<sup>8</sup> The industries in Teotihuacan were heavily focused on the mass production of religious objects [C&D p. 15].

A visitor to the site of Teotihuacan today would be amazed to discover that a vibrant civilization once existed there. Unlike the arid, sun-baked desert area of today, the plain surrounding Teotihuacan two millennia ago was heavily forested and watered by natural springs "percolating through the volcanic soils" [Feherenbach p. 31, Harris p. 141]. Settlement in the valley of Teotihuacan did not begin until about 600 B.C. Until that time settlement had been confined to the forested upper slopes of the valley to take advantage of the extra rain that fell there [Harris C&K p. 140]. In this environment the technology of agriculture was surely long-fallow slash and burn. Gradually, under the pressure of rising population people began to migrate to the valley floor to farm the fertile alluvial soils using some sort of irrigation technology [Harris C&K p. 140]. People must have been forced to move and to undertake the greater toil of irrigation agriculture because of the declining efficiency of the slash\burn system which was probably the result of the deforestation and erosion associated with higher population densities and a gradual shortening of the fallow period [Harris p. 141].

We know "next to nothing" about origins of the people, social organization, language and the cause of the decline of Teotihuacan [Stuart 1995 p.14]. Little is known about the people who built Teotihuacan and ruled its 10,000 sq. mile empire. Teotihuacan is the Nahuatl name given to this city by later inhabitants of Mexico; it means "where men became lords." It appears that here, like in other hydraulic environments, a group of priest-engineers established a Theocratic pristine state. For three centuries Teotihuacan prospered in relative peace, but it would not last - "Teotihuacan did not go gently from this world" [Feherenbach p. 37]. By as

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<sup>7</sup>The monsoon rains were captured in man-made reservoirs. Even with the springs and the rainfall Teotihuacan nevertheless had to ration water during the long dry-season [Storey p. 254]. Water scarcity during the dry season had profound health effects as we shall note below.

<sup>8</sup> Coe [1995p. 94] claims there is no natural spring in the cave. The water was diverted into the cave by the people with a series of drains.

early as 650 A.D. there are signs of internal troubles and by 750 A.D. parts of the city were abandoned [C&D p.15]. In 850 A.D. the city was "sacked and burned" perhaps by *chicimeca*; bellicose, semi-nomadic hunters (savages) from the northern arid territories [Feherenbach p. 37, C&D p. 18], but there is another theory..

When it fell, Teotihuacan was the sixth largest metropolitan area on earth [David Keys (1999) *Catastrophe: An Investigation into the Origins of the Modern World*, p. 184]. Despite its vital manufacturing activity, however, like any agricultural society it was dependent on water. Such dependence is manifest in the importance in the religious superstructure of the rain god Tlaloc. While it is not established with certainty, it is generally presumed that the massive Pyramid of the Sun was actually dedicated to Tlaloc. Similarly, then the political structure derived its legitimacy in terms of the nobility and priests being the direct intermediaries between the people and Tlaloc. Hence, the entire edifice, the infrastructure, the structure and the superstructure of Teotihuacan rested upon on water. There is considerable evidence that the fall of Teotihuacan was the consequence of a catastrophic drought, that started in the middle of the 6<sup>th</sup> century and lasted at least 20 years, and possibly, for as long as fifty years [Keys, p. 189].

The Teotihuacanos were surely taken by surprise as this was the first drought event in one thousand years [Keys, p. 191]. The evidence suggests that this climate event (drought and cooling) affected Mexico and South America, and perhaps the entire western hemisphere [Keys, p. 189]. Not having any experience with such a calamity surely made adapting to it more difficult. Needless to say the following famine led to disillusionment with not only Tlaloc, but his human representatives. As Keys, writes:

The end of the Mesoamerican Jerusalem and its empire was now fast approaching. Only one final and violent act remained to be played out - for all the archaeological evidence indicates that the lights finally went out on Teotihuacan in a veritable orgy of flames and murder.

The selective way in which the destruction was carried out and the obvious emotional zeal with which individual members of the elite were slaughtered suggests the forces that ended Teotihuacano civilization were internal, not external.

During what appears to have been an extraordinarily violent popular insurrection nearly every major building in the city associated with the ruling elite was ransacked, torn apart, and put to the torch. In the city center, archaeological excavations yielded evidence that between 147 and 178 palaces and temples were burned to the ground in an orgy of systematic, hate-filled destruction...

Thousands of angry citizens must have surged into the city center and broken onto the main palace complex, where they would have come face to face with the ... elite..still wearing their jade, obsidian and onyx mosaic crowns bedecked with iridescent blue and green feathers, many were cut down with utmost barbarity...one nobleman's skull had been shattered and his body hacked to pieces ... other similarly dismembered victims were found nearby..[Keys, pp 194-5].

The mob then went on to destroy temples and "smashed images of the discredited and now presumably hated rain god, Tlaloc"[Keys, P. 195].

## ***The development of the Basin of Mexico - Teotihuacan and Tenochtitlan***

The economic development and population growth in the Basin of Mexico is consistent with Boserup's population-driven model. Agriculture, of necessity, in Boserup's view, became more intensive as the population increased. Finally, her theory contends that as population grows and agriculture becomes more intensive, social stratification begins and eventually landholding becomes very concentrated in the hands of elites. But, Boserup's model, although suggestive, does not attempt to deal with the rise of complex political organizations such as the Aztec, or Teotihuacan states. To explain the latter we will fall back of Wittfogel's hydraulic theory.

Boserup's theory is also consistent with the three principles or laws that govern cultural change: the law of biotic potential, the law of least effort and the law of minimization of risk. In brief these principles assert that population growth is an independent variable, that is, one can expect the human population to grow. Second, increased efforts to raise more food will not be forthcoming until population pressure makes it necessary. Third, people will expend effort or otherwise sacrifice to avoid risk of extreme food shortages. We can see these principles at work when we examine the cultural and economic evolution in the basin of Mexico [Saunders p. 360].

First, we know that population increased. At 1150 B.C. the population of the Basin of Mexico was a mere 5000. This population subsisted on long-fallow agriculture (swidden). From then it grew at a rate where it doubled every 200-225 years. The rate of growth then slowed to a doubling every 600-700 years and by 650 A.D. it had reached 250,000. Then, for reasons unknown at the present, there seems to have been an out-migration from the basin. The population then stabilized at about 175,000 until 1250 A.D. The population then exploded, doubling every 100 years, to about one million by 1519 [Saunders p. 183-184]. The population of the Basin of Mexico at the time of contact was four times higher than in any other pre-contact period. Indeed, after the demographic disaster of conquest the population of the Basin was not restored to the level of 1519 until the 20<sup>th</sup> century [Saunders p. 176].

The growth of population drove an intensification of agriculture. This is indicated by the presence in archaeological sites of tools used to contend with grasses and brush, tools which were not needed by long-fallow farmers. Other indications of intensification are evidence of the utilization of intensive techniques such as terracing, permanent irrigation, flood water irrigation and drainage systems. There is evidence of terracing as early as the "Early Horizon Phase [1500-1150 B. C.] and by Aztec times, the slopes of the entire basin of Mexico had been terraced as a means to reduce the soil erosion that comes with short-fallow systems.

During the initial phase of colonization extensive methods of agriculture were used in the areas to the south and west where rainfall was the most reliable and the risk of frost was minimized.<sup>9</sup> Maize required a six month growing season. Few areas provided both the moisture and the low risk of frost. Teotihuacan was one such area. But, in the more arid regions the risk of crop failure was high. Colonization of the alluvial plains in the central region had to wait for

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<sup>9</sup> The most dangerous environmental variable facing the farmer was an early fall frost. Irrigation allowed the farmer to plant his crop before the rainy season began in May and in that way it reduced the chances of the crop being damaged by an early fall frost (before October) [Saunders p. 252].

the four-month variety of maize and for the socio-political stratification needed to provide the coercive power to construct the large-scale irrigation and drainage systems needed in the relatively arid alluvial plain. [Saunders p.377-78, 382-386]. Saunders et al having analyzed the carrying capacity of the southern part of the basin where the bulk of the population lived in 100 B.C.<sup>10</sup> concluded that the population of this area had exceeded what could have been supported by long-fallow methods (swidden) in some cases by a factor of 2-4. By this time even Teotihuacan has resorted to drainage and permanent irrigation of the alluvial plain [Saunders p.381].

A truly remarkable 14<sup>th</sup> century drainage project created some 10,000 hectares of Chinampas in Lakes Chalco-Xochimilco at the southern end of the basin. This project was a relatively recent, state-directed agricultural intensification” controlled by the Aztec State [Saunders p. 179]. The project included extensive, mammoth canals and an elaborate systems of dikes and sluice gates to control water levels and to prevent flooding - a perennial problem in the basin. These raised fields provided about one-half of the total subsistence requirements of the 500,000 people in greater Tenochtitlan [Saunders p.177, 180]. Under the pressure of a growing population of non-food producing specialists, the Aztec State also directed the re-occupation of marginal and previously deserted land in order to provide food for Tenochtitlan’s swelling population [Saunders p. 177].

Of course, as population outstripped indigenous natural capital, the Aztec State also engaged in macroparasitism as a subsistence activity:

The supply of food for such a population must have been a matter of no little difficulty, for the soil on the hill-sides is scanty, many of the slopes are composed of *tepeatle*, a mixture of volcanic ash and scoria fit only for the growing of maguey and considerable surfaces were covered with lava and carry no loam at all. The scarcity of good soil must have led to an intensive cultivation, and this is shown by the care with which manure was collected as is the case of China and Japan today.

Food must have been brought from very considerable distances, and want of sufficient supply for the near neighborhood must have had much to do with the predatory nature of the Aztec dominion [Irving Leonard, 1956 p. 200].

The tribute garnered in these imperial activities produced imports of grain in amounts to feed 40,000-50,000 people. While not as productive, in food terms at least, as the chinampa projects, war and tribute fed about 10% of the urban population of Tenochtitlan [Saunders p. 176].

## Climate and soils

Due top the high altitude, the winters are cold and dry, but the summers are warm and rainfall is abundant but monsoonal - 80% of the rain falls between June and the end of September. The soils are fertile and can be utilized without the plow. The major problem confronting maize agriculture is the early (September) or late (March) frost. These conditions

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<sup>10</sup>First Intermediate, Phase Three using Saunders’ time frame.

prevented multi-cropping and also required that serious attention be given to the timing of agricultural activities. Rainfall varies over the basin being the greatest in the southwest and the least in the northwest sections. Unfortunately, the patterns of rainfall present considerable risk to agriculture in the Basin. The time of the start of the rainy season is variable and it has often come as late as mid-June. Mid-summer droughts are common, and in the north and central parts of the basin, rainfall is often less than needed for a maize crop. Over the entire basin there is about a 50% chance of some unfavorable pattern of precipitation, either a late start or inadequate quantity. "Such a pattern," Saunders notes, "places severe constraints on crop security." Moreover, when combined with an early frost, a delayed rainy season would prove fatal for the maize crop. The frost-rainfall risk factor is particularly high in the upper Piedmont (2500-2700m) and the alluvial plain (2245m-2260m), but it is less serious in the south. On the lake shore the risk of crop loss due to frost or inadequate rainfall is quite low. [Saunders p. 82.]

### The Ecosystem of the Basin of Mexico

The Basin of Mexico includes at least nine different ecological zones that differ according to altitude, and soil quality. The patterns of habitation and agriculture had to accommodate to these basic ecological realities, most especially the patterns of rainfall, frost, and soil erosion. The Basin floor was covered by an system of lakes. The lakes were shallow and, at certain time of the year they were interconnected. The largest, Lake Texcoco, was at the lowest elevation so all drainage in the basin ultimately flowed into it. As a consequence it was very saline. The lakes to the north (Xaltocan & Zumpango) and to the south (Xochimilco and Chalco) were at higher elevations and drained into Lake Texcoco. Due to the presence of many springs, the waters of Lakes Xochimilco and Chalco were fresh. The lakes provided a wide variety of animal and vegetable foods such as fish, frogs, crustaceans, mollusks, turtles, waterfowl, wild rice and blue-green algae (Tecuilatl). The saline soil around the lakes was of little use for agriculture, but provided instead the means for salt-making [Saunders p. 85].

Surrounding the lakes in a band a few kilometers wide was the flat "deep soil alluvium," (altitude 2240-2300m) soils with a "sandy loam texture." While fertile this area was not amenable to agriculture because of the altitude and the high risk of early frosts and low rainfall. However, with the advent of irrigation, this area sustained a highly productive agriculture for almost two millennia [Saunders p. 86]. Rainfall farming was possible and was practiced in the in other parts of the basin such as the upland alluvium, a plateau at the southeastern end of the basin (2450-2600 m) and the lower Piedmont. The lower Piedmont is a gently sloping area that rises out of the basin at about 2350 m. Because of the gentle slope erosion was a minor problem. The soils in these regions are friable and easily worked with stone-age tools. There is abundant rainfall and relatively little danger of frost. The middle (2350-2500) and upper piedmonts (2500-2700) are more steeply sloped shows signs of erosion following deforestation [Saunders p. 86-88].

The first stage of settlement in the basin of Mexico is marked at about 1500-1150 B.C. Saunders et al believe that about 50% of the settlement was a consequence of population-pressure induced migration from the Morelos region; a frost-free area at 1200-1600 m. These migrants settled in the upland alluvium.

The remainder of the population was settled around the lakes in the deep soil alluvium.

In both locations the population was distributed according to rainfall patterns. None of these settlements, which were mostly nucleated villages show any signs of the emergence of elites, i.e. ceremonial architecture [Saunders p. 95-96].

Over the next 500 years (1150-650) there was a “veritable population explosion” leading to a concentration of population in the southwestern basin and also a dispersal of population into more arid areas as far to the north as the Teotihuacan Valley and into the lower Piedmont of the southern basin. Even as population density increased there is still no sign of an emerging “socio-political hierarchy of any complexity or scale”[Saunders p. 97].

Over the next three centuries (650-350) population nearly quadrupled and for the first time signs of the emergence of hierarchy are found in the form of “pyramidal mounds up to 15 m high” a some of the larger settlements. The largest of these settlements, Cuicuilco, in the southwestern part of the basin, is estimated to have had a population of nearly 10,000 [Saunders p. 97].

Between 300-100 B.C., the population of the basin doubled again. In Cuicuilco the settlement spread out to approximately 400 ha<sup>11</sup> and population reached at least 20,000, its historical maximum. The monumental construction in this settlement was the most prodigious in the Basin. The pyramid at Cuicuilco measures 80 meters in diameter and is twenty meters high.

The most substantial growth in this period came in a previously marginal part, that is the more arid east-central part of the basin, the Valley of Teotihuacan [Saunders p. 101]. The Teotihuacan Valley “attained a regional preeminence that it consolidated, expanded and maintained for another 1,000 years” [Saunders p. 101]. The fortune of the city, located in the in the lower Piedmont at the head of an alluvial plain, rested on a number of permanent springs and canal irrigation. In size, architecture, and political influence, Teotihuacan surely rivaled Cuicuilco [Saunders p. 101-103]. Cuicuilco was eventually destroyed by lava flows from a volcanic eruption that turned the whole area into a “rocky wasteland.” [Saunders p. 106]. The exact timing of this disaster is questioned, but by 100 A.D. the town was all but gone. At this time, no more than 15,000 people lived in the Basin, outside of Teotihuacan. Teotihuacan now harbored about 90% of the population of the entire basin

At about 200-100 B.C., we begin to see the effects of population density on political organization. As settlements became large it became increasingly difficult for them to obtain sufficient food from within a reasonable distance from the settlements. It has been suggested that macroparasitism was one of the solutions the larger cities applied to this problem. The larger political entities imposed tribute demands on the smaller units, thus beginning the process of state formation [Saunders p. 104]. Moreover, the tremendous concentration of population at Teotihuacan suggests that the migration of people to this area had a “coercive component” [Saunders p. 107]. There is no other instance in “the historical or archaeological record” of such a “drastic relocation” of a “sedentary regional population” [Saunders p. 107]. It is assumed it was initiated to gain political control of the population, but no one is really sure why it was undertaken. In any case, the relocation is correlated with a drop in the population of the basin. There may have been conflict, or more disease due to the growing density of people, or more malnutrition for the same reason and surely there was some synergy among these factors

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<sup>11</sup>Ha= hectare = an area 100X100 m.

[Saunders p. 107].

## Life and Death in Teotihuacan

*..in civilized society it is only among the inferior ranks of people that the scantiness of subsistence can set limits to the further multiplication of the human species; and it can do so in no other way than by destroying a great part of the children which their fruitful marriages produce - Adam Smith, The Wealth of Nations, 1776*

The trajectory of Teotihuacan was of a sudden rise in population density and cultural and economic florescence beginning in 150 B.C. and a 500 year plateau ending at about 750 A.D. with a “rapid and dramatic decline.” [Storey p. 28]. There are several unusual aspects of Teotihuacan worthy of mention. First, while Teotihuacan was clearly a state level society, as manifest in its massive public works and the control over labor supply that they required, the rulers are nowhere depicted in the iconography of the city. The city did have a well-defined hierarchy with a King on top supported by a religious and administrative hierarchy. The “Avenue of the Dead,” surely named after the Tombs of rulers that line its sides, and the palaces that fill the city are strong testimony to the existence of a powerful elite. Why the elites of Teotihuacan departed from the typical pattern of elite glorification through monument construction is open to speculation. Paleodemographer Rebecca Storey speculates that in some way the elites may have gained power by surrounding themselves with mystery rather than monuments [Storey p. 28].

Below the elites were the crafts specialists, the tillers of the soil and a small merchant class. The merchants, relatively small in number engaged in long-distance trade, most probably in luxury goods for the elites. The exact relationship of this class with the ruling elites is unknown [Storey p.33].

Craft specialists comprised about 1/3 of the population. The crafts specialized in obsidian tools, both for local consumption and for export, and other artifacts, most notably the thin orange ceramics peculiar to Teotihuacan [Storey p. 29].

The existence of a merchant class and craft specialists is what often defines an urban area. However, Teotihuacan was atypical of other urban areas in that the agricultural population, about 2/3 of the total population lived in the city and farmed the proximal agricultural land. Typically agriculture is conducted in rural areas by a population that lives in villages and hamlets in the rural areas. Yet the farmland surrounding Teotihuacan shows no evidence of ever being occupied [Storey p. 33]. It has been estimated that 80-90% of the population of the valley lived within the borders of the city [Storey p. 32]. Teotihuacan needed an army of agricultural labor to feed itself,<sup>12</sup> but as we shall see later, there is paleodemographic evidence that Teotihuacan, suffering from the “Law of Natural Urban Decrease” and thus had to rely on forced migration to maintain its population of agricultural labor [Storey pp. 261-262]. As a matter of control over involuntary migrants the rulers may have chosen to keep the agricultural workers

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<sup>12</sup> Due the lack of pack animals food production had to be local. It was better to bring the producers to the city than to allow them to grow food elsewhere and then ship the food. Moreover, due to the extensive irrigation system workers were surely more productive in Teotihuacan than elsewhere.

living in the city.

The “Law of Natural Urban Decrease” [LNUD] may also explain why Teotihuacan grew so rapidly at first, but then sat on a plateau for 500 years. In Europe and Asia the LNUD worked as urban populations were ravaged with epidemic diseases, the so-called herd diseases, that emerged from the close contact of humans with animals. But, while the people of the New World suffered from various gastro-intestinal and respiratory infections, tropical fevers, bacterial infections (TB, Staph and Strep) and parasites, they did not suffer this “herd disease” burden. The New World did not have the animal reservoirs that sustained measles, bubonic plague, and numerous other diseases. The only reservoir of small pox is humans, but the disease had never been introduced by humans. The human migrants into North America were hunters who did not have this disease. Moreover, it is believed that the “cold screen” along the Bering migration route killed off any microbes that might have been carried by humans during the migration from Asia [Storey p. 43]. Thus, Rebecca Storey opines “one might conclude that the disease environment had little damping effect on the growth of Pre-Columbian populations” in the New World. These populations, therefore, probably expanded to, and even exceeded, the limits established by the local carrying capacity i.e. the food supply [Storey p.43]. One might infer then that Teotihuacan reached a plateau in population that it was not able to transcend because it had reached the limit determined by its capacity to produce food. At such a point, any perturbation that reduces food producing capacity can be catastrophic.

In her path-breaking paleodemographic study of bones excavated from a residential compound in Teotihuacan Storey found evidence of chronic malnutrition among the common people which is consistent with enduring shortages of food. The evidence suggests that children suffered elevated rates (30-40%) of neonatal mortality due to prenatal maternal malnutrition. Maternal malnutrition led to babies small for gestational age. Also the “synergistic effect of anemia and infectious disease” at the time of weaning raised the mortality of 3 and 4 year old children. The anemia was the consequence of malnutrition in the year before death. With a depressed immune system from the anemia, children could not resist bacterial infections that were common in the unsanitary environment of the city. Consequently, they succumbed in great numbers to “weanling diarrhea” [Storey p. 197]. Storey estimates that one-half of children died by the age of fifteen and that chronic malnutrition and stress from infection raised the overall level of morbidity and mortality for all residents of Teotihuacan [Storey p. 237].

To make matters worse, Teotihuacan was “not a very healthy environment.”[Storey p. 254]. The dense population surely contaminated the water supply. Moreover, the lack of rainfall for a good part of the year made it difficult to flush the city of “waste and trash” creating a breeding ground for parasitic and endemic intestinal infections, in short, the city environment was a major hazard to human health [Storey p. 254]<sup>13</sup>.

The problem of elevated mortality could be offset with a high birth rate, but fertility rates were also depressed in Teotihuacan. According to Rose Frisch’s “critical fat” hypothesis fertility is depressed if chronic malnutrition and hard work prevent women from building sufficient stores of body fat to permit ovulation. Surely non-elite women in Teotihuacan worked

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<sup>13</sup>Even in the densely populated and water-short and inadequately-sewered suburbs of contemporary Mexico City desiccated human waste or “fecal dust” is a major source of air pollution and a source of widespread salmonella and hepatitis infection [Hamill p. 41]

very hard and on a low calorie intake keeping them too lean to ovulate and thus depressing fertility [Storey p. 259].

It would appear that the first great urban civilization of the New World was unable to sustain its growth because it ran up against the limits established by its carrying capacity and the interface of its population with microparasitism. Indeed, Teotihuacan probably suffered from a declining population [Storey p. 254] along the lines one would expect from the LNUD. Having exploited the food production capacity to the limit, and surely suffering from loss of land productivity due to overexploitation. Having exploited macroparasitism to the maximum, and suffering from a growing disease burden, the population began to decline.

As Marvin Harris has noted, the evidence supporting any explanation for the "cataclysmic demise" of Teotihuacan is "incomplete" [C&K p. 141]. Feherenbach proposes that a drought that began in the ninth century and lasted until 1000 A.D. While perhaps relevant to the Maya demise which came several centuries after that of Teotihuacan, the drought is clearly too late to explain events in Teotihuacan that are manifest in the middle of the seventh century. George Stuart, following Storey, has added disease to the ecological factors leading to the "terminal decline." Perhaps, he suggests, a lack of sanitation spread disease as sewage accumulated [Stuart 1995 p.35]

Marvin Harris emphasizes the ecological factor; the collapse, he contends, was ultimately caused by environmental depletion. As the city grew, Harris argues, deforestation became more extensive. Trees were cut for cooking fuel, construction of homes and to manufacture the lime plaster<sup>14</sup> that gave Teotihuacan its white glint in the sun. The deforestation may have altered the pattern of precipitation and runoff on the upper slopes of the valley, which in turn lowered the flow of the springs into the valley. The falling valley water table made irrigation more difficult, thus diminishing the productivity of agriculture [Harris C&K p. 142]. Falling yields must have put considerable pressure on the social bonds that held the "lords" and the people of Teotihuacan together. Even under the best of conditions the "farmers were certainly alienated from the priest-lords and primitive farming never produced much of a surplus" [Feherenbach p. 35]. Under conditions of declining surplus the exactions of the macroparasitic priest-lords must have become more oppressive; the "rulers oppressed the countryside to make sure the great center lived":

Hunger created violent social tensions; surpluses and authority disappeared. The universe of priest and common man alike was brought into serious question; magic failed, causing apathy and deep despair. In such an age, rulers could continue to make peasants...work or deliver their tithes only by force and fear [Feherenbach p. 37]

With the peasants pushed to the limit, the rulers fell back on the ancient economic rule: make it or take it. Teotihuacan "sought relief and plunder from foreign wars" [Feherenbach p. 37]. As the economic system deteriorated, as the social bonds disintegrated another ancient rule kicked in: those that live by the sword die by it.

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<sup>14</sup>Stucco or lime plaster was made by "cooking" limestone.

After the ceremonial center of Teotihuacan was burned in 750 A.D. life continued in Teotihuacan, but on a greatly diminished scale. The Cuidadela and the ritual district was never occupied again [Storey p. 35]. The elites of the city apparently migrated to the south and set up a number of towns around lake Texcoco.

The group or groups that sacked Teotihuacan came from the north of Mexico perhaps even as far north as the region of Colorado in the United States. They were on the cultural level of the Apache Indians - they practiced simple agriculture, but had not dropped their ancient life as warriors and raiders. They came to be called *Toltecs*, a term that originally meant "glutton, barbarian or vandal" [Feherenbach p. 41]. The Aztec descendants of the Toltecs would glorify the name, but its origins were definitively derogatory.

By 1000 A.D. the Toltecs ruled the region from the city of Tula even though it was an unlikely place to establish the center of an empire. Lack of rainfall and winter frosts made it a marginal area for agriculture. Tula had to rely on irrigated fields for its food and remained highly vulnerable to drought [Coe p. 141]. But, clearly Tula could not have sufficed without trade and tribute. The Toltecs controlled major sources of green obsidian and it is estimated that some 40% of the population of Tula earned their living producing obsidian products for the local market and for export [Coe p. 141].

The Toltecs<sup>15</sup> would rise in status and become a "utopian model" that would be seen as the fountain from which flowed the subsequent civilization of central Mexico [Gruzinski p.18]:

the Toltecs of Tula will always remain the unequalled masters of all the material, technical and intellectual refinements of civilization. They are known as the inventors of painting, sculpture, and the pictographic writing that covered papers of bark with glyphs, the builders of magnificent palaces, and the creators of the mosaics of multicolored feathers that decorated shields and adornments.

The Toltecs worshiped many Gods, most notably the plumed serpent Quetzalcoatl [Ket-tsal-KO-atl] who played a major role in the climacteric of the Aztecs. Yet, Tula seems to have been a secular state. Representations of gods were relatively rare which often suggests the domination of a military over the priestly elite [Coe p. 142]. Yet, the assertions by the Aztecs that the Toltecs were master artificers has yet to be confirmed by archaeological evidence [Coe p. 141]. It is from the Toltecs that we get the legend of Quetzalcoatl that would play such a vital role is the conquest of the Aztecs.

Quetzalcoatl was the "promethean" God. It is from Quetzalcoatl that humanity was given fire, maize, domestic animals, irrigation technology and octli (an intoxicating drink of fermented maguey). Quetzalcoatl was also a water god associated with rivers.

Quetzalcoatl was also a historical person - a 10th century Prince of Tula - who his mother claimed was divinely conceived (apparently not an uncommon delusion). Legend has it that the young prince was so wise and pious that his teachers named him Quetzalcoatl.

The Prince, who was inclined toward art, philosophy, music and dance soon had conflicts

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<sup>15</sup>The word "Toltec" means "the artificers" [Coe p. 131]

with the leaders of the Toltec warrior culture over the issue of human sacrifice. Quetzalcoatl wanted to limit sacrifice to snakes and flowers. The warrior cults feared that the cessation of human sacrifice would anger the gods. Thus, the priests tricked Quetzalcoatl into moral turpitude of some sort by getting him intoxicated with a honey drink spiked with Pulque (an intoxicating drink). Then the stories diverge. In one version, driven by self-remorse Quetzalcoatl leaves Tula in a self-imposed exile. In another he is forced to leave. In any case, Quetzalcoatl promised he would return to claim the Kingship of his people.

Quetzalcoatl moved to the Yucatan where he came to be known as Kukulcan among the Mayans.

Some 500 years later, Moteczuma II, believed that a certain Spaniard, Pederro de Alvarado, was indeed the returning Quetzalcoatl. How could this be so?

Quetzalcoatl was also the god of the Sun which rose in the East and was associated with the color yellow. The rays of the sun are represented by giving Quetzalcoatl a beard. Now the Spaniards, while bearded, were olive-skinned and had dark hair. A notable exception was de Alvarado, the second in command, who was blonde, fair-skinned and had a “yellow” beard. To “seal the deal” as it were, Alvarado arrived in Mexico in the Aztec year One Reed (1519), exactly the year that Quetzalcoatl asserted he would return! As a consequence, Moteczuma II did not immediately act to slaughter the Spaniards. He instead received them cordially, and by the time he and his people realized these men were not gods but merely greedy barbarians it was too late. Moteczuma II was taken hostage in his own palace.

Tula was deserted by 1150 A.D. The history is far from clear on why this happened, but drought and invasion are likely candidates. All the evidence available suggests a sudden cataclysmic end at the hand of the *Chichimeca* that had been foreshadowed by a lengthy drought [Coe p.142]. The ceremonial halls were burned and the Serpent Wall was demolished [Coe p. 142]. Tula had always been a destination of migrants from the north. It has been contended that the weight of this migration, produced problems of assimilation and political struggle. Finally, under the pressure of several years of droughts, Tula burst at the seams. Surely under conditions of drought, food production declined. But more significantly, following the universal pattern of nomad-settled people relations, the drought drove desert nomads, the *Chichimeca*, into desperate attacks on settled communities to get food [Coe p. 131]. In 1156, Huemac the last ruler of Tula abandoned the city [Coe p. 134] Some emigres flowed into the Central Valley, others went to the southeast and Yucatan, others went south to Cholula [Gruzinski p. 17, Coe p. 134].

The Toltec emigres swarmed into the central valley and established a number of cities around Lake Texcoco that soon became rivals. A number of glorious cities would be founded along the shores of Lake Texcoco; Texcoco, Azcapotzalco, Chapultepec, Tlateloco, Tacuba and Tenochtitlan to mention just a few. There is also a great deal of evidence that the Toltecs traveled some 1100 km to the Yucatan to conquer the Mayan city Chichén Itzá.<sup>16</sup> Each city claimed to be the only legitimate heir of the Toltecs and for the better part of two centuries conspired, and made war to legitimate their claims. The leaders of each city laid claim to Toltec

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<sup>16</sup>There is a very close relationship between the architecture and sculpture of Tula and Chichén Itzá, indeed it is said that these cities are more alike than any other two cities in Mesoamerica [Coe p. 143]. Most notable is the widespread feathered-serpent imagery in Chichén Itzá that is unknown elsewhere in the Mayan world [Coe p. 143].

ancestry as a means of legitimizing their rule.

### *The rise of the Aztec State*

The “Toltec diaspora” moved southward into southern half of the valley of Mexico and by the middle of the 13<sup>th</sup> century had established a number of rival cities. Most notable among these were the Tepanecs who conquered the city of Atzacapotzalco, which had in its turn been established by emigrés from Teotihuacan, in 1230 A.D. [Coe p. 158]. Each of these city-states was ruled by a hereditary elite (*pipiltin*) that claimed their Toltec ancestry legitimated their rule [Coe p. 158].

By the middle of the 14th century, the region around the lake was dominated by the Tepanec capital of Azcapotzalco under the rule of Tezozomoc. Its only real rival was Texcoco, which due to its high quality arts and culture was known later as the "Athens of America" [Gruzinski p.26] and Nezhuacoyotal, its philosopher-king leader surely was it Pericles. In 1418 war broke out between Azcapotzalco and Texcoco. Texcoco was defeated and its leader Ixtlilxochitl was forced to leave the city. The central plateau was now firmly under Tepanec domination.

In 1426 Tezozomoc died leaving his rule to his son Maxtla. Maxtla proved both brutal and inept and was soon faced with an alliance between three formidable enemies. Tenochtitlan would incorporate (conquer) Tlateloco and then form an alliance with Texcoco and Tacuba that would overthrow Tepanec rule and produce the Aztec Empire.

Among the great states established after the disintegration of the Toltec, perhaps the greatest was the city of Culhuacán, the rulers of which were direct descendants of the Toltecs. The Mexica wandered into the area and were taken on as serfs and mercenary soldiers by the city of Culhuacán. The Mexica distinguished themselves as warriors and also had great success stealing women so their population increased. Seeking to insert themselves into the social mainstream of the region, they asked the lord of Culhuacán to give them a princess for their King. Surprisingly, the request was granted, the lord of Culhuacán offered his daughter. The lord of Culhuacán was invited to the ceremony that would make his daughter a “war goddess,” but did not know the Mexica intended to sacrifice her to Xipe Totec. But that was not the worst of it. In this particular ceremony, the victim was flayed and her skin worn by a Mexica priest. The Mexica were expelled from Culhuacán and took refuge on an Island in lake Texcoco. Here they would build Tenochtitlan.

The Aztec Empire was centered in a mountain basin, 7000 feet above sea level on the central plateau of Mexico. Visitors to Mexico City today will find it difficult to find remnants of the Aztec empire and its principal city, *Tenochtitlan*. At its pre-conquest peak the population of the basin was about one million people about half of which lived in urban areas. About 20% of the basin population lived in the greater Tenochtitlan area [Fagan p. 82]. Even Lake Texcoco, on which Tenochtitlan was built, has long since been drained to make way for the suburbs of Mexico City. The fabulous views of the mountains that encased the lake basin, so enjoyed by the Aztecs, are now barely visible through the maze of skyscrapers and the haze of Mexico City's infamous air pollution.

The Aztec Empire came to an abrupt end in 1521 when it was conquered by about 600

Spaniards led by Hernando Cortés. Cortés turned his cannon on the great temples and palaces. The mud bricks that were used to construct colonial Mexico City were taken from the demolished temples and other structures of Tenochtitlan [Day p. 66]. That part of Tenochtitlan that was not razed by Cortés sank into the mud of Lake Texcoco. For nearly three centuries the Aztec heritage of Mexico was virtually forgotten. In 1790, however, during the resurfacing of the Zócalo [the town square], the Stone of the Sun<sup>17</sup> and the statue of the “Aztec Mother Goddess Coatlicue” were dug up. Fearing that the Mexicans might revert to their pagan ways should they see the latter statue it was promptly interred by Dominican fathers under the University of Mexico [Broda, Carrasco and Matos p. 20]. Over the next two centuries very little was discovered until the excavation of the new subway system was begun in 1966 [Broda et al p. 22, Fagan p. 97]. The greatest event came in 1978 with the discovery, by workers of the Mexican Power & Light Company, of the monolith of *Coyolxauhqui*.<sup>18</sup> This discovery revealed the exact location of the Templo Mayor [Broda et al p. 23]. Excavations began and over a ten year period, at the cost of a great deal of inconvenience to the citizens of Mexico city, the Great Pyramid of Tenochtitlan, at least the part that was not destroyed by the Spaniards, was uncovered.

### *The Best of All Possible Worlds: Not!*

Water has always been a problem for Mexico city. For the Aztecs there was often too much - floods often wasted the city. Ironically, today in Mexico City water is in critically short supply. As the burgeoning metropolis of over 20 million pumps out ground water from under the city, the largest city in the world is sinking. Some houses have sunk up to 23 feet, but larger structures such as the Palace de Bellas Artes have sunk even more. One 42 story office tower built in the 1950s has sunk 98 feet into the ground. The Basilica de Guadalupe was saved from tipping over only at very great expense.

For Tenochtitlan, in addition to periodic floods, the problem was too little drinking water, the intrusion of brackish water into agricultural areas, and rains that often came too late, or not at all. The people of Tenochtitlan had to make gargantuan efforts to build dikes, aqueducts, and irrigation systems and “floating gardens” in the attempt to manage water in an essentially arid region. Even with its magnificent public works the Aztecs always seemed to be falling behind the pressures for more food production created by a growing population and an increasingly rapacious nobility.

The construction, maintenance, and provisioning of a magnificent city and the

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<sup>17</sup> A carved circular stone 12 feet in diameter weighing in at 12 tons. It contains the Aztec calendar and cosmology. Coatlicue was the mother of the God of war and the Sun, Huitzilopochtli.

<sup>18</sup> The piece is about 8-9 feet round and over a foot thick. It shows the dismembered body of Huitzilopochtli's sister Coyolxauhqui (ko-yol-sha-UH-kee). The sculpture was placed at the base of the Templo Mayor, the symbol of the Hill of Coatepec where Huitzilopochtli was born, so that the bodies of sacrificial victims who come to rest on it after having been rolled down the stairs of the temple. The sculpture represents the defeat of Coyolxauhqui, the moon goddess, and her brothers by Huitzilopochtli. The sister and brothers attempted to kill their mother as Huitzilopochtli was being born. Thus, the human sacrifices are re-enactments of this mythical battle.

development of a vibrant culture such as existed in Tenochtitlan is difficult under the best of circumstances. Indeed, one historian has lauded Tenochtitlan as an "economic and social miracle" [Clendinnen p. 19]:

The valley of Mexico, however rich in people, lacked crucial commodities like cotton, [and] precious metals, stones, shells, and feathers which constituted wealth...by the mid-15th century, it was also short of agricultural land..[but] despite the intensely exploited environment and the steady contribution of the *chinampas*, the city was dependent on imported foodstuffs, some of it from outside the valley, brought in by trade or tribute. [There was also] a chronic shortage of wood and fuel and a dangerous seasonal variation in the level of lake waters [Clendinnen p. 19].

Tenochtitlan, by the 15th century was showing signs of emerging contradictions. The balance of food supply against population was precarious and the city had become dependent on macroparasitism, i.e. the flow of tribute from conquered territories. The Aztecs were in a constant state of making war to maintain and expand the flow of tribute. The Aztec production function was symbolized on the top of the Temple Mayor. There stood altars for the sacrifice of humans to two Gods: *Tlaloc [TLA-loc]* the god of rain and *Huitzilopochtli* [Wee-tsee-lo-POCH-tee], who doubled as the God of the Sun and the God of war<sup>19</sup>. Tlaloc, known as the "germinator" was revered by the peasants. The reverence of *Huitzilopochtli*, was to a great extent, created and perpetuated by the Aztec nobility - a story we will tell later on.

Under the pressure of relentless population growth Tenochtitlan was running short of fresh water for both agricultural purposes and human consumption. The Lake water was brackish and had long since become polluted and the flow from the aqueduct was no longer sufficient. Under the leadership of Ahuitzotal, the Aztecs built a second aqueduct to supply fresh water from the mainland. Unfortunately, after a period of unusually heavy rains, the water flow on the aqueduct could not be controlled. The result was a flood that forced the evacuation of the city and destroyed crops, fields and granaries. Several years of famine followed [C&D p. 61-62]. The entire city was rebuilt. It was this reconstruction that produced the magnificent city of shining white palaces, beautiful gardens and great squares that so impressed the Spanish [Gruzinski p. 58]

### *Tenochtitlan: The Structure*

The Structure contains the domestic and political economy of a society. Basically, the structure determines how goods are distributed among the various groups as identified by class,

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<sup>19</sup> Remember the Mexica were basically a bellicose gatherer-hunter society that took on the "culture of their more refined neighbors, the descendants of the Toltecs. Huitzilopochtli was a god of war. In the new agrarian situation he had to double as the god of the sun. Similarly, the Aztec did not have a tradition of worshiping a rain god. But Tlaloc had a long tradition in Mesoamerica as a "dynastic deity," so the Aztecs took him on also [Weaver p. 460]. It was, like very much else the Aztecs did, a public relations and propaganda thing.

age, gender or race within the domestic and political economies.

The Aztecs had a "passion for hierarchy" [Fagan 138] which was manifest in their language - Nahuatal:

Nahuatal was flowery, symbolic, given to poetic forms...and developed more deferentials than feudal Japanese or any other Asiatic tongue. Deference and lordship, as well as courtesy, could be expressed profusely; there were countless ways of saying *the honorable, venerable, highborn, noble, revered, or lord* [Feherenbach p. 47].

The Aztec held an organic view of society in which the individual mattered little:

individualism was difficult to express even in language, let alone in life. The tribe, or the group was everything; the person-unless a true lord-nothing. Men instinctively said us or our, not me or mine. Mexica society was thus ant-like, with all persons in their allotted, natural place, sex or rank [Feherenbach p. 47].

Aztec society was divided into two groups with some, but little mobility between them: the *pipiltin*- the nobility, and the *macehualtin* - the common clansmen. The *pipiltin* made up the governing group including the nobles, who occupied the principal positions both civil and religious. One entered the nobility by birth or as a reward for extraordinary wartime exploits. The *pipiltin* controlled both the military and the ideological tools of power. The nobility of the imperial Aztec era was a highly privileged group:

- \*only nobles could own land

- \*nobles were given preference for public positions

- \*nobles were not obliged to work the land

- \*nobles did not pay tribute

- \*nobles had their own courts

- \*nobles could have more than one wife

- \*nobles had exclusive use of certain insignia and modes of dress

- \*nobles studied at special schools called *calmecac* which prepared the noble for whatever position he might choose.

Another privilege of the nobility, we will see later, was the consumption of human flesh.

The head of state and commander in chief was a hereditary position filled by the *tlatoani* who was of necessity knowledgeable about both military and supernatural forces. Upon ascending to power each new *tlatoani* was obliged to enlarge the temple of *Huitzilopochtli* and to dedicate it in a ceremony requiring the sacrifice of war captives. The *Tlatoani* also had the responsibilities of a "redistributor chief." Each year, just before the harvest when the people were hungry a forty day festival was held during which the *Tlatolani* "dispensed food and drink to the poor of Tenochtitlan, to all the *macehualtin*, to the entire subject population of the valley" [Broda p.99]. Similar banquets were sponsored by the warrior nobles [Broda p. 101]. While the subject towns and the barrios were obliged to give feasts for the nobles, giving the appearance of reciprocity, these exchanges were by no means "an exchange between equals" [Broda p. 101].

The standard of living of the common people left a great deal to be desired. A prayer to *Tezcatlipoca* depicts the condition of the “common folk”:

the common folk endure suffering, endure fatigue, live in want on earth. Poverty, misery, uselessness prevail...their viscera stick to their sides...Verily they go skin and bones, like a skeleton [quoted in Carrasco 1991, p. 52]

The majority of the city people were commoners who were divided into clans called *calpulli* [neighborhoods] and were farm workers, potters, goldsmiths, construction workers, carpenters, weavers, fishermen, lapidarians, in short artisans or other specialists who lived by production and exchange of products. The medium of exchange was barter supplemented cocoa beans [*chocolatl*] or regulated market exchanges. The *Calpulli* were the central institutions of Mexica life. The *calpulli* were basically “localized land-holding corporations” that communally owned the farm land, but use of the land was granted to individual families and could be passed to heirs [Coe p.167, C&D p. 23]. Each *Calpulli* had its own schools and temple. Each *Calpulli* had to pay tribute to the state in the form of part of their product and by conscripted labor on public works. They were also trained for war. According to their *calpulli* they were also trained in specialized schools for their craft.

The *Calpulli* were what are called conical clans, that is while there were kinship ties that bound people to the *capullum*, there was also hereditary stratification within the group. Moreover, *Calpulli* membership was more fluid than that of the traditional clan. As economists might say, there was freedom of entry and exit from the *capullum*. New members were readily accepted if they advanced the interests of the group and individuals could leave if membership in another group was better suited to their talents and ambitions [C&D p. 24]. There were also differences in wealth, power and status among the *capullum*.

At the bottom of the social pyramid were the *mayeque* who worked other peoples' land and paid tribute to the owner. Virtual serfs, they were war captives who were outside of the traditional *Calpulli* structure.

There were also slaves (*tlacohtin*- “bought ones”). Aztec slavery was very unlike slavery in the U.S. South or the West Indies. In these cases slaves were slaves for life (*en durante vita*). In the Aztec case slavery was potentially temporary situation as opposed to a hereditary status. Slaves included debtors, often from gambling, or people in bondage to compensate for a crime they committed. In particular, a murderer might become a slave of the family of the victim. Slaves could become free by paying off their debt and offspring did not inherit slave status. In short, Slavery, while present, was not significant in Aztec society.

The Aztec also engaged in extensive trade. The merchants were called *pochteca* and constituted sort of a middle-class between the *macehualtin* and the *pipiltin*.

The *Pochteca* engaged in long-distance trade for luxury goods. Since the Aztecs had no beasts of burden all trade goods had to be carried on a human back. Long-distance trade was restricted to items that were valuable, thus profitable to trade in only small quantities [e.g. feathers, coca beans, precious stones][Parsons & Price p.168].

In the course of their travels the *pochteca* often served as military spies. Trading expeditions were often little more than mapping and reconnaissance missions crucial to the success of military campaigns that would follow. The *pochteca* also had importance because

much of what they traded belonged to the government. Very often the *tlatoani*, warriors and nobles would find themselves with tribute (food, garments, feathers, etc) that they could not use. They would use the *pochteca* to market the surplus goods for them.

The merchants were essentially self-governing in a manner very similar to the first “bourgs” in Europe. Their own officers administered laws they imposed on themselves, in their own courts. While they had to pay tribute, they were allowed to do so in the form of trade goods instead of food. [Farb p. 166]. The merchants enjoyed special privileges usually reserved for the nobility; they could wear luxury goods as adornments signifying rank and sacrifice slaves at celebrations [Berdan p. 96].<sup>20</sup> But there was a “catch.” The *pochteca* grew to be quite wealthy, but they were restricted in terms of the “flaunting” of their wealth and how much they could accumulate. First, they did not want to inflame the jealousy of the ruler. Many a merchant was put to death by a noble who desired the merchant’s fortune - an experience not uncommon among European Jews.

Secondly as a merchant became more wealthy he was obliged, in the style of the big man, to give feasts. Thus, when merchants sacrificed slaves at a feast, it was usually he who was picking up the tab.<sup>21</sup> The Aztec nobles, like their European counterparts in the Middle Ages, did what they could to prevent the *pochteca* from becoming too powerful, and, to the time of conquest had succeeded. One can only wonder whether the *pochteca* would have evolved into the politically revolutionary and ultimately dominant “middle-class” or “bourgeoisie” we observed in Europe.

### *Structure - Domestic Economy - Gender*

The position of women was one of subordination. The Nahuatl word for wife means "one who is owner of a man" [McDowell p.731], but in actuality women were the property of men and were disposed of accordingly. Women were used in arranged marriages and given as gifts to cement alliances. When Cortés landed in Veracruz he was given women as gifts. The Spanish officers quickly acquired "an entourage of local concubines" [Feherenbach p.130]. This act was repeated by each group on the march inland to the extent that one might characterize the invasion trek as one long debauch.

The Aztecs were profoundly pronatal and had a very rigid division of labor according to sex. All marriages were arranged and dowry was exchanged. The ideal Aztec woman was expected to work hard and to be a "paragon at the loom," a capable cook, a bearer of many children, and a good caretaker of children, in short women were consigned to a life of "unrelieved domesticity" [Clindinnen p. 141,153]. Pregnant women were discouraged from engaging in activities that might harm a fetus. Women were advised not to have sex, not to work

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<sup>20</sup> The sacrifice of slaves was a privilege of warriors who had captured the "slave" in battle. The merchants were allowed to buy slaves for this purpose. When one understands the military significance of merchant activities this privilege would appear deserved.

<sup>21</sup> Similar institutions existed in Greece and Rome and the practice continues into historical times in Mexico under the control of the Church. According to Marvin Harris the Church used this obligation to extort money out of any man who had managed to get even slightly ahead.

hard or lift heavy things, or to take fright during pregnancy. Women were also warned not go out at night as the fetus might be exposed to ghosts [ibid 143]. A pregnancy was a "local happening" and a birth produced feasts that lasted many, sometimes twenty days. [ibid. 156]

Women who died during childbirth were revered as Goddesses and buried with great ceremony. Soldiers would take the middle fingers of women who had died in childbirth into battle as a good luck charm [Clindinnen p. 149].

Children of both sexes were valued and treated equally in childhood in terms of nutrition and care, but children had very different destinies according to their sex. A boy's destiny was to be a warrior: "to give the sun the blood of enemies to drink" [Coe p. 169]. At birth baby boys were given shields and miniature bows and arrows. After a male birth the umbilical cord was saved to be buried on a battle field. The upbringing of boys was "Spartan and strict." Punishment for "infractions" ranged from being "pricked with maguey spines to being held over burning chili peppers" [Coe p. 170]. There was no place in Aztec society for a young male who did not become a warrior. Such a failure was either enslaved or put to death [Feherenbach p.

89]. After the birth of a girl the umbilical cord was buried near the hearth of the home. Girls received a miniature spindle. Despite all the reverence for their childbearing, Aztec women would have no public life. Regarding the freedom of women, the Aztec were as hyper-puritanical as any fundamentalist Islamic society of today. Females were normally chaperoned. Women who worked outside the supervision of kin were considered at risk of becoming "very great whores." Public prestige and power remained a masculine reserve [Clindinnen 163]. One Aztec proverb constructs the ideal woman as one "with both ears plugged" and her "mouth stopped up"[Feherenbach p. 90]. At the same time young men were advised to abstain from sex before and outside of marriage and to engage in sex with moderation. As a father spoke to his

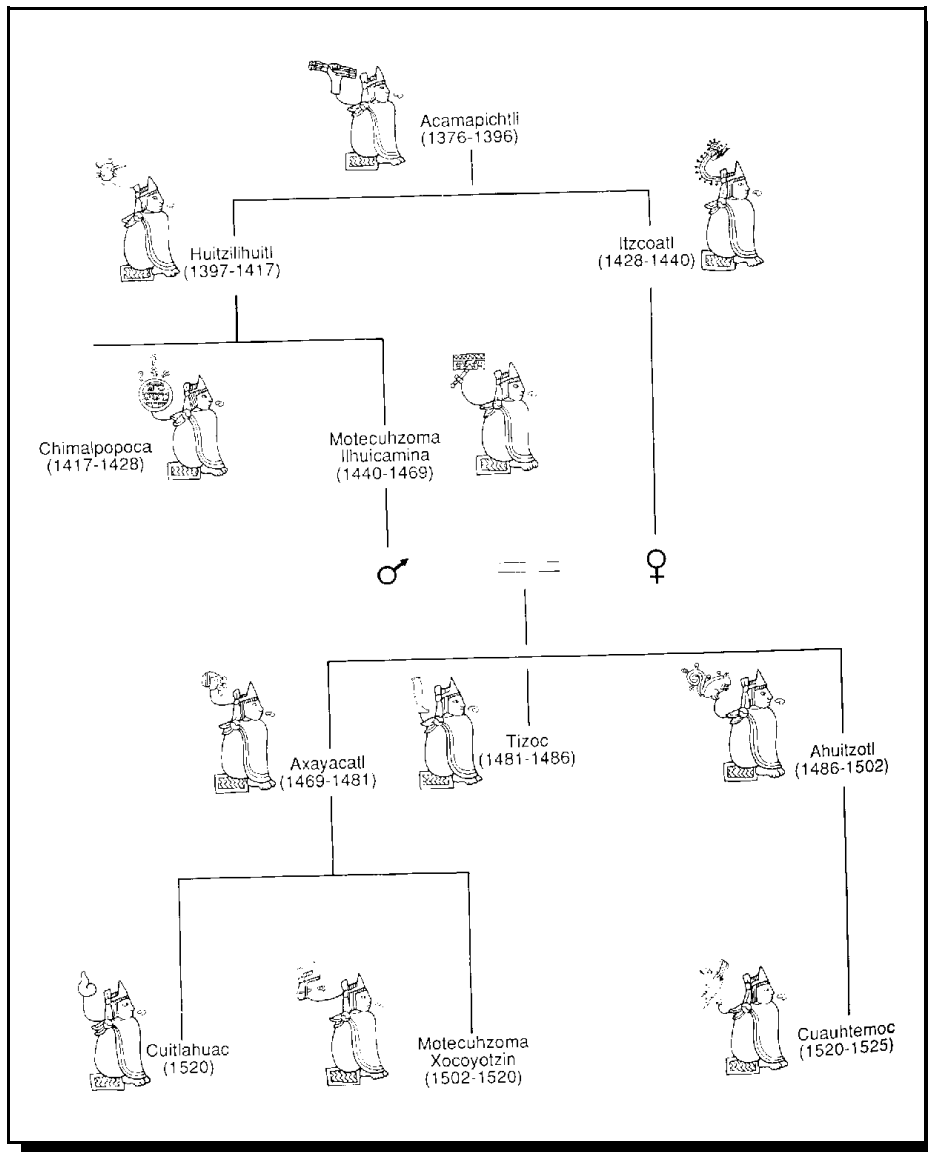


Figure 4. Aztec rulers. Source: Marcus p. 318

son in a *huehuetlatolli*<sup>22</sup>:

..you are ordained one woman for one man. However, you are not to ruin yourself impetuously; you are not to devour, to gulp down the carnal life as if you were a dog [Carrasco p. 83].

While such a speech may have reflected an ideal, it seemed to have little impact on male behavior. Women were accumulated like property, taken as concubines as "will and wealth allowed." The sexual double standard allowed married men to have sex with any unmarried woman, including concubines, freelance prostitutes or those in the state brothels.<sup>23</sup> Yet, women were expected to come to their husbands "still virgin, pure, undefiled" [Clindinnen 166].

While the Aztecs enjoyed sex as much as any people, men viewed the act with some trepidation. Male semen was thought of as his "honey" and the sex act drained his limited supply into the "voracious cave" of the woman. Men believed that too much fornication could lead to weakness and even death [Clindinnen p. 167].

### Children and Sacrifice

*And there they would leave them the little (noble) children,...the ones with two cowlicks, whose day signs were good: everywhere they were being sought, they were costly: it was being said "indeed they are precious blood sacrifices (debt payments), they (the tlalocs) happily receive them, they want them, thus they are very content, thus they are well pleased," so that thus indeed rain was asked for, rain was requested. - The ritual Atl Caualo, translated from Nahuatl by Phillip Arnold.*

*We eat of the earth, the earth eats us.*

Propitiary rites intended to protect the "magical fertility" of the soil and to control atmospheric phenomena are as old as agriculture [Berrelleza p. 13]. For the Aztecs these "customs constituted the core of the annual cycle of ceremonies" and were "the principal concern of the entire society" [Berrelleza 1991, p. 13]. During the dry season some five ceremonies were conducted to petition the water gods for rain.

In the late 1980s excavations at Tlateloco uncovered the remains of 38 individuals most of whom were infants. Some of the skeletons were found in ceramic urns along with other artifacts and some were buried directly in the ground. The children were apparently sacrificed to Ehecatl who was Qetzalcoatl's manifestation as the god of the wind. Ehecatl was an important god for these agricultural people as it was he who "swept the road for the water gods" that brought the rain [Berrelleza 1991, p. 13] The principal water god was Tlaloc and children were

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<sup>22</sup> An oration presented on some significant occasion that was usually "florid, elegant and metaphorical" [Carrasco p. 81-82].

<sup>23</sup> There is some question as to whether the generally puritanical Aztec gave sexual license to all men or to just the nobles. See Feherenbach p. 90].

usually dedicated to him. It is strange then to find children sacrificed to Ehecatl [Berrelleza p. 14]. Children were preferred for sacrifice because the Aztecs believed children had yet to suffer "earthly contamination" and could thus still communicate with the gods and thus, were better able than adults to gain their favor [Berrelleza 1991 p. 14]. Furthermore, earlier excavations at Templo Mayor in Tenochtitlan revealed children's remains that had "various skeletal pathologies." The pathologies included portotic hyperostosis - a sign of iron deficiency anemia- and signs of other nonspecific infections. Similar pathologies were evident in the bones found at Tlateloco. Aztec scholar, Juan Román Berrelleza has concluded that "these were children whose health conditions were precarious and who had little chance of survival" [Carasco 1991, p. 14]. Berrelleza contends the use of children for the purpose of sacrifice as a manifestation of the Aztec worldview that was surely "ecological" as it recognized a complex relationship between humans and the natural world and it required the conservation of energy, that no energy be wasted [Berrelleza 1991, p. 14]:

In the Mesoamerican cosmovision the universe integrated a broad range of natural forces and divine energies in eternal movement. This movement had to be put into perfect order to avoid energy loss that could create an imbalance and cause the destruction of comos, society, and humans. The society operating within this cosmological view sought to maximize its limited resources [Berrelleza 1991, p. 14].

Human sacrifice is rationalized then as an attempt to remedy an imbalance between the "beneficent and destructive forces" as might, for example, be manifest in a prolonged drought. The "charge of energy" in the sacrificial victim was understood to restore the balance of the cosmological forces. It follows that a sick or dying person would be considered "a waste of energy," a source of "imbalance" so it was essential to reintegrate "the person's energy into the comic cycle" without delay. To do otherwise, not to "recycle as rapidly as possible" was to risk cosmic disequilibrium [Berrelleza 1991 pp.15-17].

Sick children, then, are strong candidates for sacrifice since they possess "purity" and are also constitute a "waste of energy" that threatens cosmic instability.

The Aztec consciousness was fully ecological. They imagined that in addition the physical reality of nature and their bodies there was a "hidden reality" that "undergirded human existence" [Arnold p. 219]. Humans, nature and the divinities of the spirit world were comprehended as intimately bound in a series of reciprocities that required constant balancing. The earth was seen as a "voracious monster devouring human victims and blood" but which reciprocated with rain, "agricultural growth and fertility in general"[Arnold p. 226]. The sacrifice of children was not "devotional" as it was for the Hebrews, for example, but rather was "part of a contractual agreement with Tlaloc" [Arnold p. 230].

The Aztec understood that they were obliged, in a reciprocal relationship, sustain the forces that produced the fertility of the soil, and the rain. The Earth (Tlaloc) sustained the people and the people sustained the earth with the body and blood of its children [Arnold, p. 228].

## Macroparasitism

Aztec macroparasitism was both internal and external. Internally, the Aztec people paid

tribute to elites usually in the form of food, or compulsory labor on state land that produced food. Commoners were also expected to supply labor for monument construction, field construction, domestic services in the houses of the nobility and, of course, to serve in the military [Berdan p.92].

War was a very productive enterprise in the sense that it produced an enormous flow of goods to the Aztec State. When the Spaniards arrived, 371 tribes from 38 provinces were paying tribute, in various forms (manufactured goods or raw materials), to the Aztecs [Berdan p. 93]. Manufactured goods included "clothing, warriors costumes, strings and mosaics of precious stones, gold objects and bowls. Raw materials acquired as tribute were primarily food stuffs (maize, chiles, beans and cacao), building materials such as lime and lumber, and some luxury goods (feathers and gold dust)" [Berdan p. 93]. After he had defeated the Aztecs, Cortés must have been pleased when he examined the Aztec tribute accounts which included *7,000 tons of maize, 4,000 tons of beans, 4,000 tons of amaranth<sup>24</sup>, 2 million cotton mantles, and large quantities of cacao beans, military regalia, shields, ornamental feather headpieces and amber* [Diamond p. 292]. The ultimate source of the tribute payment was the "provincial commoner" and the flow of tribute was "one way, into the center, with few rewards in return." [Berdan p. 92]

The Aztec economy was based on war, that is, macroparasitism, to gain tribute and a very intensive and efficient system of agricultural production. Indeed, "markets were the heart and pulse of Aztec daily life" [Day p. 26]. The great marketplace at Tlatelolco<sup>25</sup> (Tla-te-LOL-ko) was the economic center of the Aztec world. Locally produced food surpluses as well as luxury goods (feathers, gold, silver, precious stones and manufactured goods) from the distant corners or the Aztec hegemony were *bartered* daily. Barter was the basis of trade, but in some cases a form of money was used to facilitate the exchange of items of unequal value. Cocoa beans, stylized copper knives, turkey quills filled with gold and cotton cloaks had widely accepted standardized value thus served as supplementary money when barter failed to produce an even exchange [Day p. 27]<sup>26</sup>. It should be noted the Aztec market place was not a market in the European sense, that is, it was not mercantile. The market place was a forum for direct exchange, based on barter, between producers with no middle-men involved. Thus, neither an economy or a merchant middle class emerged [Feherenbach p.87].

It is very important to distinguish the Aztec "markets" from markets as conventionally understood. The Aztec market was an essentially a redistributive institution operated to produce economies of specialization, but not for profit. Economists call it distributive efficiency.

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<sup>24</sup>Amaranth is a very nutritious grain (actually and herb). The Aztecs used Amaranth to make idols that were used in sacrificial rites. Women mixed the grain with blood to make these idols. Hoping to stop human sacrifice, the Spaniards banned the growing of Amaranth. It is now part of the vegetarian diet and can be found in shops that sell "health foods."

<sup>25</sup> Before 1473 Tlatelolco was a separate Aztec City located on a separate Island in Lake Texcoco only about 1 mile from Tenochtitlan. The great wealth of Tlatelolco rivaled that of Tenochtitlan and constituted an ongoing challenge to Aztec authority. In 1473 the Aztec ruler Aycatal conquered Tlatelolco.

<sup>26</sup>Coca beans were sufficiently valuable as money to make counterfeiting profitable. The counterfeiter carefully removed the bean from the hull and replaced it with mud. The *faux* beans were then mixed in with other beans [Weatherford 1997, p. 19].

Exchange systems fall into three categories: reciprocity, redistribution, and marketing. As you will recall, reciprocity involves “paired interaction between two producer-consumers where the exchanges are generally balanced, that is, energetic costs of the objects exchanged are equivalent.” The participants are only part-time specialists, often exploiting some comparative advantage, usually locational, i.e. proximity to a resource be it obsidian, shellfish, clay or basalt etc.. Indeed, most of the families in the community may spend a good part of their time working to produce goods for such exchanges. Yet, these families are not trade specialists, they are virtually self-sufficient in food and other needs. The exchange is emically understood as a gift, but eventual reciprocation is expected. Such exchanges are socially integrative as they strengthen kin ties and may establish relations with non-kin. Most importantly, however, as the “energetic costs of the various goods is roughly equivalent” beyond the benefits of specialization gained by all there “are no profits involved in the transaction.” The transactions serve emically to integrate and etically to “even out imbalances in resource distribution produced by the heterogeneity of the natural environment.” For small communities such exchanges often take place through a redistributor chief. As population grows so does the volume of exchange so the locus may shift to a central place called a market, “but it is best to consider these central markets as redistributive places” [Saunders et al pp. 297-298]. Thus, even though there was a class of middle-men and merchants trading for profit, the bulk of the Aztec market was redistributive in nature as is evident in the barter nature of most exchanges.

And, the market was far from free. All activity and merchandise in the market was controlled by the State. Because the state taxed all market exchanges, buying and selling outside the market was prohibited [Day p. 26]. The markets were operated by the *Pochteca*, the hereditary group of merchants, who lived in their own neighborhoods (*Calpulli*), had their own Gods, customs and ceremonies. The *pochteca* maintained the courts that adjudicated all disputes pertaining to commerce [Day p.27].

Aside from control and taxation, the State played a very significant role in markets because a great deal of the goods exchanged were those flowing into Tenochtitlan in the form of tribute from subordinated groups. For example, a tribute list from an ancient Aztec manuscript, the codex Mendoza, includes among other things " 2 strings of green stones, 400 handfuls of blue feathers, 400 handfuls of green feathers, 20 Jaguar skins, and 100 loads of cocoa" [Day p. 29]. It is unlikely that the warrior or noble or the *Tlatoani* who received this tribute would want to keep it in its existing form. The warrior would commission the *pochteca* to trade it for things more useful to him. Thus, the *pochteca* were not an independent class of merchants. They engaged primarily in long-distance trade to secure luxury goods to enable the conspicuous display that was so pervasive among the nobles of Tenochtitlan. Unlike the European merchant middle-class which often opposed the state, the *pochteca* were totally dependent on the state [Feherenbach p.88]

### *Infrastructure: The Forces of Production*

The ecology of the semi-arid central plateau was not as vulnerable as the Maya region of the Peten to successive agricultural intensifications [Harris C&K p. 140], but did require massive irrigation works and other human constructions such as dikes for flood prevention and aqueducts

for fresh water to support the dense population of the region. Even with these public works the Aztecs eventually reached the basin's carrying capacity and became dependent on Macroparasitism to feed the growing population.

The original inhabitants of the Valley of Mexico were either hunters or seed-gatherers who lived side-by-side, but independently of each other for some 8000 years [Wolf p. 49]. Circa 7500 B.C. climate change caused a great dessication which turned the large tracts of land that had supported large herds of game animals into "waste desert" [Wolf, p. 49]. As their food supply declined and then vanished, the hunters disappeared, but the seed-gatherers survived. The seed-gatherers eventually "began to interfere successfully in the planting, germination, and fruition of wild plants" and seed-planting agriculture<sup>27</sup> was born [Wolf p. 49]. By 1400 B.C. swidden cultivation of squash and maize (and the bean a bit later), using only a digging stick and stone axes, was "integral" to Meso-American existence [Wolf p. 54].

The key to the rising population in the valley of Mexico was the gradually improving productivity of the maize plant and an increase in the level of intensification of agriculture. Cultivated since 5000 B.C. it was not until 2850 b.p. that productivity was sufficiently high to allow for large settled communities. The process of domesticating the wild grass *teosinte* into maize began before 7000 B.C. [Harris 1975 p. 213]. The first cobs were no bigger than a human thumb and contained only two or three rows of seeds [Ponting p. 51, Harris 1975 p. 214]. The difficulty of domesticating the maize plant is one reason why the Americas were millennia behind Eurasia in developing agriculture. Eurasia and even Africa were blessed with a number of easily domesticable cereal grasses. Combined with other advantages present in Eurasia it is not surprising that agriculture would develop faster there.

At the same time maize was being perfected the supply of animals was declining. Research has shown that between 9000 and 7000 b.p. people in the Tehuacan Valley obtained 54% of their food from wild animals and 40% from wild plants. By 4300 b.p. the percentages gradually changed to 25% meat, 25% domesticated plants [avocado, squash, amaranth, chili peppers] and 50% wild plants [Harris 1975 p.215]. It would not be long before meat virtually vanished from the Mexican diet.

Aztec agriculture was the third of three broad phases of agricultural intensification in the Valley of Mexico. First, there was slash\burn or swidden methods that were practiced on the forested hillsides. The early farmers chose the hillsides because, due to the mountainous terrain, there was not enough flat land to cultivate. Also, given the absence of plows, they could not contend with the grasses that inhabited the flat lands [Wolf p.61]. Gradually, the hillsides were either invaded by grasses or so eroded that farming became impossible:

Today, deserted villages, barrens thickly sown with potsherds that bespeak the dense settlement of past eras, canals and terraces laid out many feet above the current water level, provide mute testimony to a process [erosion] which began 4000 years ago or more [Wolf p. 62]

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<sup>27</sup> To be distinguished from the planting of cuttings such as is done of manioc and sweet potatoes and other root crops [Wolf p. 52].

Second came the spring-fed irrigation system of Teotihuacan. Third, came the system of *Chinampa* construction used by the Aztecs on the shores and muddy islands of Lake Texcoco. Each method allowed greater population density and produced more powerful states [Harris C&K p.143].

Chinampas, sometimes erroneously called floating gardens, exploited the very wet areas surrounding Tenochtitlan. Canals were dug to drain the shallow areas of the lake and the excavated mud, interspersed with layers of rotting aquatic plants, was piled in high ridges. The resulting fields were very fertile and could be planted year round producing as many as seven crops per year [Day p. 13]. They produced corn, beans, tomatoes, squash, tomatoes and chile peppers.<sup>28</sup> As for most American Indians maize, beans and squash, the “Trinity of the American Indian,” were the staple foods of the Aztec [Wolf p. 63]. Maize was consumed as a gruel or as tortilla or tamales [Day p. 145]. The tortilla constituted the basic diet of the ordinary people. It was consumed dipped in a sauce made with water and ground chilies [Coe p. 174]. The chile was a universal element to all meals. An Aztec defined himself as fasting when he ate a meal that did not include chilies [Fagan p. 80].

The Aztecs did not have pigs, cattle, sheep or goats to provide meat, milk or milk products (yoghurt, cheese). They did domesticate turkeys and dogs (little hairless things), but neither proved to be a significant source of meat. The problem was, unlike ruminants who eat grass, dogs had to be fed either grains or meat and were therefore not a very effective way to get more food. The Aztec, driven by a meat hunger, tried to breed dogs that could be fed cooked vegetable materials, but with little success [Harris 1989, p.434]. The fat and protein starved Aztecs also relished rabbits, "snakes, frogs, beetles, dragonfly larvae, grasshoppers, ants, worms, tadpoles, waterflies and waterfly eggs" [Harris 1989 434]. Other wild sources of meat were rare. Archaeological evidence indicates, in times long past, deer<sup>29</sup> were an important source of meat for the residents of the basin. But deer were hunted into extinction by 100 A.D., long before the time the Aztecs moved into the basin [Fagan 90].

The lakes provided a plant source of protein in the form of a green lake scum that tasted like cheese. It was dried into bricks called *tecuitlatl* (*te-KEE-tlatl*), and was carried into battle by Aztec warriors [Day p. 16]. *Tecuitlatl* is an algae (*Spirulina geitleri*) that is 70% protein by weight and contains all eight essential amino acids. This food was abundant and surely made a very important protein contribution to the Aztec diet [Saunders et al p. 290-91].

Mechanical agricultural technology was primitive. It consisted of a planting stick to dig holes for seeds and wooden shovels to "plow" the land. The Aztecs did not use draught animals or plows. Indeed, a plow pulled by an animal would have been about 4 times faster, but the

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<sup>28</sup> Like the Maya before them, the Aztec planted three crops simultaneously. The squash were planted between the corn rows. The beans used the corn plants as stalks.

<sup>29</sup> There is some controversy on this matter. Since white tailed deer account for 90% of the bones found in excavations, deer consumption is a good proxy for overall meat consumption. Estimates in the 1960s had meat consumption as a percentage of the diet in the basin falling continuously from 60% in 7000-5000 BC to just 17% in 700-1519 AD. A later study reports that while the dietary intake of meat may once have been as high as 15-20% among hunters, it was below 1% for agriculturalists after 650 BC. The main reason was the dense agricultural populations produced an overkill of deer so that deer hunting was “no longer an efficient subsistence strategy.” [Saunders et al 1979, 483-489, quote on page 487].

Aztecs did not have cattle or any suitable draught animal. The Aztec genius was not mechanical, but chemical: the means used to "protect, enrich and irrigate the land were comparatively sophisticated" [Fagan 83].

The Aztecs terraced their maize fields to prevent erosion and control irrigation. As they had no animals to feed them the Aztecs used the remains of the maize plant for fertilizer. The Aztecs also used other organic materials such as dead leaves for fertilizer. They inter-planted maize and beans to replenish nitrogen.

Most interesting was the Aztec use of human excrement. Recall that Tenochtitlan was built on a lake so like Venice, the streets were canals. Latrines were built on docks under which canoes were anchored. The collected human waste was then paddled to the market place and sold. It was used in the fields as fertilizer, in the manufacture of salt, and in the curing of skins [Clendinnen p. 19, Fagan p. 83].

Because there were no draught animals, the Aztec carried everything on their backs. There were no wagons and no wheel. Human caravans moved Aztec trading goods all over the valley of Mexico, to both the Atlantic and Pacific shores, to the Yucatan and as far south to what is now Guatemala.

The Aztecs constructed massive dikes to prevent the mixing of salt and fresh water in the lake and to prevent floods on nitrous water from flooding the chinampas<sup>30</sup>. The Aztecs had to recruit the Texcocans, under *Netzahualcoyotl* to construct the dike. The dike was "four brazas wide and three leagues long" (about 10 miles). People from six cities were needed to build it. The Aztec constructed several other causeway dikes and two aqueducts [Palerm 1966 p. 70]. None of these works could have been accomplished without a "centralized and authoritative leadership"[Palerm p. 71].

### *The Aztec diet and nutrition.*

Maize was the staple of the Aztec diet. Indeed, maize was the staple of the diet of all agricultural peoples in the New World. Maize, while a dependable crop, is nutritionally deficient in several ways. Maize is deficient in essential amino acids such as lysine and tryptophan and its proteins, like those of all cereal crops, are incomplete [El-Najjar p. 334]. Maize is also low in iron and available niacin which can produce iron-deficiency anemia and pellagra [Wood p. 86]. There is quite a bit of evidence, in the form of porotic hyperostosis<sup>31</sup> in skulls, that nutrition-based Anemia was prevalent in the pre-Columbian populations of North America, but not so in Mexican populations [Storey p. 197-198, El-Najjar p. 329]. The Aztecs also cooked their maize with limewater, which contained calcium, to make tortillas. This process releases the niacin in the maize and thus prevented pellagra. It also raises the iron and calcium content [Wood p. 86, El-Najjar p. 334]. Ironically, although this process raised the amount of iron in the maize, the

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<sup>30</sup> The lake had no outlet so variations of rainfall led to a rising a falling of the lake. Some times disastrous floods resulted [Coe p. 164].

<sup>31</sup>This presentation can also be caused by hereditary anemias such as sickle-cell or thalassimia. However, no evidence of such hereditary anemias have been found in North America [Storey p. 197]. Anemia may also be caused by Malaria but the evidence points to malaria being imported to the New World by Europeans [El-Najjar p.332].

large increase in the calcium content of the maize reduces iron absorption. Thus, nutritional anemia is very common in maize consuming populations to this day. But, the Aztec diet which included beans and chilies along with maize actually produced more iron than the typical diet of the contemporary American [Storey p. 200]. Aztec beans contained more iron than beef and are close iron content to raw liver and red peppers are also high in iron [Storey p. 200]. The Aztec diet contained little meat so iron from this source would likely be unimportant.

Maize is also low in protein. Protein deficiency is common in children in populations that subsist on a low-protein starchy staple food, such as maize, yams, taro, and rice, since they cannot consume enough of the food to get the protein they need. The resulting disease known as Kwashiorkor is common in Africa and Asia. The disease rarely affects adults. There is no indication that Aztec children or adults suffered from protein deficiency. Although, given a relatively meat free diet, the Aztec consumed little animal protein, the separate amino acids in maize, beans and squash combined to make a complete protein. Moreover, there were other sources of protein in the Aztec diet. This does not mean, however, that the Aztec did not crave meat.

### *Cannibalism*

When Columbus reached the New World one of his first encounters was with a group of "Indians" called Caribs. The Caribs, unlike the more peaceful Tainos, were a bellicose band of cannibals. The Caribs would roast their victims and eat them. The Carib word for this method of cooking humans was "barbecue." [Harris. 176]

Cannibalism was practiced by "Indians" all over North and South America in Southeast Asia, Africa, New Zealand and the South Pacific. Ironically, many of the peoples under the dominion of European conquerors came to believe that all white men were cannibals. Columbus and other European enslavers of aboriginal populations, for example, punished "slackers" in his gold mining operations by cutting off one of their hands. The aboriginal populations, well acquainted with cannibalism, assumed the hand was destined for the stew pot. Such an inference was reinforced by the constant references of Catholic missionaries to bloody crucifixions and the consumption of a body and blood at the altar [Reader p. 152-53]. Another irony is suggested by Harris [1974 p. 218]:

It is one of the great ironies of history that for the last 5000 years the people who fought the bloodiest battles with the most combatants and the highest levels of destruction - who fought wars so staggering in scope and ferocity as to be unimaginable to any poor cannibal- are to this day horrified by the thought of consuming the remains of even a single human being.

Cannibalism was universally sanctioned by state level societies with one notable exception - the Aztec Society of the Central Plateau of Mexico. At Tenochtitlan Aztecs made a regular practice of sacrificing humans to the Sun God and then eating them. It was not human sacrifice that made the Aztec unique. Human sacrifice surely has a long history in village and band societies. In Mesoamerica the Maya and the Toltecs probably used their pyramids for purposes of human sacrifice. This practice differs from that of European societies which typically satisfied the blood

lust of their God with sacrificed animals. The Aztecs did not have any animal worthy of this purpose. The Aztec Society was unique because it was *a state level society that practiced cannibalism*.

By the 15th century the Aztec practice had become, by one account, "pathological."<sup>32</sup> The Aztecs would sacrifice and eat thousands of prisoners of war each year along with infants, children and slaves of their own. In 1487, at the dedication of a new temple, about 20,000 men were sacrificed and eaten. Accounts of the event say that the victims were lined up in four lines and that each line was two miles long. The slaughter went on for four days without stopping. The Priests would kill four at a time by cutting open the chest of each victim with an obsidian knife and ripping out the still beating heart. This is all done, according to one observer, in about twenty seconds or "as quickly as one might cross himself." [S.F. Cook p. 288, Weatherford 1997, p. 15] The heart was fed to the Sun God and the body was then rolled down the steps of the Pyramid and then decapitated. The head was impaled on a stick and displayed in the town square. It would eventually become part of several huge columns called skull racks which were made only of skulls held together with lime. The bodies (only the limbs) were distributed to the "owners," a soldier or a nobleman. It has been asserted that the bodies were fed to the animals in Motecuzuma's zoo. The limbs were then cooked and eaten. A favorite recipe was a stew flavored with tomatoes, peppers and squash blossoms.



Figure 5. Aztec sacrifice as depicted in Codex Mendoza. Source, Day p. 52

The distribution of meat was limited to the elites of Tenochtitlan. The people, some two million, rarely partook of the bounty of war. For the most part, as sacrifices were not limited to prisoners of war, they very happy not to be a meal themselves.

The Aztecs were not unique in their practice of cannibalism. In many cultures cannibalism was practiced on war captives with relish, and a good deal of cruelty. Harris [Riddles of Food] presents vivid descriptions by missionaries and other observers of cannibalistic rituals, and the torture proceeding them, of Indians in Brazil and the Iroquois and Huron in North America:

Like wolves the Indians pulled at him with great fury; finally took him outside a broke open his head, [and] tore him to pieces with great rejoicing, especially the women, who went around singing and dancing, some of the women cut off members of the body with sharp sticks, others smeared their faces with the fat of the victim and gathered the victims blood in their hands and licked it.

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<sup>32</sup>Many scholars believe that the scale of Aztec human sacrifice was greatly exaggerated by the Spaniards in order to justify their own barbaric behavior toward Native Americans [Coe p. 176].

The Iroquois required the victim to run a gauntlet of people with burning firebrands in their hands. They burned him, broke his fingers and hands, pierced his ears with sticks, force him to lie on hot coals, put his feet on red hot hatchets, and then when he could no longer be revived for more torture, he was decapitated and roasted. It is worthy of note, that women often played a leading role in the rituals leading up to the eating of the victim, including the torture. Harris speculates that in protein short environments women are usually at the end of the meat line as men and boys got preference. Women had to content themselves with frogs, small game and insects [p. 204]. Women, therefore, particularly enjoyed a feast on human flesh.

While the Aztec may not have been unique in their practice of cannibalism, they did increase the tempo of sacrifice. One should not be surprised at this for two reasons. First, the status of warriors depended on nothing more than the number of captives taken in war. Second, the number of wars fought by the Aztec gave them ample opportunity to rise in status. Traditionally, war captives were sacrificed, thus, more wars, more captives, more sacrifice. The "kind of inflationary process" that characterized Aztec sacrifices followed directly from the traditional mechanisms instituted to distribute status and Aztec megapolitical, macroparasitic activities [Davies p. 221].

It is obvious that we cannot use human nature to explain the sanction of cannibalism. It is clearly within the capacity of humans to indulge in the practice with not the slightest reluctance. Nor is it satisfactory to attribute the practice to "culture" as that leaves the origin of the culture to be explained. For example, it has been argued that the Aztecs sacrificed humans only because they believed Turkeys and Dogs, the only animals available in Mexico, were "too contemptible to be worthy of the Gods." [Harris 1977, p. 180]. To accept what people think is the basis of their behavior as an explanation of religious beliefs and practices is a strategy "doomed to nullify all intelligent inquiry" by producing the tautology: people think what they think because that is what they think [Harris, 1977, p.181]. From the materialist perspective, the answer should be sought in a costs/benefits analysis which would take into account the level of technology, the physical environment, and how costs and benefits are distributed. The practice of and sanction of cannibalism by band and village societies and state level societies respectively must be rooted in differences in social organization related to techno-environmental and political relationships. Also, the Aztec exception must be explained in cost/benefit terms.

Even among Band & Village (B&V) societies the taboo against killing and eating one's relatives is fundamental. If people are to live together and cooperate on a daily basis they cannot be provided incentives to kill each other. Moreover, according to Harris, B&V people do not have a concept of natural death. When deaths occur they are attributed to witchcraft or other nefarious actions of individuals in the group. If the incentive of a good meal is added to a generally high level of suspicion the potential for group conflict is greatly enhanced. Thus, cannibalism is confined to strangers or enemies, often those captured in wars.

"Warfare cannibalism," as Harris [1974 p.204] calls it should not be understood in terms the purpose of war being to get meat, or what Davies called "mass gourmandism." Such a theory is indeed "asinine" [Davies p. 221]. Wars are fought for purposes related to "intergroup politics," they are not "organized hunting to get meat" [Harris 1974, p.214]. Wars to get meat are a bad benefit/cost deal. Unlike other sources of meat, humans fight back and require a great deal of energy expenditure to capture. On a cost/benefit basis, optimal foraging theory indicates a higher energy return for gathering palm grubs and spiders than hunting humans.

When one activity produces a spill-over or secondary benefit economists call it an externality. War produces political benefits at great costs. Whatever benefit in terms of human flesh it provides is an externality or secondary benefit. The torture of captives also provides the secondary benefit of training the young to be cruel vicious warriors with no compassion for their enemies and a great incentive, seeing the fate of captives, not become a captive themselves. Finally, cannibalism provides "combat rations." The Iroquois and the Huron traveled great distances to fight wars and, of necessity, carried little in the way of rations. The flesh of victims made for a good meals and rations for the walk home.

Cannibalism was probably not the cause of B&V warfare, but, given the war would be conducted anyway, the practice of cannibalism probably produced a highly favorable benefit/cost ratio.

The next thing to explain is why did state level societies pass up the luscious externality of warfare? More specifically, what is it about state level societies that alters the benefits/costs of cannibalism so as to result in a taboo of the practice.

### *State Cannibalism*

B&V societies are socially structured around kinship relationships and consequently the "average human being enjoyed economic and political freedoms which only a privileged minority enjoy today"[1977 p.101]. Of course, the obligations of kinship placed many restrictions on an individual's freedom. Individuals were constrained by a myriad of customs related to marriage, the distribution of food, where they lived, who cared for children, and their place in the social hierarchy. The old Native American saying, "he acts as if he had no relatives" sums up the position of individuals in these societies. Each individual had a role and expectations that delimited his or her behavior. Nevertheless, in the area of subsistence, individuals were free of restrictions; no person be they elder, or chief could stand between a person and food. "Earth, water, plants and game were communally owned. Every man and woman held title to an equal share of nature."[Harris, 1977 p.101]. Unlike people in state societies, B&V people paid no rent, taxes, tribute or extra labor to a powerful other for the right to produce their subsistence [Harris, 1977 102]. As Harris emphatically states:

Under the tutelage of the state, human beings learned for the first time how to bow, grovel, kneel and kow tow. In many ways the rise of the state was the descent of the world from freedom to slavery [1977, p.102].

It was not until the production system evolved, through a process of intensification, to produce a surplus sufficient to support military specialists, that the State was possible. Within the techno-environmental constraints of the gatherer-hunter technology, intensification was not possible. Therefore, the State had to await agriculture. With the greater productivity of agriculture, each worker produced a surplus, which could be expropriated by a central power and directed toward repression.

The valley of Mexico is located on the high central plateau. While the soil is rich the climate is that of a semi-desert and is not very favorable to agriculture. Thus a considerable human effort was required to make it productive. Irrigation infrastructure was created and

marshy areas drained to increase the supply of land. People lived on the drained and filled areas in an around the lake, called *Chinampas*,<sup>33</sup> to free-up other land for farming and later cultivated these areas as well [Palerm Meso p. 69]. By late Aztec times most of Lakes Chalco-Xochimilco were turned into a network of canals and chinampas.<sup>34</sup>

There is little doubt that the Valley of Mexico, intensively farmed using irrigation, produced a substantial surplus enabling the support of an urban population of “specialists”. The secret is the immense productivity of maize [consumed then as today in the form of tamales or tortillas] which can support a family with a mere 48 days of labor per year and each farmer produces enough to support twelve other people [Charad p.305]. Beans, squashes and peppers comprised the remainder of the diet [Charad p. 305]. This immense productivity freed people for labor in public works, war and other enterprises. Obviously, it takes surplus labor to build the dams and canals necessary for irrigation agriculture, infrastructure workers do not produce food. For example, to build a single canal, two kilometers long and twelve feet wide and deep, took 400,000 man-days (8,000 men for fifty days) [Palerm, Mesoam p. 72]

Second, the magnificent temples and public structures of Tenochtitlan must have consumed millions of man days. The Temple of the Sun was constantly in the process of being (at least six times) rebuilt into a more grand site for the sanguine exercises of the Priests. The image provoked by these efforts is that of "large crowds working constantly like ants." [Palerm p.71]

Third, the Aztecs were constantly at war [five wars between 1494 and 1515]. When Montezuma set out against the Quetzaltepec in 1515 he had 400,000 men and boys under his command. [S.F.Cook Meso p.294].

The key to understanding the meaning of these public works is that the people were not "ants," who operate by instinct and not physical compulsion. It is unlikely that the supply of labor commanded by the Aztecs for these public enterprises would have been voluntarily forthcoming any more than Americans would pay taxes without the threat of punishment. As one writer delicately put it:

"a strong socio-political organization seems to be the only way open to people with a poorly developed technology to have and use large scale public works. Human labor is the only substitute for advanced technology; the less technology the more human effort is required, which means greater coercive organization."  
"[Palerm p.71]

A historian of Mexico describes the life of the peasant farmer in early Mexico following the rise of the State when some "men have become Lords":

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<sup>33</sup>Often mistakenly referred to as “floating gardens” the Chinampas represented the pinnacle of agricultural productivity in the New World. They were constructed by piling alternate layers of mud and organic material until the mound broke the surface of the lake. *Heujote* trees were planted along the perimeter to hold the soil. The Chinampas were long and rectangular to facilitate irrigation which was done by hand with buckets. The Chinampa soil was so fertile, and the fertility so easily maintained that they were cropped almost continuously, getting at most a three or four month rest [Saunders et al p. 277]

<sup>34</sup>These canals are extant today and are now a tourist attraction known as the Venice of Mexico.

And they were becoming human ants, taking orders and employing principles they did not fully understand to build splendid monuments and palaces amid general ignorance and, perhaps, misery. The farmers were certainly alienated from the priest-lords [Feherenbach p.35].

Thus, Mesoamerican Aztec Society meets all the criteria for a State. Yet, unlike other hydraulic states, e.g. Mesopotamia, China, the Indus, and Egypt and other States in general, the Aztecs alone, not only practiced, but institutionalized cannibalism

*Cannibalism is not sustainable State macroparasitism.*

The reason State societies forgo the protein from cannibalism is that the State, meaning the elites that govern, derive more benefit from extorting the surplus from a peasant than from eating him. A conquered group can be exploited over a long period of time through the exaction of tribute or taxes. To kill and eat a conquered person is to sacrifice an annual income flow the capital value of which greatly exceeds the value of the meal he would make. Thus, from the point of view of the elite, sacrificing a conquered person is the equivalent of killing the goose that lays the golden eggs, or as one anthropologist said in another context, milking the herd is better than killing the herd [Linton p. 52].

In most contexts the value attached to human meat by elites, is not extreme as it was to the Aztec, because there are readily available supplies of animal flesh which can be enhanced by exactions of tribute from conquered populations. Moreover, it would be more difficult to defeat an enemy that feared it would be tortured and eaten. If surrender meant the stewpot, it is much less likely that surrender would happen. Thus, the forgoing of human flesh was no "sacrifice" for elites, indeed, it was a good benefit/cost deal. But, as starved for meat as they might have been, commoners, who derived no benefit from tribute, were taught to loathe human flesh.

The key to understanding the Aztec exception is that while bountiful in maize and vegetables the Aztec food system lacked an efficient way of producing meat [Harris, 1974, p. 228]. The Aztecs had no cattle, no pigs, no sheep, and no goats. The only domesticated source of meat for the Aztecs was Turkey and Dogs. The turkey is a very inefficient converter of grain to meat (90% energy loss). The dog thrives best on meat. It makes no sense to feed meat to dogs to get meat for people. While both can forage and supply some meat they are not an efficient meat source of any consequence. Be not mislead, cannibalism was not an alternative source of meat for the general population. Given the great absolute number of sacrifices, relative to the size of the population, some 2 million, cannibalism, even on the Aztec scale, could supply meat to only a very small minority, and not too regularly at that. "Among the Aztec, the practice of warfare cannibalism did little to improve the condition of the peasantry. It continued because it continued to benefit elites." [Harris, 1974, p. 229] In the Old World elites could get meat from tribute, but the Aztecs could not. Additional slaves and serfs could not satisfy the Aztec meat hunger. "The Aztec solution was grim but cost efficient: they treated their captives the same way Midwestern corn farmers moved their corn to markets. They fed the corn to hogs and sent them to the market. Similarly the Aztecs fed maize to soldiers and walked the grain harvest to Tenochtitlan "on the hoof." [Harris 1974, p.232].

It should be stressed that the Aztecs were not driven to cannibalism as a way of increasing

the amount of meat in the Aztec diet. Remember, cannibalism was commonly practiced by pre-state groups everywhere. With the emergence of the state, *the practice was suppressed* because of an unfavorable cost/benefit ratio for the elites. *The practice of cannibalism was not suppressed by the Aztec elite* because the scarcity of meat left the cost/benefits in its favor.

Could the more benign goal of population control be the goal of cannibalism? This argument seems incorrect for several reasons. First, although the deaths were increased, virtually all who were killed were captured warriors. Second, warfare did produce male Aztec deaths, but we have seen that wars were not conducted primarily for the purpose of cannibalism [excepting perhaps, the pathological stage]. Third, virtually all of the victims were males. If the Gods wanted to control population they would have demanded the blood of maidens [Harris 1977, p.161].

Of course, many westerners would like to believe that the Aztecs practiced cannibalism because they had failed to evolve to the higher moral plane of the European Christian world. It is worth of noting, however, that the Aztec were much kinder to their captives than other native Americans and one might add, much kinder than the Holy Inquisition. Unlike, the Christian inquisitors the Aztec treated the captive with some respect and had no conception of torture [McDowell p.727] Marvin Harris points to both the scientific inaccuracy and the hypocrisy of the view that the Aztecs were beneath the high moral standards of even the modern world. Noting first the efficiency with which Old World states "killed each other's citizens" he adds:

Today [1975], hovering on the brink of a third world war, we are scarcely in a position to look down on the Aztecs. In our nuclear age the world survives because each side is convinced that the moral standards of the other are low enough to sanction the annihilation of hundreds of millions of people in retaliation for a first strike. Thanks to radioactivity the survivors will not even be able to bury the dead, let alone eat them.[ck 183]

Let us be clear about what Harris is arguing. Harris does not argue that the Aztecs went to war for meat. The Aztecs went to war for the same reason that all cultures based on macroparasitism go to war - to increase its standard of living at the expense of another group. Nor does Harris, as some of his critics claim, fall into the organic or ecological fallacy, that is viewing a culture as a totality by applying system characteristics to individual actors:

While the attribution of purpose to social systems is fallacious, the failure to attribute goals to individuals and corporate groups is also in error. Social systems analysis must encompass the dynamics of uneven distribution of beliefs, abilities, knowledge, and resources among people, as well as genuinely differing goals among individuals and the corporate groups they form [C&D p. 223].

Harris is arguing that the traditional taboo of cannibalism did not emerge in the Aztec case because the ecosystem in the Lake Texcoco area produced very little meat. Consequently, meat was scarce and too valuable to waste. Whatever costs the practice of cannibalism presented to the elites, Harris argues, were apparently more than offset by the benefits. Moreover, Harris is clear that *it is benefits to the elite that mattered* whatever the costs might have been to the

commoners. It is obvious here that Harris understands the organic fallacy and has avoided it.

The practice of cannibalism was only part of a religious ceremony with the broader intention of preventing the end of the world. The Aztec cult of Huitzilopochtli provides us with a classic example of the role of ideology in shaping behavior, how such ideology suits the needs of the ruling elites, and how ideology of such "usurpers" can be dysfunctional for the group.

Michael Coe of Yale, and surely many other Aztec scholars, take strong exception to the "fantasitic" Harner-Harris cannibalism scenario. Coe claims there were ample supplies of protein available in the valley of Mexico, most notably, "Spirulina lake scum" [Coe p. 177]. Coe further insists that cannibalism was restricted to "tightly controlled rituals" and was thus "more like a form of communion than a cannibal feast" [Coe p. 177]. Coe believes that this and many other aspects of the Aztec story, was exaggerated by the Spanish as a way to justify their destructive actions against the Aztec.

### *Superstructure- Aztec Law and Order*

The Aztec judicial system evolved out of tradition and was surely influenced by the Code established by *Nezahualcoyótl*, King of Texcoco. In the Aztec system the ultimate authority was the King. He was advised by the *Cihuacóatl* who himself had great judicial and administrative authority. The *Cihuacóatl* presided over the Supreme Court of four judges. All verdicts were passed to the King, who then pronounced judgement. The state was the sole arbiter of justice. Private vendettas and blood-feuds were prohibited.

The Aztec law required no jails. All penalties were in the nature of physical punishment, up to, and often, the death penalty [sacrifice, decapitation, flogging]. Stealing corn, for example, was punishable by death. However, a person in need was entitled to take up to four ears of corn from any field. No such provision ever entered European law. Enslavement and confinement in a small cage was often imposed for lesser crimes.

Also unlike European law, the nobility were held to a stricter code of behavior. Nobles were expected to sustain a higher level of moral responsibility than the commoners. Where public drunkenness on the part of a commoner might be ignored, it may have lead to the death penalty for a noble.

### *Superstructure - Aztec Existentialism?*

Although, in comparative terms, Tenochtitlan, may have been the "best provisioned" city in the world [Fagan p. 82], the Aztecs were very insecure. They saw themselves as "toiling on a windswept ridge" (westerners would say a razors edge). As evident in the following excerpt from the Florentine Codex, a profound fatalism was deeply etched in the Aztec mind:

Precious necklace, precious feather, precious green stone, precious bracelet  
precious turquoise, thou wert created in the place of duality...Thou hast come to reach the  
earth, the place of torment, the place of pain, where it is hot, where it is cold...It is the  
place of one's affliction, of one's weariness, a place of thirst, a place of hunger...a  
place of weeping [Day p. 22].

In a poem that could have been written by Buddha, or Sartre, the philosopher- prince of the Aztec ally, Texcoco, *Netzahualcoyotl* found little in life to warrant its living [Leon-Portillo p. 5-6]:

Where are we going?  
We came only to be born.  
Our home is beyond:  
In the realm of the defleshed ones.  
I suffer:  
Happiness, good fortune never comes my way.  
Have I come here to struggle in vain?  
This is not the place to accomplish things.  
Certainly nothing grows green here:  
Misfortune opens its blossoms.  
Does man possess any truth?  
If not, our song is no longer true.  
Is anything stable and lasting?  
What reaches its aim?-  
[Leon-Portilla p.6-7]

While Christians see death as a transition to perhaps a happier existence, and Hindus and Buddhists see death as a potential liberation from a miserable existence, the Aztec sees death as having no more meaning than life; as the "final, irrevocable end to [a] life...with the darkness and cold of the grave as its only reward" [Day p. 25]. Only the fortunate few who died by drowning and who went to the "watery green region of the rain God Tlaloc" would avoid "the place of darkness" [Day p. 25]. Obsessed with the "furious uncertainty of lives exposed to the vagaries of nature and the exactions of overlords" [Clendinnen p. 29] the Aztecs, therefore, engaged in a series of rituals timed on the agricultural cycle to insure the continued support of the Gods. These rituals involved the human sacrifice of children, slaves, young men of noble birth, and war captives. In the case of the latter the ritual also involved cannibalism.

### *Superstructure: Aztec Religion*

Aztec religion was a blend of the particular gods of the Aztecs and the cosmogony of the older precursor civilizations. As the Mexica social, economic, political institutions and their religion evolved over time, they borrowed heavily from the systems of their more "civilized" neighbors [Conrad and Demarest p. 26]. Moreover the Aztec added to their pantheon the gods of conquered city-states.

The Aztec religion is very complex. Gods and divine men (*hombres-dios*) take different forms and blend into one another. None is more complex or more important than Quetzalcoatl. Quetzalcoatl was the spirit child of Ometeotl. Quetzalcoatl also had several spirit "personalities" [Day p. 56] As Ehecatl he was god of the wind, as Venus, the morning star, he was associated with warfare, he was also associated with rain and fertility [Day p. 56]. Most often he was associated with learning, the arts and civilization itself [Day p. 56]. Quetzalcoatl

was also represented by the *hombre-dios*, Tolpiltzin ruler of the Toltecs.

Although the Mexica were basically a people with a *chicimec*, gatherer-hunter ancestry, the Mexica pantheon included ancient fertility and agricultural deities such as the rain god Tlaloc, and Xipe Totec, the god of spring and renewal, and Huitzilopochtli, the god of the sun. Other gods such as the feathered-serpent Quetzalcoatl and the cloud-serpent Mixcoatl were *chicimec*-Toltec blends [Conrad and Demarest p.26].

The gods in the Aztec superstructure evolved to mirror the needs of a society evolving from a hunter-gatherer infrastructure to one based on agriculture and macroparasitism. At center of Tenochtitlan stood the Serpent Mountain, called *Coatepec* by the Aztecs and *Templo Mayor* by the Spaniards. At the top of the pyramid stood two temples: one to honor Tlaloc the god of rain and agriculture and one to honor Huitzilopochtli the god of the sun, war and tribute [Carrasco p. 70]. Aztec society depended on an infrastructure based in agriculture and tribute, these in turn depended on the sun, rain and warfare. Thus, in the Aztec mind, placating these gods through human sacrifices was an important, indeed the most important subsistence activity in which they could engage. Without relentless efforts of these gods to regenerate the agricultural world and to ensure the daily rising of the sun the Aztecs believed they were doomed.

Coatlucue, the lady of the skirt of snakes, the Earth mother, was first impregnated with an obsidian knife and gave birth to Coyolxuhqui, goddess of the moon, and to a brood of male siblings, which became the stars. Then one day Coatlucue found a ball of feathers, which she tucked carefully into her bosom. When she looked for it later, it was gone, and she discovered that she was, once again, with child. Her children, the moon and the stars did not believe her story. Ashamed of their mother, whom they believed guilty of promiscuity, they resolved to kill her. A goddess could only give birth once, to the original litter of divinity and no more. A second litter of gods was a monstrosity. But, while they were plotting, Coatlucue gave birth to the god of war, Huitzilopochtli. With the help of the fire serpent, he destroyed his brothers and sister, murdering them in a rage. He decapitated Coyolxauqui plunged her body down a deep gorge in a mountain, where it lies dismembered forever. Carlos Fuentes, *The Buried Mirror*, p. 102,

*And there they would leave them the little (noble) children,...the ones with two cowlicks, whose day signs were good: everywhere they were being sought, they were costly: it was being said “indeed they are precious blood sacrifices (debt payments), they (the tlalocs) happily receive them, they want them, thus they are very content, thus they are well pleased,” so that thus indeed rain was asked for, rain was requested. - The ritual Atl Caualo, translated from Nahuatl by Phillip Arnold.*

*We eat of the earth, the earth eats us.* Contemporary Nahua saying

The Aztecs, like all Mesoamerican cultures, divided the world into the four “cardinal directions, each of which was assigned a specific color and a specific tree on the upper branches of which was perched a distinctive bird” [Coe p. 178]. At the central axis sat the bisexual creator deity Ometeol the mother and father of the four yatlipoca Gods. The first born of Ometeol was Tezcatlipoca who when born assumed four forms. Sitting to the north was Black Tezcatlipoca, or smoking mirror, the god of war and sorcery and patron deity to the royal house. Black Tezcatlipoca surely harkens back to the Shaman of the earliest chicimeca gather-hunters [day p.

247]. The smoking tubes usually associated with him represent the tubes shaman's used to inhale the hallucinogens that opened up the spirit world to them [Day p. 247].

Black Tezcatlipoca's statue in Tenochtitlan was made for shining black obsidian [Heyden p. 192]. Black Tezcatlipoca could see into men's souls with his magic obsidian mirror and was the source of life and riches - he could give them or take them away. He was greatly feared. [Coe p. 178]. The fear, helplessness, and utter capitulation before the fickle power of black Tezcatlipoca exemplified the pessimism and fatalism of the Aztecs [Heyden p. 191]

The white Tezcatlipoca was Quetzalcoatl characterized by the plumed-serpent. Quetzalcoatl was a the culture hero who gave the people maize, the calendar, featherworking, metallurgy, writing and learning. His followers offered him flowers, incense and birds, but human sacrifice for him was rare [Day p. 56]. The other gods were more bloodthirsty.

On the east was the Red Tezcatlipoca, Xipe Totec, the god of spring and renewal. Xipe Totec was known as the "God of the Flayed one" after the annual Toxcatl ceremony in which a handsome young warrior captive was sacrificed, his heart ripped out of his chest, and then flayed - his skin removed. The young man was chosen for his youth, virility and beauty. Twenty days before his sacrifice he given four young women who represented the various agricultural goddesses. He was to impregnate them with his "seed" to bring forth from the dry season, rain vegetation and maize [Heyden pp. 199-200]. The ceremony was conducted at the end of the dry season. The skin represented the new vegetation that emerges after the spring rains. A priest wears the victim's skin in an impersonation of Xipe Totec that lasted for twenty days during which time he "stank like a dead dog" [Coe p. 179]. Of course this would be hardly noticed as priests, "their unkempt hair clotted with blood" usually smelled of "death and putrefaction" [Coe p. 180]. Yet even greater sacrifices were required by the rain god Tlaloc.

Tlaloc was the God of rain and lightning. He required the sacrifice of infants and children and the more they cried the happier he was [Coe p. 180]. Quetzalcoatl, Xipe Totec and Tlaloc were at least as ancient as Teotihuacan [Carrasco p. 42]. Huitzilopochtli, the Aztec god of the Sun and of the war, and the most bloodthirsty of all, would appear to have been with the *chicimeca*-mexica from the beginning. It was Huitzilopochtli that inspired the ancient Aztecs to leave Aztlan to seek a new home. It was he who "set men's hearts on fire" to prepare them for war. It was he who demanded the burned hearts and blood of captives for the sustenance he needed to fight the forces of darkness [Carrasco p. 74].

### Superstructure: *Aztec History and Ideology*

The Aztec hegemony of the central valley was preceded by that of the Toltecs<sup>35</sup>. The Toltec culture emerged out of the chaos that followed the decline of Teotihuacan. In the period the remnants of the Teotihuacan agrarian culture were incremented by an in-migration of warlike barbarian (nomadic hunting bands) elements, known as the *chicimeca*, from the northern and

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<sup>35</sup>The name means the "artificers." The Toltecs were believed by the Aztecs to be a very capable people [Coe p. 131]. In Aztec times, according to David Carrasco, all societies seeking prestige claimed Toltec ancestry. Ironically all the great cultural inventions credited to the Toltecs by the Aztecs, for example the calendar, and astronomy had been invented some thousand years earlier. Again according to Carrasco, "the rapid collapse of earlier cultures" required their innovations be periodically reinvented" by later iterations [Carrasco p. 44].

western fringes of the territory of Teotihuacan. Consequently, the Toltec religion contained two contrasting elements. First, there was *Topiltzin Quetzalcotal* the priest-ruler that connected the Toltecs with the peaceful and ancient Mesoamerican God, *Quetzalcotal*. Tolpilzin was a "rare man and a rare prince," a renaissance man of sorts who revered artists, artisans and craftsmen and also greatly improved Mexica agriculture with vast irrigation projects. Tolpilzin's loyalty was directed toward the feathered serpent God, Quetzalcoatl. *Quetzalcotal* was the least monstrous and most humane God in the Mesoamerican pantheon [Feherenbach p. 44]. The contribution of the hunter-warrior chichimec was the bloodthirsty Shaman-God *Tezcatlipoca* (Tes-kat-lee-PO-ka) [C&D p. 18]. According to legend, *Quetzalcotal* was the God-King during the golden age of the Toltecs. According to legend Tolpilzin attempted to replace the bloody human sacrifices demanded of the Toltecs by *Tezcatlipoca* with "offerings of bread, flowers, snakes, incense or butterflies [Feherenbach p. 45]. Tolpilzin was probably a fanatic when it came to promoting his favored God and no doubt was resisted with equal fanaticism by the warriors, priests and the clans [Fehrenbach p. 45]. Topiltzin was driven out of Tula by the reactionaries. Toltec myth has it that Tolpilzin (Tol-pilt-zin) fell from grace when he was tricked by Tezcatlipoca into drunkenness and the commission of incest. *Tolpilzin-Quetzalcotal* (Quest-sal-ko-atl) was forced to flee from Tula, but promised to return to reclaim his throne in the year One-Reed<sup>36</sup> on the Aztec calendar.<sup>37</sup>

While they were not inclined toward the large-scale human sacrifices demanded by Tezcatlipoca (Tes-kotl-i-po-ka) it is important to note that even the peaceful elements of Toltec culture, those devoted to Quetzalcotal, practiced human sacrifice. Indeed, "human sacrifice is one of the most ancient aspects of Mesoamerican culture" [C&D p.19]. Even by Mesoamerican standards, however, the militaristic cults of human sacrifice formed by Toltec times were too bloodthirsty and were resisted by the followers of Quetzalcoatl. Aztec scholars Conrad and Demarest believe that these ideological battles prevented the Toltecs from forming a unified ideology thus contributing to the disintegration of the Toltec hegemony [C&D p. 20].

For 200 years dozens of city-states in the lands around Lake Texcoco competed both militarily and ideologically to fill the power vacuum left by the Toltecs. The *Tecpanecs* to the west in Azcapotzalco and the *Acolhua* from Texcoco to the East were major players. The Mexica were a minor group of "detested and abhorred" wanderers known for their "incorrigible woman stealing and their love of human sacrifice" [Fehrenbach p. 56]. Detested rather than respected, the Mexica were pushed from one "useless, snake-infested territory" to another. Around 1299 the Mexica were forced to live in an area known for its venomous snakes in the hope that the

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<sup>36</sup> Tolpilzin-Quetzalcoatl emerged later in Maya myth as the God Kukulcan- a feathered serpent God. Tolpilzin probably migrated south from Tula into Cholula from whence he led an invasion into the area known as Chichen-Itza in the Yucatan. Maya culture began to flourish at about this time and the Toltec influence in the ruins of Chichen-Itza is now somewhat controversial.

The year came around every 52 years in the Aztec calendar. The Aztec always dreaded this day. Hernando Cortés landed in Mexico in the year one reed. It has been contended that Moteczuma (I) Ilhuicaminal's (Mo-te-soo-ma Ill--wee-ka-meena) accommodating behavior toward Cortés can be accounted for by his belief that Cortés was the returning God-King *Quetzalcotal* [Day p. 77].

<sup>37</sup>Some writers have denied the "ancient sources" make any reference to the timing of the return of Quetzalcoatl. The Spaniards, it is claimed, altered the story "to suit their purposes."

snakes would kill them. "No such luck: The Mexica roasted and ate the reptiles" [Gruzinski p. 22]. Finally, in 1323, the Mexica were forced to settle on marshy land in lake Texcoco where they established *Tenochtitlan* (*Te-noach-teet-lan*) and the sister city of *Tlatelolco*.<sup>38</sup> The Mexica were forced to flee into this no-man's land, known originally as *Zoquitlan* - Place of Mud - after having offended a powerful ally, the Lord of Culhuacán, by flaying his daughter alive and doing her the honor of having a priest wear her skin in an important Mexica ceremony honoring *Xipe Totec* [Fehrenbach p. 57].

The early history of the Mexica is somewhat opaque because Mexica history was rewritten by the imperial state after it had achieved dominance. The old codices that contained Mexica history were destroyed as part of a propaganda campaign to produce an ideology that legitimated imperial rule [C&D p. 23] and to erase from the Mexica consciousness the ignominy of their past. "The Codex Matritense sings:

They had kept stories of their past; But, in the reign of Itzcoatl these were burned; The lords of Mexico ordered this; So the lords of Mexico decreed: Their people must not know the old pictures; Because all of them were filled with lies [quoted in Fehrenbach p. 69].

Before imperial times the Mexica were governed by a committee of *capulli* (Kal-PO-li) leaders who were selected from certain hereditary groups within each capulli. The first *tlatolani* (*tla-to-A-nee*) or ruler was installed in 1370. The new speaker was a prince who had some Toltec ancestry. It is not clear whether the *capullium* petitioned the mainland overlords for a ruler or he was imposed. At this time the Mexica were still vassals of the *Tecpanec* capital of *Azcapotzalco* (as-ka-pot-sal-co). The principal function of the *tlatolani* was to lead Mexica troops in wars the Mexica fought essentially as mercenaries for their Tepanec overlords. Nevertheless, the power of the first three *tlatolani* was limited by the power of the *capullium* - the *capullium*. After all, still controlled the bulk of the means of production and trained and supplied the soldiers for warfare. Without resources of his own the *Tlatolani's* power was highly circumscribed [C&D p. 25].

The Mexica were ferocious warriors and they began to accumulate wealth from the spoils of war fought at the behest of others, most especially the *Tecpanecs* - land, tribute, serfs and other goods. In 1375, Tezozomoc gave the Mexica a *tlatolani*, or speaker, called *Acmapichtli*. At this time Mexica society, befitting of its gatherer-hunter ancestry was still egalitarian and tribal democracy still reigned [Coe p. 160]. However, the spoils of mercenary activities were distributed quite unequally with the *tlatolani* and his warriors taking disproportionate shares. Gradually a warrior nobility began to emerge. This process was accelerated as the warriors practiced polygamy and produced large numbers of children. *Moteczuma I* had 150 children [Day p. 30]. The capstone of the process was the intermarriage of the *tlatolani* with the daughters of the hereditary leaders of the *capulli*. In so doing a direct line was created connecting the new Mexica aristocracy with the *Toltecs*, thus legitimating the social status of the

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<sup>38</sup> Around 1344-45 the Mexica split into two parts. One, following the chief *Tenoch*, established *Tenochtitlan*. The other established *Tlatelolco* on a separate island just to the north. Over time, as the swamps were drained the islands were physically joined and then politically joined when *Tenochtitlan* conquered *Tlatelolco* [Coe. p. 160]

mexica in the contentious world of balkanized city-states surrounding Lake Texcoco. Now rather than being the desperate refuge of wandering barbarians, Tenochtitlan was the home of legitimate descendants of the Toltecs with as much right to rule as any other group. The Mexica did not have to wait very long to assert their presumed prerogative to rule.

As the population of Tenochtitlan grew the lake became polluted so the Mexica were desperate for fresh water. In 1427, *Chimalpopoca*, the Mexica leader of Tenochtitlan made arrangements to bring fresh water to the Island with an aqueduct from the springs of *Chapultepec*. The threat of a more powerful Tenochtitlan worried the Tepanecs and set off a chain of intrigue and murders, including that of *Chimalpopoca* at the hands of his uncle, the Tepanec leader *Maxtla*, who had just murdered his brother to claim his position as speaker for the Tepanecs [Fehrenbach p. 62]. In 1428, following the death of the aged (106 years) Tepanec leader Tezozomoc (father of Maxtla), the Mexica, outraged at the murder of their *Tlatolani*, formed an alliance with Texcoco and Tlacopan (now called Tacuba). The Triple-alliance attacked and vanquished the Tepanec capital of *Azcapotzalco*. Led by *Itzcotal* and his nephews *Moteczuma I* and *Tlacaelel*, the Mexica established Tenochtitlan as the center of the new Aztec empire.

Itzcoatl (Its-co-atl) distributed much of the Tepanec lands and serfs to the warrior noble elite and kept a great deal for himself. The resources and wealth of the *pipiltin* now matched that of the capullium so power shifted toward the top. As the empire expanded and the loot concentrated at the top, the power imbalance would grow eventually giving the *Tlatolani* autocratic power.

*History is written (or rewritten) by the winners.*

Like the Maya rulers before them, the Mexica elites used the power of writing to generate propaganda that legitimated their rule. First Tlalacel destroyed all of the books of conquered peoples as they quite naturally made no mention of the Aztecs [Coe p. 160]. The Aztec elite then rewrote Mexica history and Mexica cosmology. The traditional religious and historical texts (codices) were destroyed and new ones produced along with a massive propaganda campaign and "curriculum" for the schools. The new history justified the dominance of the noble class and elevated the Mexica God-Hero *Huitzilopochtli* (*left-handed hummingbird*)<sup>39</sup> to the Mesoamerican pantheon of Gods. The Aztec imagined themselves as a "chosen-people," heirs of the Toltec traditions destined to save the fifth world [Coe p.160]. Through the sacrifice of captives of war they would nourish Huitzilopochtli so that he might subdue the forces of darkness and keep the sun moving across the sky [Coe p. 160].

Huitzilopochtli was elevated to a status above even Tezcatlipoca [Fehrenbach p. 69]. *Huitzilopochtli*, who appears in the 12th century was probably an ancient deified chief that had led the Mexica during their days as wandering hunters. According to legend it was *Huitzilopochtli* who ordered the Mexica to leave their original homeland, *Azatlan*, to seek a new one. The people, said *Huitzilopochtli*, would know they had found the new homeland when they found an eagle perched on a nopal cactus:

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<sup>39</sup> In Nahuatl *huitzizl* means hummingbird and *pochhtli* means to the *left*. I have seen this name translated as above and as "hummingbird to the left" or "left hummingbird"

The eagle was the symbol of the sun and of *Huitzilpochtli* himself...The red fruit of the nopal cactus represented the hearts offered to the God in human sacrifice. The eagle, with a snake in its mouth, perched on a cactus is the symbol of modern Mexico [Day p. 5].

The new city was called *Tenochtitlan*, after a legendary patriarch called Tenocha (which means cacti) - the place of the prickly pear cactus and fruit [Day p. 5].

The new history also asserted that the common people had acted as cowards in the war against the Tecpanecs and did not deserve the spoils of war or to be self-governing. Indeed, so fearful were the people, the "revisionist" history has it, that they promised perpetual subservience to the nobles if the latter should defeat the Tecpanecs:

Let it be as we have said, answered the people. You yourselves have delivered your sentence. We answer: if you are victorious, we will serve you and work your lands for you. We will pay tribute to you, we will build your houses and be your servants. We will give our daughters, our sisters our nieces...In short, we will sell and subject our persons and goods to your service forever [C&D p. 35].

The Mexica elite had justified their dominance over the Mexica. Now they needed to justify dominance over others. To do this they made their conquest of others a divine mission. The new Aztec cosmology fused a religion and social system and an economic system into an invincible war machine. The new Mexica religion ordered the relentless capture and sacrifice of prisoners of war. The blood of the captives was necessary to strengthen *Huitzilpochtli* in his daily struggle against the forces of darkness that would prevent the sun from rising:

So it was that when the God was born he had to open combat with his brothers, the stars and his sister, the moon,<sup>40</sup> and armed with serpent fire he puts them to flight every day...each day the battle begins anew, but in order for the sun to triumph he must be strong and vigorous; for that reason man must give nourishment to the sun. The sun...can only be kept alive by life itself, by the magic substance that is found in the blood of man,

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<sup>40</sup> *Coyolxauhqui* [Ko-yol-sha-UH-kee], the moon goddess was killed and dismembered by her brother Huitzilopochtli. When *Coyolxauhqui* discover her mother *Coatlicue* [Co-at-LEE-kwa] was pregnant with Huitzilopochtli she enlisted her 400 siblings, the stars to kill her. *Coyolxauhqui* and her siblings attacked Coatlicue at the top of Coatepec or Serpent Mountain. As the attack commenced Huitzilopochtli sprang from his mother's womb and slew his siblings. The Templo Mayor, the Great Temple of Tenochtitlan represents Serpent Mountain. At the foot of the stairway, on each side, stand two giant serpent heads. The myth of the battle on Serpent Mountain represents the daily sunrise, a consequence of Huitzilopochtli's nightly struggle with the forces of darkness, the moon and the stars. The human sacrifices on the Serpent Mountain are a reprise of the Huitzilopochtli's battle to save his other the earth goddess and suggest the need for ongoing sacrifices to save the earth.. As Huitzilopochtli slew 400 the myth then requires large numbers of sacrifices [Carrasco p. 75].

In 1978 construction workers found a carved stone ten feet in diameter and weighing some 8 tons. The stone shows the dismembered body of *Coyolxauhqui*. Legend had it that this stone rested at the foot of the pyramid at the top of which stood the temples of Tlaloc and Huitzilopochtli - Serpent Mountain. It is believed that the decapitated and dismembered bodies of sacrifice victims rolled down the steps of the pyramid and landed on this stone. The uncovering of the stone provoked the search for and discovery of the the Great Temple of Tenochtitlan.

the *chalchihuatal*, the precious liquid, the terrible nectar with which the gods are fed.

The Aztecs, the people of *Huitzilopochtli* were the chosen people of the Sun. They were charged with the sacred duty of supplying him food. For that reason war was a form of worship and a necessary activity [C&D p. 41]

*Born in 1358 Tlalacel*, became the brilliant ideologist of the Mexica. It was he that linked the worship of the sun to war: that made the god of the Sun was also the God of War. "The Mexica were to subdue the world and offer Huitzilopochtli continual blood, which he required so that he might continue to rise in the east and vanquish the night" [Feherenbach p. 69]. Mexico historian T.R. Feherenbach notes that, "like a Caesar, Charlemagne, or Hitler, *Tlalacel* found the correct combination of forces for his times [Feherenbach p. 70]. *Tlalcael* had supplied his "bellicose, resentful, barbarian kinsmen" with a "usable past" and a "myth of superiority" and a "vision of glory" that would produce fanatical, bloodthirsty warriors from simple farmers and tradesmen [Feherenbach p. 69].

*Tlalacel* rose to prominence when the Aztecs on Tenochtitlan went to war with and defeated the Tecpanecs of the city of *Azcapotzalco*. Many advisors to the Aztec speaker *Itzcoatal* were promoting submission to the Tecpanec tyrant, Maxtla. *Tlalacel* spoke forcefully against submission and after calling his opponents cowards won the argument. He then led the army and won the war [Leon-Portilla p. 160]. He would serve as advisor to four *tlatolani*.

There were many other similar communities, equally ambitious and sharing a common cultural heritage, competing with the Aztec for dominance in the central valley. Why is it that the Aztec managed to dominate?

The Aztec religious ideology was a very important component in the portfolio of factors accounting for the emergence of the Aztec as the dominant imperialist power in the central valley. Idealists, Conrad and Demarest believe that Aztec religious ideology, while promoted in the interests of a select few, was, nevertheless, "adaptive" for the group in that it allowed the Aztec to survive and prosper in a competitive social, cultural and ecological setting [Conrad and Demarest p. 154].

Traditionally the rise of centralized states has been explained by population growth. As population grows the larger, more dense population requires more intensive systems of agriculture and increasingly complex social, political and religious institutions. But, according to C&D and several other scholars the population of the central valley did not explode until after the period of state formation in Mesoamerica. The evidence rather suggests that:

population pressure in the Valley of Mexico was brought about by the changes in sociopolitical sphere rather than in the material conditions of existence...population pressure should be regarded as an effect, rather than a cause, of the evolution of the state [C&D p. 171].

Rather than a natural process, population growth appears to be the result of the need of expansionist, militaristic states for more warriors and taxable citizens - even when such population growth clearly stressed resources. The pronatalism of States stands in marked contrast to the tendency for prestate cultures to control population [C&D p. 171].

The key to understanding the rise of the Aztec state and its ultimate decline lies in ideological innovations made by the Aztec elite, in pursuit of its own self-interest, that both motivated, necessitated and legitimated imperial expansion. The cut of *Huitzilopochtli* required a steady supply of captives, which in turn required constant warfare, which produced expansion of the empire. Imperial expansion produced benefits for the elites, but also spillovers to merchants, commoners, warriors, craftspeople and farmers. Thus, the real benefits that accompanied the incessant propaganda campaigns sold the idea that warfare and expansion were indeed in everyone's interests:

in the most practical sense, expansionism succeeded because leaders were able to create wants and aspirations in every interest group and individual - and to satisfy those desires through conquest [C&D p. 180]

*Aztec Ideology, Warfare, and the "Terminal Trajectory"*<sup>41</sup>

Even though the bulk of the benefits [lands, tribute, and human flesh] of the Aztec Warfare complex were gathered by the nobles and warriors, it would be incorrect to argue that non-elites did not benefit from the Mexica war complex. Captives did supply labor for public works such as causeways, dikes and aqueducts and for in the construction of new arable lands. Merchants also benefitted from the trade opportunities opened up by new conquests. Finally, war opened up an avenue of upward social mobility for commoners and nobility alike [C&D p. 49-50]. Moreover, it is unlikely that the commoners resented the wealth of the nobility as it came at no expense to them:

The creation of a landed aristocracy and a palace bureaucracy affected the common farmer very little because foreign people [through tribute of goods and labor] supported these structures. The *macehual* kept on living in a common house, working common land with his close relatives, and there is no evidence he disliked or opposed these changes in any way; in fact, he seems to have considered the rising nobility his kinsmen, and he saw possible opportunity for himself, through war [Fehrenbach p. 67].

The path taken by the Aztec empire can be viewed as one established by a powerful minority of leaders who for their own purposes used ideology to manipulate and mystify the consciousness of the "masses" or the "masses" being motivated simply by the material and social rewards of battle. As historian T.R. Fehrenbach states it:

Perhaps the ruling circle of the Mexica was unafraid that a hungry *Huitzilopochtli* would refuse to replenish the earth and perhaps the nobility and warriors may have only been dreaming of glory, wealth and power [Fehrenbach p. 70]

Historian, Fehrenbach rejects the notion that Aztec ideology was a cynical rationalization for the exercise of empire:

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<sup>41</sup> Conrad & Demarest p.60

But it would be a mistake to consider [Aztec] warfare pragmatic. Behind it all was a haunting dread. The Mexica tribesmen believed in their war god; they believed in the immortality of the soul; they believed the universe was ruled by their magic. Thousands fell; the sun was fed; many Mexica won their eternal reward. And each year the power and wealth of Tenochtitlan swelled [Fehrenbach p. 70]

Karl Marx once attested that the ruling ideology was the ideology of the ruling class. Ideas, in short, are creations of elites that use them to mystify the consciousness of the masses in a manner that legitimates the rule of the elite. According to Marx and other materialists, ideas, in general, and religious ideas in particular, are passive, non-causal, epiphenomena that can be safely ignored in the study of a society in the process of change. Materialists like Marx are inclined toward comprehending ideas as derivative of environmental and technological factors. For example, anthropologist, Leslie White contends that the ideology one observes at some point in time is little more than a manifestation of how effectively a cultural system exploits its environment. That is, through a process similar to natural selection of organisms:

the cultural system which more effectively exploits the energy resources of a given environment will tend to spread in that environment at the expense of less effective systems...the technological factor is the basic one; all others are dependent upon it. Furthermore, the technological factor determines, in a general way at least, the form and content of the social, philosophic, and sentimental sectors [Quoted in C&D p. 206].

For cultural materialists there is little of importance to be learned from what is/was going on in people's minds at any point in time.<sup>42</sup>

To the contrary, "idealists" assert that ideas can be generative, exogenous forces:

if thinking human beings are carriers of culture it seems highly probable that, from very early on, ideas provided controls for and gave distinctive forms to the materialist base and to culture, and that these ideas then took on a life of their own, influencing, as well as being influenced by, other cultural systems. If this is so, then it is of interest and importance to try to see how ideas were interrelated with other parts of culture and how they helped direct the trajectories of cultural and civilizational growth.

Archaeologists must cease to regard art, religion, and ideology as mere "epiphenomena" without causal significance...such "epiphenomena" lie at the heart of a society's environmental and interpersonal regulation, and as such cannot be omitted from

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<sup>42</sup> It is useful to divide anthropological data into two categories *emic* and *etic*. Emic observations are statements from the observed individuals regarding what they think (emic mental) and what they do (emic behavioral). Thus, the observed may deny they practice infanticide (emic behavioral) or may claim infanticide is necessary to please a God (emic mental). Etic observations come from the observer who might first note the practice of infanticide despite denials and then make the etic mental assertion that infanticide is practiced to control population. Emic observations are the product of consciousness that is mystified by ideology and therefore does not get to the real material roots, and thus the basic etiology of any observed behavior. See Marvin Harris, *Cultural Materialism-The Science of Culture*.

any comprehensive ecological analysis [C&D p. 209 quote of Kent Flannery & Gordon Willey].

The idealist and materialist perspective can be blended once one departs from the organic view that has characterized cultural materialism. Marx recognized that society was not organic: classes had manifestly different interests. Cultural materialist, Marvin Harris just demonstrated his comprehension of this fact with his analysis of cannibalism. Both Marx and Harris allow that a ruling elite could impose an ideology that served the interests of only a small minority. But, in Marx's narrow, teleological analysis, he understood a dysfunctional ideology as one that would lead to the decline of the class system and the rise of socialism - progress. Anthropologists, however, have come to understand that they must explain both the rise *and fall* of civilizations - advance and retrogression. Dysfunctional ideas can be important dynamic elements rather than merely static, passive, frictional elements of change and they can lead to disaster if they "take on a life of thier own."

Conrad & Demarest advance the notion that if ruling class ideas are contradictory with the material world a group inhabits, and these ideas "take on a life of their own" the civilization may be endangered:

If self-interested groups are in sufficient power, they can initiate and maintain long-term patterns of behavior that propel society along a devastatingly maladaptive path-even to the point of the total collapse of the system...History is built on the failure of social forms as much as on their success. If social forms fail, it is because they have laws of their own whose purpose is other than making optimal use of their techno-environments [C&D p.198].

In short, going back to Leslie White's statement noted above - one reason a society may fail to efficiently exploit the energy resources in its environment may be dysfunctional thinking that is the product of a dysfunctional ideology.

By 1440, when Moteczuma I took the reed seat, the Mexica were totally dominant on the central plateau. As T.R. Fehrenbach asserts "Tenochtitlan had no rational cause to go beyond the volcanoes" that ring the central plateau [Fehrenbach p. 73]. "But Tlacaelel had done his work too well[;] ultrarational notions are easier to infuse than to eradicate." [Fehrenbach p. 73]. Both the common man and the nobility were driven toward war certainly for wealth, and also by the "mystic theology" of Tlacaelel [Fehrenbach p.73]. Moteczuma I reigned over an imperialist expansion for ten years that pushed the empire to the Atlantic and Pacific coasts and some 500 miles to the southeast into Guatemala. The imperialist fury was interrupted by a series of natural disasters that raised, in sanguine relief, the worst element of the Aztec religion - human sacrifice. The reaction of Moteczuma (I) Ilhuicamina to these disasters also suggests that, imperial expansion was driven by more than dysfunctional ideology.

*If it works don't fix it*

Beginning in 1440 with a plague of locusts, a series of natural disasters raised the level of

Aztec anxiety to a fever pitch. In 1446 there was a disastrous flood, and in 1452 there began a four year famine as crops were hit by early frosts in two successive years then followed by a year of drought [Clindennen p. 30, Hassig p. 172]. Moteczuma ordered that grain from his royal granaries be distributed to the poor, but this distribution lasted for only one year [Hassig p. 172]. Moteczuma allowed people to leave the region to seek food and many did so, traveling to the warmer lowlands where the famine's reach had not extended [Hassig p. 175]. In the warm lowlands, families sold children for maize and many individuals were forced to sell themselves into slavery for food [Fagan p. 64]. The famine had three very dramatic impacts. First, the priests ordered more human sacrifice of war captives to the Sun God, *Huitzilopochtli* (Wheet-si-lo-**poach**-tli)

and of children to *Tlaloc* (*tla-loc*), the god of rain. Second, Moteczuma (I) Ilhuicamina expanded his macroparasitic enterprise, that is, wars of conquest spreading into the lowlands and to the coast at Vera Cruz [Fagan p. 69], to both expand the amount of food and other tribute stored in his warehouses, and to supply the ever larger demand of the priests for human sacrifice [Fagan p. 69]. From single victims, the number sacrificed rose into the hundreds per year [Fagan p. 64]. Third, Moteczuma ordered that every available piece of land be put into cultivation and used force if necessary [Fagan p. 82]. This edict probably included massive public works on the Chinampas of the fresh water lakes, Xochimilco and Chalco, that lay to the south. Some 9000 hectares of prime agricultural land were created. It was fortuitous that the 16,000 meter dike built by Nezahualcoyotol was completed in 1449. The dike controlled the level of water and the salinity of the fresh water lakes at Chalco and Xochimilco. Until its construction the spring-fed freshwater lakes were too saline to allow crop production [Hassig p. 179].

Given the high cost of transport of grain from the low lands it is unlikely that the conquest of these areas made any significant contribution to the food supply of Tenochtitlan. Moreover, for the same reason, extending the conquered territories would not help. The "margin between feast and famine" was widened primarily by the construction of the Chinampas [Hassig p. 180].

The common people believed that the Gods were displeased and were punishing them with starvation. Up to this point, human sacrifice had been kept at the modest level appropriate for symbolic appeasement of the Gods. However, the magnitude of the natural disaster combined with the spin *Tlalacel* had put on the cult of *Huitzilopochtli* resulted in a "vast orgy of destruction." [Fehrenbach p. 75]. Moteczuma mounted campaigns for the sole purpose of taking captives to be sacrificed. The slaughter did not stop until the victims numbered some 10,000. The real tragedy was that they massive slaughter appeared to work:

### A Man for All Seasons

The reign of Nezahuacóyotl [of Texcoco] was unparalleled in cultural achievements and learning. He codified Texcocan law, which was more severe than that of the Aztecs, and constructed a dike across Lake Texcoco to hold back the brackish water of this lake from the sweet water of Lake Chalco. He initiated an intricate system of canals and dams to increase agricultural production; he helped Moteczuma Ilhuicamina build the aqueduct that carried sweet water to Tenochtitlan from Chapultepec; and he stimulated arts and crafts, offering prizes for achievements in gold and feather-working, music and poetry. His summer residence at Texcotzingo, in ruins today, still retains elements of the former beauty of its stairways, temples, fountains, aqueducts, and baths, that were either cut out of bedrock or constructed of mortar. While under his administration Texcoco became famous as a center of learning. [From Weaver p. 442]

Following the shower of hot blood the frosts ceased and the sun again warmed the earth. The corn flourished. The lords of Tenochtitlan took credit for averting disaster, and Tlacaelel urged the people to build a newer and more magnificent temple to Huitzilopochtli. And from this time forward mass ceremonial murder was not only institutionalized but uncontrollable. The rulers could not have stopped the practice if they had wanted to.[Fehrenbach p. 75]

The orgy of human sacrifice reached its crescendo when Ahuitzotal, the third son of Moteczuma, dedicated the new temple to *Huitzilopochtli* in 1487. Over a four day period some 10,600 to 80,400, depending on the observer one consults, cardiectomies were performed [McDowell p.727]. Blood ran down the sides of the temple pyramid and covered the plaza. An awful stench pervaded Tenochtitlan from the blood soaked temple area [Fehrenbach p. 80]. Thousands of bodies were dumped into the lake. The carrion birds were thick as mosquitoes. About a century later Alva Ixtlilxochitl would chronicle the event as a "butchery...unequaled in history" [Gruzinski p. 52].

### *Guerra Florida - Flower Wars*

One view of the so-called Flowery War is that they were essentially particularly odious facet of the reign of ritual hypersacrifice. Being driven to extraordinary levels of human sacrifices by fear of another famine the various states in the central valley needed to increase the number of captives. When real wars were not producing the requisite numbers, the city-states would often arrange wars with each other in order to produce captives for each side. The wars, it is alleged by many sources, were called Flower Wars and became a regular feature of Mexica life after 1450 and lasted until contact. The Flower War "concept" was first described by *Tlalacel*:

There shall be no lack of men to inaugurate the temple when it is finished. I have considered what later is to be done. And what is to be done later, it is best to do now. Our God need not depend on the occasion of an affront to go to war. Rather let a convenient market be sought where our god may go with his army to but victims and people to eat as if he were to go to a nearby place to buy tortillas...whenever he wishes or feels like it. And may our people go to this place with their armies to buy with their blood, their heads, and with their hearts and lives, those precious stones, jade, and brilliant wide plumes...for the service of the admirable *Huitzilopochtli*...And this war should be of such a nature that we do not endeavor to destroy the others totally. War must continue, so that each time...our God wishes to eat and feast we may go there as one who goes to market to buy something to eat...organized to obtain victims to offer our God *Huitzilopochtli* [Leon-Portilla p. 163]

*Tlalacel* goes on to say that the "markets" should not be too distant for people in remote areas are "barbarians" who are "not to the liking of our God" as they "are like old and stale tortillas [Leon-Portilla p. 163]."

For the warrior, being captured in a Flower War and being sacrificed was the ultimate honor. For the Aztecs, how one died was more important than how one lived - death on the battle

field or on the sacrificial altar was much preferred to a death in bed [Feherenbach p. 75].

The so-called “flowery wars” (*xochiyaóyotl*) were fought intermittently over the period 1455 to 1519. The wars engaged the “Triple Alliance” against the Kingdoms of the Tlaxcala-Pueblan Valley i.e. Tlaxcala, Huexotzinco, and Cholula [Isaac p. 415]. The traditional explanation of these protracted wars, more or less, takes as truth the words of Motecuzuma to the effect that the Aztecs needed the wars to train their soldiers and to gain captives for sacrifice. In short, it was not that the Aztecs could not defeat and subject the Tlaxcalans and the others, they simply chose not to for their own convenience. Moreover, it is claimed that it would not have been “economically” worth while for the Aztec to subjugate the Tlaxcalans, that is, the potential tribute from Tlaxcala “paled against the luxurious tribute received from many other provinces” [Berdan 1982, quoted in Isaac p. 426]. Instead, according to Michael Harner, the local, but non-subjugated kingdoms of the Tlaxcala-Pueblan Valley would be preserved “as a stockyard” of sacrificial victims [quoted in Isaac p. 424].

It is further alleged, that aside from the massive waste of life, these wars also emphasized a mode of fighting that would later prove fatal in the confrontation with the Spaniards. As the focus of war shifted from mere territorial aggrandizement to the taking of captives for *Huitzilopochtli* warriors changed goals. Instead of killing the opposition the goal became to take captives. Harris [1978] comments that the Aztec were puzzled by the attempt of the Spanish to kill everyone in sight. Had it not been for this “corrupting influence of flowery wars” the Spaniards would surely have been beaten long before they reached Tenochtitlan [Feherenbach p. 139]. And again, after Cortés had been driven out of Tenochtitlan, his vanquished army could have easily been finished off, but the Aztec warriors cut off the attack after they had taken enough captives for sacrifices to celebrate their victory [Ferenbach p.143].

The notion that the Flowery Wars were dedicated primarily to the taking of captives seems directly contradicted by the massive number of battle deaths reported from these engagements. For example, in the Battle of Atlixco ca. 1503 between the Aztecs and Huexotzinco, the slaughter was so great that Motecuzuma II “began to weep bitterly” and all present “sobbed in sadness and despair” as they read the field reports. The reports indicated that more than 40,000 died on both sides and that the “bodies of the dead impeded the living.” In 1506 another “great slaughter” took place where the Aztecs lost 8,200 soldiers [Isaac p. 420-421]. Similar accounts in the ethnohistorical literature recount recurring “great slaughters” over the years 1503-1518 and presumably the same desperate reactions in Tenochtitlan. In light of such reports, it is difficult to sustain the notion that “on the battlefield the warriors did their utmost to kill as few men as possible” [Isaac p. 423]. Yet, one prominent historian of The Aztecs, Diego Duran, wrote that Motecuzoma should not have been so disturbed by these slaughters because “Tlaxcala and Mexico fought in order to practice war and not because of enmity” [quoted in Isaac p. 421].

The entire Aztec warfare enterprise was dependent on the continuance of warfare **and its benefits**. But by the time of Motecuzuma (II) Xocoyotzin (Show-ko-yot-sin) (1503) it was apparent that the system had reached its limits - the warfare continued but it produced little benefit and high costs. But what were the benefits of war if not training and sacrificial victims?

We know that the famine and the beginning of the Flowery wars coincided [Mid 1450s]. Harner and Harris contend that the march of captives from these wars to Tenochtitlan constituted a supplement to the diet of at least Elites in a protein starved society. The wars provided a means

to bring maize to Tenochtitlan “on the hoof” instead of the backs of porters (tlameme). It is certainly true that conquest of distant lands, e.g. the Totonac areas in the lowlands on the Gulf of Mexico, for the purpose of acquiring grains made no sense - the porters would eat more on the journey than they could carry over such a distance [Hassig p. 177-78]. Thus, taking captives may make more sense. As true as that may be, it cannot explain the initiation Flowery Wars as protein shortage was always a characteristic of Mexico. Nor is it true that the nobility was particularly hungry during the famines. As Hassig has noted, “famine is usually class famine,” the nobility had ample stores in their granaries and :

being both healthier, due to a superior diet, and economically stronger, the upper classes are better equipped to survive, and better able to cope with growing scarcities and rising prices. During the famine of 1 Rabbit, scarcity was felt differentially by economic strata, falling most heavily on the poorest. ...It is no doubt true that the royal stores were inadequate to provide for all the people, but evidence points to their use by the nobility throughout the famine [Hassig p. 177].

Finally, the Tlaxcala-Pueblan Valley is not so prohibitively distant that imports of food would not be economically arranged. Moreover, Tlaxcala was a highly productive agricultural area. None other than Cortés observed of Tlaxcala that:

Its provisions are...very superior - including such things as bread [tortillas], fowl, game, fish, and other excellent vegetable produce...The province contains many wide-spreading, fertile valleys all tilled and sown, no part of it being left wild [quoted in Hassig p. 427].

While Tlaxcala may have been relatively poor in “sumptuary goods [cotton, gold, silver, tropical feathers and cocoa]”, it was, nonetheless, a congenial target for a nearby aggressor that perceives itself short on food [Hassig p. 427]. “In summary,” Hassig writes, “no reasonable case can be sustained that the Tlaxcala-Pueblan Valley was lacking in economic attractiveness to the Triple Alliance. The supposed lack of economic incentive as an explanation for the triple alliance imperialistic failure is a tautological smokescreen, thrown up to provide an intellectual shelter” for the other wise “untenable” “ritual explanation of the “intervalley Flowery War [Hassig p. 427]. In short, the Triple Alliance desperately wanted to subjugate the Tlaxcala-Pueblan Valley, but simply could not do it. Motecuzoma’s words to the contrary were merely to cover up the embarrassment, he and the Aztecs felt as a result of this failure; a failure that surely seemed particularly acute after the famine of 1 Rabbit.<sup>43</sup> Thus, it seems clear that the Flowery Wars had much more to do with infrastructural economic concerns than with superstructural “ritual” concerns. The ritual and food value of war captives was a felicitous externality of wars that were driven by geopolitical, political and primarily economic concerns.

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<sup>43</sup> There were other motives for the attempted conquest of the Tlaxcala-Pueblan Valley. The Aztecs had completely surrounded it, so it sat like a tumor in the Aztec polity. Moreover, as a refuge for refugees from conquered territories this area undermined the tribute potential from subjugated areas. Some 16,000 refugees fled to the valley when Chalco was conquered by the Aztecs in 1465. Also, it was always a “potential staging area for dissident forces.” [Hassig p. 427]

### *The Aztec Pseudo-empire*

Some scholars have defined an empire to exist when there is military expansion and the payment of tribute [Berdan p. 92]. By this standard the Aztec Triple Alliance constituted an empire. To be a true empire there needs to be an overarching "administrative structure" that maintains control over the conquered territories. In this sense, the Aztec "empire" was not an "empire" at all. It was rather, a "jerry-built hegemony" [Feherenbach p. 76.]. The leaders in *Tenochtitlan* made no attempt to integrate conquered people into the Aztec society either politically or culturally nor did they occupy or in any way "administer" the conquered areas. They simply collected tribute. Thus, there were regular rebellions so territories had to be reconquered "again and again" [C&D p. 53]. The constant need to reconquer these provinces and the "flowery wars" did produce captives for sacrifices but at the expense of the population and productive capacity of the provinces on which the overpopulated *Tenochtitlan* depended for food [C&D p.60]. In short, the Aztecs were killing the goose that laid the golden eggs.

The limits of imperial expansion were also established by logistical problems, ecological impact and the existence of several groups on the borders and within the "empire" that resisted conquest - the Aztecs could not win battles in the mountains. Western expansion was blocked by mountains and the Tarascans. In a campaign to conquer the Tarascan people in the west in 1478, the Aztecs lost 20,000 men [C&D p.55].

There were also logistical problems. Many areas that were conquered were far from *Tenochtitlan* and sent little more in tribute than "Quetzal feathers, uniforms, ceremonial costumes and decorated blankets." Because of the great distances involved, shipping of bulky foodstuffs and even captives was impractical so new conquests "did little to assuage food shortages that plagued central Mexico during imperial times" [C&S p. 55].

To the north there was only arid desert. In the South the empire had reached the Pacific. To the east they had expanded to the Gulf.

There was either nowhere to go, or in places that were unconquered there was nothing to bring back or they could not bring anything back because of distance. Indeed, they could barely hold on to what they had. Conrad & Demarest summarize the Aztec situation at the end of the 15th century:

the obsession with mass sacrifice was becoming increasingly maladaptive and difficult to satisfy. The slowing growth of the empire in its last decades was incompatible with the growing sacrificial requirements of the state cult. Furthermore, the crowded Aztec capitals' dependence on the provinces for subsistence support conflicted with the goals of internal wars against rebellions...

Thus, the two major goals of Mexica warfare, captives for sacrifice to the Gods and tribute for support of the state, gradually came to be conflicting rather than coinciding objectives. The initial unity of the ideological rationale for Mexica imperialism presupposed the existence of a world of limitless conquests, innumerable victims, and endless resources. Unfortunately, by the end of the 15th century such a boundless environment was no longer available to the armies of *Huitzilopochtli* [C&D p.60].

### *The Demographic Problem - Epidemic Macroparasitism; Too Many Macroparasites too Little*

## *Food.*

The food shortages were the result two forces central to the imperial system. First, the imperial system was aggressively pronatal in order to produce soldiers for the army, thus the rate of internal population growth was quite high. To make matters worse, the population grew more "top-heavy" as the parasitical *Pitipilpin* practiced polygamy, thereby reproducing at rates greater than the general population. Second, *Tenochtitlan* experienced "explosive" in-migration of retainers, craftsmen, merchants, scribes, concubines and other "specialists" to serve the needs of the elite, but none of them produced food [C&D p. 55]. To support this parasitical population the commoners endured high rates of surplus exaction [C&S p. 58]. Finally, the deaths of thousands of commoners in warfare reduced the supply of productive labor [C&S p. 59]. "As the Spaniards arrived, the Aztec empire was being strangled by the very forces that had created it. The state cult both demanded and promised constant victories and limitless growth" [C&D p. 68] but it could no longer deliver the goods.

It was the new ideology -God is on our side- that drove the Mexica to empire and, according to Conrad and Demarest, it is the ideology that drove the empire to ruin. Although established as a cynical attempt to promote the agenda of the ruling elite the cult of *Huitzilopochtli* took on a life of its own and could not be stopped even to save the empire. The call for more sacrifices to feed the Sun God drove the imperial war machine to where there was no loot and to where it could not win at the cost of the lives of thousands of potential food producers.

Yet the wheels of the divine war machine had been set in motion and could not be stopped. The cosmology of solar struggle, the cult of mass sacrifice, and the glorification of war were so deeply ingrained in to the Mexica way of life that no other ideological perspective could be imagined by either the people or their rulers [C&D p. 59].

The massive wastage of human life also served political and social purposes. The Aztecs would invite representatives of those they wished to intimidate to the sacrifices in order to scare them into submission. Even worse the human sacrifices evolved into a perverse "Big Man" display of wealth, a "conspicuous consumption" of sorts whereby Aztec "Big Men" attempted to both impress and intimidate subject people and neighboring groups [Gruzinski p.54].

Large-scale human sacrifice and the warfare complex were thus deeply instituted and served many agendas. Even having to challenge vested interests from the military-commercial-social-political complex, anyone who attempted to alter the system from its path toward self-destruction would come into conflict with conservative forces sustained by fundamental, deeply held religious values - in short the Aztecs, were loaded on a trajectory that seemed pointed toward oblivion, in short the Aztec seemed to be following the path of the Rapa Nui.

*Contingency many times over*

*An Indian could never overcome an armed Castilian on horseback, and this is the true secret of*

*the conquest, not any dream or prophecy - Carols Fuentes<sup>44</sup>*

*Things could always have happened exactly opposite to the way the chronicle records them.  
Always - Carlos Fuentes*

*So it wasn't just men who entered great Tenochtitlán on November 3, 1520, but centaurs;  
mythological beings with two heads and six feet, armed with thunder and dressed in stone.  
Carlos Fuentes*

It is an immensely difficult task to write history "as it actually was." For one thing, we still know so little. Secondly, even what we know is suspect if it involves recollections or contemporary statements as all are full of mistakes and hidden agendas. We have already noted that history is written by the winners "who have the opportunity to tell the story of a victory without fear of contradiction" [Coe p. 197]. More directly pertinent to our context is the acid remark of Aztec expert Inga Clendinnen: "Historians are the camp-followers of the imperialists" [quoted in Coe p. 197].

Oscar Wilde was probably correct when he opined that every generation was obliged to rewrite history if only to reconsider the past in light of new information. Of course, the ever cynical Wilde meant no such thing. What he surely had in mind was precisely what the Aztec and the Spanish did - they rewrote their history to serve their ideological needs in the present. For example, Richard Wilk has argued that we have rewritten Maya history in the light of the issues and ferments of the current political environment. In particular when, during the 1960s America was troubled by the Viet Nam war, according to Wilk, Maya studies focused on warfare and conquest as the cause of the mysterious collapse. During the "born again" religious movement of the 1970s Mayanists turned to claims that fatalistic Maya religion so demoralized them that they gave up the struggle. By the late 1970s, ecology had become the "hot" political topic and consequently ecological explanations of the Maya collapse were ventured [Sabloff p. 166-67].

There is a new genre of history called imaginary history. Cullen Murphy writes of the appeal of this genre in the *Atlantic Monthly*:

trying to determine what actually happened in history is often a frustrating and contentious enterprise, performing a counter-exercise - trying to determine what would have happened if what actually happened hadn't happened - can prove almost intoxicating [Murphy p. 20].

For example, writing in 1932, Winston Churchill wondered what would have happened if General Robert E. Lee had won the Battle of Gettysburg. Churchill concluded that the South would have won the war and due to a byzantine set of connections he concluded that WWI would not have happened and the Confederacy would have conquered Mexico [Murphy p.20].

Imaginary history highlights just how contingent history is. In 1930, Hitler was very

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<sup>44</sup>Carlos Fuentes, "The Two Shores" in *The Orange Tree*. Harper 1994. The following quotes are from the same source.

nearly killed in an automobile accident. If the driver of an oncoming truck had reacted a fraction of a second slower, Hitler surely would have died. In 1944, before the Russians had moved out of Mother Russia into eastern and central Europe, an assassination attempt just barely failed to take his life. The Assassins wanted to sue for peace. Several contingencies shaped the fate of the Aztecs.

It is often speculated that Moteczuma was paralyzed by his fear that Cortés was actually the *hombre-dios*, Tolpiltzin-Quetzalcoatl returning to reclaim his power. The prophecy had it the Tolpiltzin would return in the year one reed, a year that appeared only once every fifty-two years on the Aztec calendar. It was a remarkable coincidence that the year Cortés arrived, 1519, coincided with the year one-reed. One is then tempted to speculate about the Aztec trajectory had Moteczuma not been so tentative, mystified and pusillanimous *if in fact he was*. Aztec scholar Michael Coe avows that the story of the vacillating Moteczuma was at least “partly fabricated by the Spaniards [Coe p. 198].<sup>45</sup> Coe insists that Moteczuma was simply treating Cortés as the “ambassador of an unknown distant ruler..to be treated with respect and hospitality” [Coe p. 199]. One could also understand Moteczuma’s being slightly intimidated by a warrior who had just decisively defeated the chiefs of Tabasco and had thoroughly exterminated the town of Cholula<sup>46</sup>.

Had Moteczuma acted decisively, if inhospitably, could he have wiped out the Spanish invaders and thereby change the course of Aztec civilization? Perhaps not. The Aztec were a stone age culture - if a highly developed one - facing a growing list of environmental and political problems. More importantly, Aztec battle styles and weapons were no match for the “cannon, steel swords wielded by mounted horsemen, steel armor, crossbows, and mastiff- like war dogs trained in the Antilles to savor the flesh of Indians [Coe p. 199]

The defeat of the Mexica by a European power was inevitable. If the Spanish had been defeated, a larger Spanish army would have returned or the Dutch, the Portugese or the English would have surely followed.

In technological terms, despite the grandeur of Tenochtitlan, the Mexica culture was

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<sup>45</sup> In texts allegedly written by “native informants” it is said that Motecuhzoma reacted to news of the Spaniards arrival “as if he thought the new arrival was our prince Quetzalcoatal.” Upon receiving reports from his messengers to the Spaniards about the firing of the cannon, the giant “deer” that carry the Spaniards on their backs, their iron weapons, and their “enormous” dogs, it is reported that Moctecuzoma was “filled with terror. It was as if his heart had fainted, as if it had shriveled. It was as if he were conquered by despair.” After he learned of the failure of his magicians to “harm [the Spaniards] in any way whatever” ...he wanted to run away and hide; he thought of evading the gods, of escaping to hide in a cave...But he could no do it. ..He had lost his strength and his spirit, and could do nothing..Therefore he did nothing but wait. He did nothing but resign himself and wait for them to come. He mastered his heart at last, and waited for whatever was to happen [Leon-Portilla, Broken Spears pp.30-34]. One could as easily interpret these words to mean that Moctecuzoma was paralyzed by the fear of a seemingly invincible enemy as of the divine nature of that enemy. There is also the issue as to whether these are truly indigenous accounts. It is claimed that these accounts were written in Latin script by Nahaus, some as early as 1528 [Leon-Portilla pp.xvi]. Even if that were so, it is not improbable that the Spanish altered these documents in ways that served their interests.

<sup>46</sup>There are two accounts of this massacre. The Tlaxcaltec version is that the people of Choulula brought on the Spaniard attack by mistreating a Tlaxcaltec emissary. According to the “native informants” the Tlaxcaltec “soul burned with hatred for the people of Choulua.” The Tlaxcaltecs conspired with the Spaniards to slaughter the Cholulans who it is said warmly welcomed the Spaniards and their Tlaxcaltec allies [Leon-Portilla p.37-49].

backward compared to that of Europe. If civilizations were built on the invention of agriculture and matured slowly over time as the cultural inventory was gradually enhanced in a process of trial and error manifest in the rise and fall of thousands of empires, then the Aztec civilization is better compared to ancient Sumer than to Europe in the 16th century:

Mesoamerican religions, ideals, fears, and social structures were on the level of Sumer; Cortés invaded a people living on the experience plane equivalent to the old world in the third millennium B.C....The Amerindians were a long way from creating Babylon. They were living out their version of the story of mankind...but, in world terms, because they invented agriculture so late, they lagged millennia behind [Fenerenbach p. 101].

In a decisive battle against the Aztec, Cortés used the tactics developed by Alexander the Great some two thousand years earlier when the Aztecs were still *chicimecs* living in animal skins and eating bugs and snakes, in the northern desert [Feherenbach p. 144]. Despite it well-trained and disciplined soldiers, the Aztecs had only one tactic - surprise attack. If victory was not immediate, the Aztecs were forced to retreat. Without out beasts of burden to bring ample supplies to the battle site, neither a siege or sustained attack was possible. Also, they could not live off the land because they were surrounded by hostiles. Moreover, the Aztecs did not seem to understand the basic tactic of dividing the enemies forces and destroying them piecemeal. For example, had they done this the Europeans would have easily been destroyed. The Aztec numerical superiority was of no value as they could not put more than a few warriors in contact with the Spanish soldiers at any given time [Farb p. 174].

Many civilizations had preceded that of the Mexica; the Olmec, the Toltec, the Maya and Teotihuacan and all had failed. The Aztec were merely the most recent and certainly not the last empire to form in this region. But for all its achievements it was still a stone age culture. The Aztec were constantly short of fresh water which inhibited the growth of agriculture. The lake was hopelessly polluted and drinking water was more scarce. Moreover, like its ancestor city Teotihuacan, the area around Tenochtitlan was being rapidly deforested. The cult of Huitzilopochtli was increasingly wasteful of resources including human lives. Like many Maya centers Tenochtitlan might have simply been abandoned, but more likely, Tenochtitlan, like Teotihuacan would probably have had a violent death. At the time of Spanish conquest a rival of the Aztec had developed copper weapons which devastated Aztec shields and may have eventually established yet another empire [Feherenbach p. 101].

The Amerindians never invented the wheel, probably because, in the absence of draught animals the had no purpose for doing so. In old Europe loads were pulled by animals first on sleds, then on rollers and then on wheels. Over time the problem of friction was finally overcome. The Aztec never had to face such mechanical problems as they had no draught animals in the first place. Amerindians could not haul, lift, and transport with much efficiency. It meant that Amerindians did not learn to think in mechanical terms, they did not invent machines and thus learn to think mechanistically about the world. It was this mechanism that laid the basis for European science and the defeat of superstition.

The Amerindians still lived within the parochial limits of a psychology where the world was understood in terms of magic rather than science. When Moteczuma first decided to stop the

advance of the Spanish, he sent magicians instead of troops [Feherenbach p. 125]. He could not act decisively to kill the Spaniards because he had to contend with his deep belief that Cortés was actually *Tilpilzin-Quetzalcoatl* returning to retake his kingdom. When one examines the long process of mechanization in Europe through which science became liberated from religion and superstition and how long and bloody the latter battle was one can see the Amerindian still had a long way to go.

The defeat of the Aztecs by Cortés is perhaps one of the greatest examples of the role played by contingency, or should we say luck, in history. Without the assistance of the Tlaxcallans Cortés' chances of defeating the Aztec were greatly diminished. Yet, it was a matter of pure luck the latter alliance ever happened. In order to communicate and negotiate with the Tlaxcallans and the Aztecs Cortés needed a person who spoke Nahuatl and Spanish. Obviously he did not bring such a person with him. Only by being able to communicate with the Tlaxcallans could he have discovered that they hated the Aztecs and then turned them into allies. As luck would have it he rescued a shipwrecked Spanish sailor, by the name of Geronimo de Aguilar<sup>47</sup>, who had lived as a slave among the Maya for 8 years and hence spoke Mayan.

Early in his stay on the coast Cortés had to battle and defeated the Maya in Tabasco. As part of his victory gifts, booty as it were, a Tabascan merchant gave him a slave woman of noble birth called Malinali whose spoke both Mayan and Nahuatl- the language of the Aztecs. Thus, Cortés was able to speak Spanish to Aguilar, who spoke Mayan to Malinali who spoke Nahuatl to the Tlaxcallans and the Aztecs. Cortés called her "*mi lingua*," my tongue.[Fuentes p. 111]. Malinali was a beautiful and intelligent woman and much of Cortés' success was as much a consequence of her "astuteness and understanding" of the local political situation as her translator skills [Coe p. 198]. Cortés took her as a mistress and she served him with considerable loyalty; they had one child. The Spanish called her Doña Marina [she came from the sea]. The Mexicans saw them as one and called them the reverential Malintzin. Her name was later corrupted to Malinche, the conquistador's woman, and she is viewed as a traitor to Mexico by many [Wilkerson 1984, p.433]. Not without reason either as without her it is unlikely that Cortés would have been able to negotiate the alliances he forged with the enemies of the Aztecs most especially the Tlaxcalans [444] who had harassed the Spaniards for weeks and surely would have worn them down to defeat - but negotiations turned the Spanish into allies against the hated Aztecs [Wilkerson p.448].

Technological, military, and psychological factors aside, Moteczuma and virtually all Amerindians were doomed the moment a Spaniard set foot on American soil. It was not European science, military or otherwise, or his own mystified consciousness that doomed Moteczuma. The fatal force was invisible and indiscriminately deadly - it was the European germs for which the Amerindian had no natural immunity. There is a considerable controversy over the actual number of people inhabiting the American Continent before European contact. The numbers run as high as 16 million. There is consensus on the fact, that regardless of how many there were, somewhere between 67% and 98% were killed by epidemics of European diseases within a century of contact [Grinde & Johansen p.46]. The European scourge spread

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<sup>47</sup> In his novella, *The Two Shores*, Carlos Fuentes recounts the story of La Malinche in the voice of Aguilar. Aguilar's voice contends that both he and Malinche distorted the translations to serve their own interests. Aguilar wanted to destroy Cortés before he could destroy Tenochtitlan, Malinche wanted Cortés to destroy the Aztecs.

like a wildfire throughout the New World.

When the Mayflower landed at Plymouth in 1620, the Pilgrims found the land deserted. The land was dotted with ready-made corn fields that had obviously been well tended. Four years earlier an epidemic of small pox had spread through New England. In the eyes of John Winthrop and the Puritans it was an act of divine providence, a sure sign that God had blessed their enterprise. The native peoples came to fear the English because as they came near, a painful and ignominious death came with them. Honey bees, apparently brought to the new world by the English, tended to colonize the land in waves that preceded those of the actual settlers by about 100 miles. The Native Americans, quite appropriately came to view these "English flies" as harbingers of death. Not death from the power of English weapons, but from invisible plagues that seemed to follow, or sometimes precede, the English wherever they went [Grinde and Johansen p. 50].

Marvin Harris speculated that had the Aztecs had horses the course of Mesoamerican history might have been changed. Had the ancestors of the American Indians been better conservationists and not exterminated the horse the outcome of the European invasion might have been different.

The horse was destined to return to the New World as an avenging engine of war. More than anything else, the possession of calvary explains how a handful of 16th-century Spanish soldiers conquered the most [powerful Indian peoples of Mexico and Peru and enslaved and despoiled their descendants [Harris 1975, p.212]

It seems unlikely, however, unless the horse provided immunity to small pox, that having it would have saved the Amerindians from virtual extinction.

### *Disease and Conquest*

Cortés sailed from Cuba to Yucatan with a force of 800 men in 1518. After making contact with Moteczuma he sailed down the coast and established the city of Vera Cruz. Then he burned his ships to prevent his troops from returning to Spain and marched inland. As he marched toward Tenochtitlan he made alliances with Indian groups being parasitized by the Aztecs, that added about 1000 fighters to his small contingent of about 800. He reached Tenochtitlan in 1519 and established friendly relations with Mocteczuma, at least until he discovered Moteczuma's treachery.

Apparently, Mocteczuma orchestrated an attack on Vera Cruz. Cortés imprisoned Moteczuma, but his problems had only begun.

A Spanish force, sent by the Governor of Cuba to arrest Cortés was headed toward Veracruz. After defeating the rival force with the help of the Tlaxcallans, Cortés returned to Tenochtitlan only to find the Aztec people in a rebellion led by Mocteczuma's brother,

Cortés soon found out that Moteczuma had chambers in his palace where even the walls were made of gold. He promptly repaid the Indian monarch's hospitality by taking him prisoner and melting down the gold. Everywhere, he destroyed idols and erected Christian altars. And his henchman, Pedro de Alvarado, after cheating Mocteczuma at dice, massacred the unarmed populace at a religious festival.

Were these really Gods? No, the people finally realized. They were greedy, cruel foreign invaders, and they could be defeated.- Carlos Fuentes, *The Buried Mirror*, p 114

*Cuitlahuac*. Moctezuma was killed, but it is not clear whether the Spaniards of his own people killed him<sup>48</sup>. The Spaniards were forced from the city. In a daring escape, attempted under the cover of darkness, Cortés fought thousands of Mexica. He was able to escape only because dead bodies filled the breaches in the causeway the Aztecs had cut in order to prevent Cortés from escaping. Although free, Cortés' army had been cut in half and was lucky to escape at all. In the battle to escape they had lost, cannons, guns and many horses. The Spaniards call this night *la noche triste*. Were it not for the help in the form of food and guides, supplied by the enemies of Tenochtitlan, Cortés and his men would surely have expired or been hunted down by the Aztecs. But the macroparasitism of Tenochtitlan had been so vicious, the Aztec so despised, the *Indios* chose to follow the old dictum - my enemy's enemy is my friend [Feherenbach p. 145]. Cortés withdrew to the safety of Tlaxcala, but he would be back.

Tenochtitlan was built in the middle of Lake Texcoco and was accessible only by stone causeways, one of them was six miles long. Cortés reinforced with 10,000 Tlaxcalla Indians, brought up boats and laid siege to the city in 1521. The defense of the city was led by Cuauhtemoc, "the last and bravest of the Aztec emperors." [Coe p. 199]. On August 13, after 5 months of siege and a number of skirmishes and high Spanish casualties the city finally fell. The final battle was fought in Tlatelolco<sup>49</sup>. When the Spaniards entered the city they found the houses filled with dead people. The Island so "smelled of carrion" that the Spanish "had to tie kerchiefs around their noses" as they marched through the devastated city [Feherenbach p. 155]. As Cortés had cut off the supply of food and fresh water, many Aztecs had simply died of hunger or dysentery. Many had also died in a "blood bath at the hands of the revengeful Tlaxcallans" [Coe p. 199]. But, Cortés had a weapon more deadly than his troops and his Indian allies; about half of the Aztecs had died of small pox. Apparently one of the soldiers killed in Cortés' escape was infected. While the Spaniards recuperated in Tlaxcala, small pox ravaged the Aztecs. The disease spread rapidly throughout the lake region for some seventy days. Among tens of thousands of others the plague took Cuitlahuac, the brother of Motecuzoma, the new *Tlatolani* [Leon-Portilla pp.91-92]. The Aztec had no immunity to small pox and starvation only compounded the problem:

The illness was so dreadful that no one could walk or move. The sick were so utterly helpless that they could only lie on their beds like corpses, unable to move their limbs or even their heads...if they moved their bodies they screamed in pain...they could not get up

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<sup>48</sup>In the contemporary account of Spaniard Bernal Diaz, Montezuma(sic) was killed by stones hurled by his own people as he stood on the battlements and invoked them to stop their rebellion against the Spaniards. According to Díaz, when they realized Montezuma was dead "Cortés and all of us captains and soldiers wept for him, and there was none among us that knew him who did not mourn him as if he were our father, which was not surprising, since he was so good." Mexico scholar, Michael Coe of Yale University states simply that the Spaniards were the "likely perpetrators" of the death of Motecuhzoma [Coe p. 198].

<sup>49</sup>The bloodbath of August 13, 1521 would not be the last in Tlatelolco. On the same site, then a plaza, in 1629, the Spaniards put down a rebellion of starving peasants with a bloody massacre. In 1968 the plaza would be witness to another bloodbath. On October 2, two weeks before the opening of the 1968 Olympic games, 325 people were shot down by the government as they protested the opening of the Olympic games. The protesters, mostly University students, but including many women and children believed the games an extravagance in light of the poverty of millions of Mexicans.

to search for food, and everyone else was too sick to care for them, so they starved to death in their beds [Day p.81].

Of the 300,000 Aztec defenders of the city only about 60,000 survived the battle, the 80 day siege induced starvation, the slaughter and the small pox [Day p. 82]. The Spanish looted the city, burned and destroyed the Temples, and razed the rest of it. All that was left of the magnificent *Tenochtitlan* was a pile of rubble.



**Figure 6.** Plagues of small pox ravaged the Aztec. Source: Day p.80

The small pox infection was brought to the New World by a Negro slave carried there from Cuba by Panfillio de Narvarez on his expedition to arrest Cortés. Many Negroes died on the voyage from Cuba to Mexico, but one did survive. The disease spread over all of New Spain and wiped out about half the population in the first wave. After several more visitations of small pox and then of mumps and measles, European diseases wiped out 18.5 million of the 25 million population of Mexico [Cartwright 188-220]

The pure Aztec gradually disappeared through death due to disease, famine and overwork as well as through the intermarriage of Aztec women with male Spanish settlers. The *Mestizo* adopted European ways, became Christians, and came eventually to dominate the Republic of Mexico [Fagan 286].

Any reading of Aztec history leaves no doubt that had the Spanish arrived on foot they would not have lived for a month. Spanish horses and their bull mastiffs frightened the Aztecs and the horses were decisive in managing the first Spanish retreat. Moreover, if the Aztecs had horses what the Spanish encountered would have been very different. The absence of meat animals and draught animals on the development of the Amerindian infrastructure, structure and superstructure was so profound one can barely imagine what Cortés might have encountered had they been present. However, unless the Aztec had found a way to be immune to European diseases they would have been doomed. Indeed, Cortés might also have been wiped out by the diseases the Aztec shared with their animals.

The Fate of Cortés - “the Prince that never was” [Fuentes p. 129].

Cortés left Mexico City in 1525 on an expedition to Honduras, “which proved to be a costly, protracted, and useless adventure” [Fuentes p. 127]. Upon his return he found Mexico City had been conquered by “Spanish royal bureaucrats, bristling with parchment and quill pens.” Cortés soon understood the reality behind the old Spanish curse: “*Entre abogados te veas*” [may you be surrounded by lawyers]. [Fuentes p. 127]. The Conquistador was put on trial for his crimes which included stealing Moctezuma’s treasure, poisoning his rivals for the governorship of Mexico, and for his participation in the unauthorized trip to Honduras. He was also charged with murdering his wife, whom he had brought to Mexico from Cuba after he had discarded La Malinche. The governorship of Mexico was awarded to a mediocrity and Cortés was shipped back to Spain. He returned to Mexico as the Marquis of Oxcaca ; a nominal title, and a very modest fiefdom. He ended his life in Seville in “shabbiness,” old and poor with his servant suing him for unpaid wages [Fuentes p. 128].

### *Spanish Culture*

The Spanish brought to the New World an array of animals, plants and diseases that would reshape the natural world of the Mexica. The Spanish brought also an array of institutions that would reshape the social and economic world of the Maya and the Aztec. The Spanish harbored no reluctance to use their weapons not to impose their religion. They imposed their economic and cultural institutions with similar alacrity.

The cultural and economic experience imported into America by the Spanish was deeply informed with the Spanish experience of the *Reconquista* and the experience with the *Indios* of the West Indies in Cuba and Hispaniola.

European Christianity always contained a deep suspicion of commercial and entrepreneurial activities most especially banking. Banking had always been in the hands of the Jews. When the Roman Empire fell the trade around the Mediterranean fell into the hands of the Moors. Thus, for centuries, in the retrenched and insular mind of Christian Europe, commerce, banking and entrepreneurial activities were "ethnically and morally suspect" [Feherenbach p.172]. Aristocrats had always disdained labor and trade, but the Spanish added a distinctive element of ethnic antagonism bordering on racism to the traditional recipe for aristocratic hauteur:

Here rose the exaggerated, ridiculous pride of the Spaniard, gentleman and commoner alike, too poor to live by their lights, too proud to engage in the work of the Moor and the Jew.

Because of the association of any activity outside of land ownership with the infidel religions even the common Spanish man disdained such activity. The men who emigrated to America were not looking for land to farm, or to establish a business, but rather to become a *senor*. They came with the expectation of getting land and the people to work it for them. They had no ambitions beyond being aristocrats. They did not have the traditional sense of aristocratic stewardship or *noblesse oblige*, that is, an understanding that their position entailed responsibilities as well as privileges - in short, they were complete parasites.

The Spaniards did not find gold in the West Indies, but they did make a fortune in sugar. Sugar, still a luxury item at the time, was planted in Haiti and Cuba in 1493 and made a fortune for the planters. From the very beginning, however, the Spaniards had trouble getting the Indios (Arawaks, in this case) to work. The Spaniards instituted the same labor practices in the Indies as they had applied to the Moors following the *Reconquista: repartimiento* and *ecomiendo*. In Spain *repartimiento* allowed the conscription of labor from the "conquered infidels" to build castles, roads and bridges and to farm the land. However, the *Indios of the west indies*<sup>50</sup>, unlike the Moors, had no history of centuries of "psychic subordination" through which they came to accept the rationale of long hours of work to produce goods for someone else [Feherenbach p.112]. While the Moors "bowed and endured" the Indios either rebelled, ran away or sank into a deep apathy making them rather useless as workers [Feherenbach p. 113].

At first the Spanish attitude toward the *Indios* was one of indulgence. The humanity of the Indios was accepted; they were merely pagans that needed instruction in the true faith. The crown and the church opposed the enslavement and economic exploitation of the Indios, but were really powerless to oppose it. As the Indios rebelled, ran away, became apathetic or died the Spanish became exasperated and twisted their frustration into anger and contempt. They turned toward the whip and to racism. The Indio came to be regarded as *gente sin razon*; a race of retarded, recalcitrant children who could be motivated and governed only with fear and punishment [Feherenbach p.115].

The Indios of the West Indies did not long suffer the economic and psychic oppression of the Spanish - within a generation they were all dead [Feherenbach p.113]. The Spanish replaced them with Africans brought to the islands by the Portuguese. But the racism the *Indio* resistance engendered would, along with the other peculiar Spanish attitudes and economic institutions, be carried to America with equally disastrous results.

### *Macroparasitism: Spanish Culture & Economic Policy*

From the Old World the Spanish brought a culture based on hierarchy, and including serfdom and slavery as legitimate institutions. The men came to the new world seeking wealth, as they understood it, in the form of gold and prestige, and were not the slightest bit hesitant to extract wealth through the application exploitative institutions of the new world. Like other colonizers the Spaniard came to acquire land and the people to work it [Feherenbach p.111]. Spanish culture considered labor as servile and below the dignity of the *Senor*. It was the "end of ambition" to own an estate, whether it was put to fruitful use or not [Feherenbach p. 180]. The Spanish were infected with an conception of the role of an aristocrat that was pathological. Plato understood aristocrats to be those of special ability who would function as "guardians" of the State. Whether always realized or not, the aristocratic ideology emphasized not the rights, but the obligation -noblesse oblige- of the aristocrat. In the Platonic sense the relationship between aristocrat and subject was symbiotic rather than macroparasitic. The Spanish attitude "confused racism and hierarchy with aristocracy -the rule of effective people." [Feherenbach p.180] To the

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<sup>50</sup> Unlike the Aztec who were accommodated to the toils and alienation of civilization, the Indios of the West Indies were still gatherers and hunters.

Spanish, being and aristocrat was simply being at the top of the social pyramid; there was no obligation to do anything.

Exploitative institutions were not new to America. Macroparasitism had already established itself in a succession of short-lived native empires terminating with the Aztecs and the Incas. The peasant producers had endured exploitation, in varying degrees of misery, for centuries. So in this regard at least, the Spanish changed little when they introduced *encomienda* and *repartimiento* to New Spain. The Indios had become accustomed to paying tribute in the form of goods and labor services to macroparasites, so in a material sense it mattered little whether it was commanded by someone speaking Spanish or someone speaking Nahuatl.

The *encomendero* class tended to be eccentric...fully understandable in a class that had nothing to do, ferocious in defense of its racial privileges...They had hunts in the country and elaborate and extravagant masquerades and balls...They loved fiestas...They lived with more thought of today than the morrow; after all they were people striving for nothing and going nowhere. Prodigality was admirable in the Hispanic ethos; otherwise, one might appear too much like a Flemish banker or a Jew [Feherenbach p. 229].

The *encomienderos* were confronted with a very real problem as disease decimated the *Indio* population. Obviously the standard of living of the *encomienderos*, the priests, and the civic officials, all of whom resolutely refused to do manual labor, depended on the number of Indios they had to work for them and the amount of surplus extracted from them. Between the time of conquest and 1570 the ratio of Indios to Spaniards fell from 5000/1 to a mere 65/1. By 1600 it had fallen to 20/1 and to 10/1 by 1650 [Fehrenbach p.222]. As the Indios died off many *encomienderos* "slipped into genteel poverty" [Feherenbach p.222]. The Spanish understood that land was wealth. But they were immersed in a cultural role that would not allow them to be active agents in the transformation of nature into usable human wealth. Without exploitable labor the Spanish *encomienderos* were incapable of surviving. The *encomienderos* should have felt more sympathy for the *Indios*, for they were soon to feel the sting of racism.

The *criollos* or creoles were the sons of the conquistadors. Born in the new world many inherited the *encomienda* of their fathers and became home grown *encomienderos* others sought offices in the colonial administration. Although there appeared to be no official policy it was soon apparent that all holders of high office were being recruited in Spain. This pattern generated a great deal of resentment among the Mexican born and there began to be talk of armed revolt.

Among those advocating revolution was Don Martin Cortés, the eldest living *and legitimate* son of Hernán Cortés. Although the putative revolution was little more than "tavern talk" among what the historian T.R. Feherenbach has labeled "fatuous young fops" and a "coward:"

the government reacted decisively and viciously. Several of the alleged leaders were convicted of treason and beheaded. The executions were followed by a witch hunt for co-conspirators. Torture and execution awaited anyone who was implicated in any way by anyone in the conspiracy. For generations after, no one dared criticize the government [Fehrenbach p. 231-233].

As the practice of discrimination against *criollos* became formal policy it was

accompanied by a racist rationale. The idea that climate has an effect on the constitution and character of people has an ancient heritage. Long before the British would complain that it was impossible for white people to prosper in the climate of Africa and India, the Spanish came to believe that the climate of Mexico was not only responsible for the lethargic and unintelligent behavior of the *Indios*, but for the deterioration of the *criollos* as well: the *criollos* were now seen as an inferior race. Something in the New World climate prevented the full development and maturing of the individual. The *Indios* were seen as perpetual children, the *criollos* as perpetual adolescents.

On the basis of presumed racial inferiority manifest in their being incapable of understanding European reasoning, *Indios* were not allowed to become priests and were denied anything more than basic education. Moreover, *Indios* were excluded from all professional occupations and skilled trades

The Spanish shared another delusion of their times, the so-called bullionist fallacy, the confusion of gold and silver with real wealth. Real wealth is an asset that can produce something people need; land, nature, knowledge, and skill. The mystified aristocrat can buy everything he needs with Gold and thus comes to confuse it with real wealth. Until, at least, he finds himself starving on a large piece of land he cannot farm, hunt or gather, with a pile of Gold he cannot eat. His dignity will not allow him to labor and he would not know how to anyway. Gold is not real wealth as any one stranded on a desert island with a million dollars will soon appreciate. The fundamental misapprehension of Gold and silver as wealth distorted European politics for several centuries and it destroyed both Old and New Spain.

Silver was discovered in Zacateas in 1524. About 400 miles from Mexico City, Zacateas was an arid, desolate area inhabited by *chicimecs* who still lived the way the ancient Aztec did. Within just a few years about 5000 mines were operating. In the mist of the euphoria surrounding silver all other economic activities, especially agriculture were ignored. Ships that once shipped manufactured and agricultural goods to Spain were now used to ship silver. Ships were scheduled to sail according to the needs of silver so food and other exports simply wasted away on the docks. Labor was dragooned from agriculture under *repartimiento* to work the mines. The loss of man power from agricultural pursuits was significant, in many cases landowners had to shift to the less labor intensive and less profitable business of cattle raising. Given the remote locale of the mines it took 3 or more agricultural workers to produce a single mine worker. The journey to the mine could take weeks which meant for every miner at work there was one on the way to replace him and another on the way home. The trip itself was hazardous and claimed many a farmer. Hunger, thirst, and *chicimecs* laid in wait for the hapless wanderers on the trail. Thus, to insure 20 arrived 25 had to be sent [Fehrenbach p. 225-226].

In the mines, the *Indios* worked as virtual slaves, under the whip, and in the most unimaginably horrible conditions:

The Spanish used *the de rato*, or shortest route, method of mining; they followed ore veins by tunneling. The English corrupted this name to "rathole," and the mines were indeed ratholes - narrow, twisting, precariously timbered, connected from level to level with rickety ladders-some going down 1500 feet.

In these torchlit breathless tunnels, the *Indios* hacked out ore which had to be carried to the surface in leather buckets. Workers carried two hundred pounds of ore each trip, up

ladders and through narrow passages on their knees, and they worked twelve hours a day. No few Indians died in these foul holes [Fehrenbach p. 226].

For all of their labor and suffering and even though *repartimiento* required a fair wage for workers it was rare for an *Indio* to realize a single centavo. While not working the *Indios* were kept, in chains, in pens like animals. The priests complained, but their voices were overwhelmed by hum of greed and the recognition of the fact that without the virtual enslavement of the *Indio*, silver mining and the pseudo-wealth it produced would have been impossible. The silver was put to work fighting European wars to defend the faith against the Reformation which eventually bankrupted the Crown of Spain. The silver also percolated in to the economy of Europe where it increased the spending on goods in Europe much faster than the production of goods could expand thus producing an inflation that would financially ruin the European landed aristocracy and ferment peasant rebellions and chaos all over Europe.

The Spanish established other economic policies that harmed the *Indios* and the *criollos* as well. The Spanish adopted imperial policies similar to those that would be adopted by King George regarding the American Colonies some two centuries hence. Rather than see the colonies as an extension of the mother country, these policies were based on the presumption that the colonies and the colonials were there to be exploited in the interest of the mother country. Like the *Indios*, Spanish subjects in the new world were fair game for exploitation.

The Spanish established rules which required that all colonial trade be directed through Spain and all goods purchased by colonials be purchased from Spain. In short, regarding exchanges with the colonies, Spain made it self a monopsonist buyer and a monopolist seller. Any native industry that competed with Spanish goods was destroyed. Chocolate, once they favored drink of the Mexica and grown in Mexico now had to be purchased from Spain. The budding silk textile industry and all other textile industry was destroyed. Only primitive pottery and cotton cloth, for the use of *Indios* could be produced by *Indios*. The native artisan - weaver, potter, jewelry maker - disappeared. Finally, all alcoholic beverages had to be imported [Feherenbach p. 242].

Regarding silver the Spanish established a monopoly on Mercury and blasting power which were essential to the mining process and sold each at exorbitant prices to the miners. Miners also had to pay 10% of their silver to the crown for the right to mine crown land in addition to other taxes and fees [Feherenbach p.225].

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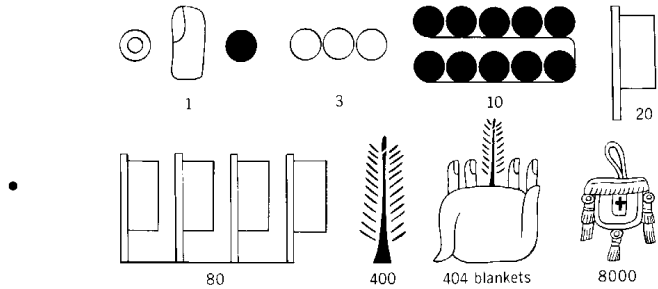


FIGURE 8.16 Aztec numerals. A dot was used for each unit through 19; a flag represented 20; a feather (☿) 400; a bag of copal incense 8000. (From Codex Mendoza.)

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Appendix - *The Aztec Number System*

### *The Aztec Ritual Calendar*

When the Mexica arrived in the area of Lake Texcoco they were derisively known as “Tenochas” [cacti] and considered to be “uncultured barbarians” and indeed they were [Balthazar p. 1]. But eventually the Mexica adopted the culture of their neighbors including the calendar. Like that of all Mesoamerican religions then, the Aztec religion was “based on the machine-like repetition of enormously complex cyclic rituals. Naturally, the calendar that governed these rituals was very complicated.

Like the Mayans, the Aztecs had a 18 month (20 days [*tonalli*] each) calendar cycle with “five highly dangerous days” [*nemotemi*=nameless] added at the end of the year [Farb p. 169]. Like the Mayans they also had a 260 day ritual calendar with each day, week and month associated with a special god or goddess. It was used for planing rituals, divination and prophesy.

In the 260 day cycle the first week is one crocodile. The number one is considered a lucky number. The crocodile tonalli is also considered lucky. Those born in this period will be lucky. Men born in the fourth week, one flower, will be cheerful and artistic and women will be promiscuous. One reed, on the other hand is an unlucky week. There is danger of drowning and being struck by falling things. One grass is a very unlucky week. Those born in this week are prone to witchcraft, darkness, sinfulness and unhealthiness [Balthazar p. 20-28]