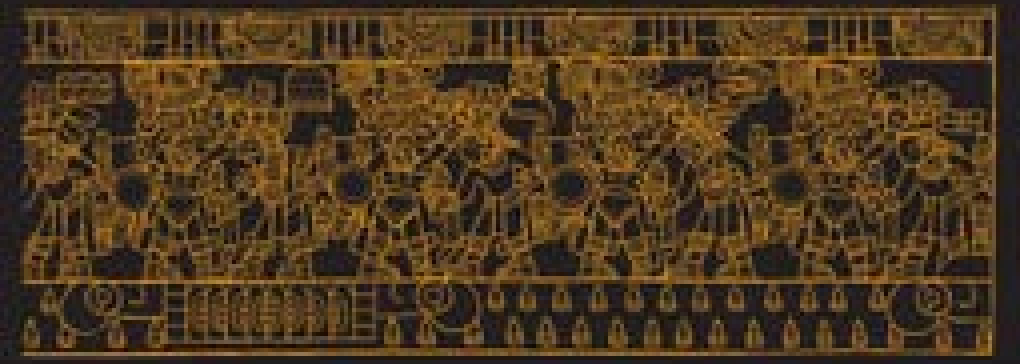
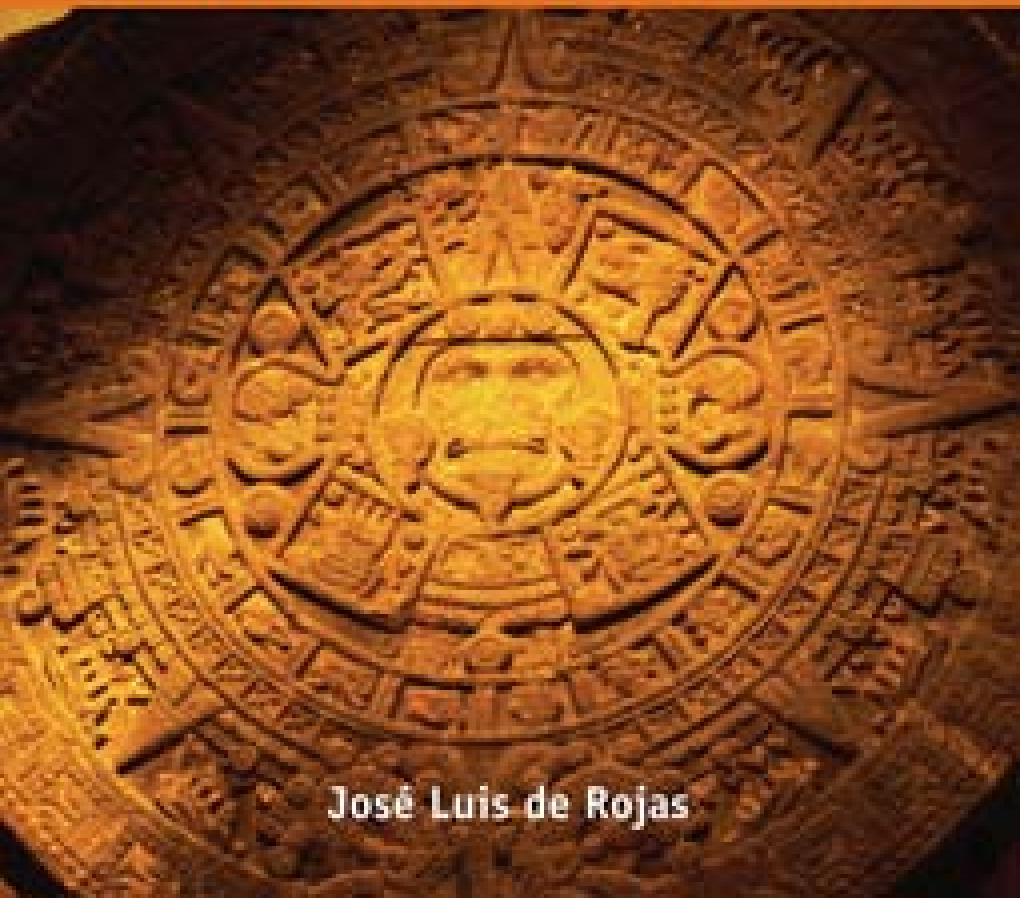
TENOCHTITLAN



CAPITAL OF THE AZTEC EMPIRE



José Luis de Rojas

Tenochtitlan

Ancient Cities of the New World

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Capital of the Aztec Empire

JOSÉ LUIS DE ROJAS

Foreword by Michael E. Smith, Marilyn A. Masson, and John W. Janusek

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Foreword

The Aztec imperial capital Tenochtitlan was one of the great cities of the ancient world. It was the largest city in the New World prior to the coming of European invaders in the sixteenth century, and—as capital of an extensive empire—one of the most powerful cities. Tenochtitlan also has the privilege of being the most extensively described of the ancient cities of the New World. Conquerors like Cortés and Díaz del Castillo wrote vivid descriptions of the bustling metropolis. Then, as Tenochtitlan was transformed into Mexico City after its conquest, many other writers recorded information about the city in ancient times. In recent decades, one of the largest excavation programs in Mexican history has uncovered the central temple of Tenochtitlan and its surrounding area, adding much new archaeological data.

Given the significance of the city and its rich historical and archaeological documentation, it is surprising that Tenochtitlan has received so little coverage in English-language sources. Happily, the present volume rectifies the situation. José Luis de Rojas, an ethnohistorian at the Universidad Complutense de Madrid in Spain, is one of world's leading scholars of the Aztec capital. In this book he uses his extensive knowledge of historical sources to bring the city and its residents to life. We are shown the people of Tenochtitlan in countless fascinating settings, from elaborate public pageants where images of gods are carried through the streets to the houses that were settings for daily life. Farmers, merchants, priests, and kings find their stories in these pages. Tenochtitlan had the problems and logistical requirements of a major premodern urban center. Where did the food come from? How did a city on an island in a salty lake get its drinking water? Dr. Rojas answers these and numerous other questions in authoritative and vivid prose.

This book is the second in the series Ancient Cities of the New World. Books in this series provide accessible portrayals of urban patterns in places where publication has not kept up with fieldwork and archival research. While the study of any past urban center can claim to be about ancient cities or urbanism, this book series features studies

that employ specific theories, models, and approaches drawn from the scholarly literature on cities and urbanism. Volumes in this series will complement introductory textbooks as in-depth, theoretically driven case studies of urbanism in pre-Columbian Mesoamerica and South America.

Michael E. Smith, Marilyn A. Masson, and John W. Janusek
Series Editors

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Mesoamerica

A Constellation of Cities

One of the most frequently cited passages about the conquest of Mexico is chronicler Bernal Díaz del Castillo's description of the awe the conquerors felt when they first saw the Valley of Mexico:

> Gazing on such wonderful sights, we did not know what to say, or whether what appeared before us was real, for on one side, on the land, there were great cities, and in the lake ever so many more. (Díaz del Castillo 1956, 192)

During the colonial period of Mexico's history and after, Mexico City expanded to absorb all of the "great cities" Bernal Díaz saw. The study of the antiquity of that urban tradition is the work of archaeologists. Mesoamerica is a land of cities, some of which are very large. This characteristic is extremely important for the study of the region's social, political, and economic history. Some of the city-states of Mesoamerica were large, some were medium-sized, and others were small (see Smith 2008). Among the largest cities, some have been well known for quite some time, such as Teotihuacan. Others, such as Cantona (Puebla), are just now gaining notoriety outside academic circles. Still others, such as Tula, the capital of the Toltec empire, are the subject of ongoing debates.

However, one stands above all others for its size and scope: Mexico-Tenochtitlan. Tenochtitlan is unique among the pre-Hispanic Mesoamerican cities because a large corpus of documents have survived that describe it, which makes it possible to know and deeply understand the size, function, and meaning of the city. This is a good thing for our knowledge of Tenochtitlan itself, but it is also useful for other places.

The more we know about Tenochtitlan, the more accurately we will be able to interpret other archaeological remains in the region. Thus, when we study Tenochtitlan, we are not just studying the capital; we are also studying urbanism, politics, economics, religion, and so forth in Mesoamerica, deep in time.

Much information is available that allows us to study the expansion, organization, and religious life of Tenochtitlan; the size of the population and the various activities people engaged in to support themselves; and the construction and demise of an empire. Tenochtitlan was as great as any city in the world of its time. And it was Mesoamerican in culture, which means that it was linked to many other cities and shared many traits with them.

When the Aztecs came to the Valley of Mexico, they found an already developed society. They succeeded in becoming part of that society and then reaching the highest position in its hierarchy. This success story is linked to the founding and development of the great city of Tenochtitlan, and this book deals mainly with the history of how that happened.

The Sources of Our Knowledge

One of the main reasons we lack vital information about Tenochtitlan in pre-Hispanic times is that the Spaniards converted it into a colonial capital. The city grew considerably after the Spaniards arrived, first as a colonial center, then as an independent capital, and then during the second half of the twentieth century. This explosive development has occurred on top of the ancient remains, making both large- and small-scale archaeological excavations difficult. Even when such studies are possible, their progress is often hampered by conflicts of interest. Colonial buildings are historic landmarks that cannot be destroyed in order to unearth the remains beneath them. Occasionally some remains can be recovered, as occurred when the metro train system was constructed, and in some cases what is found can be preserved. But only rarely has it been possible to undertake a large-scale excavation that offers us a glimpse of ancient Tenochtitlan. Mexico City's pre-Hispanic monuments are few, and each one is thus extremely important. Before 1978 the list of important but unexcavated remains included the Tenayuca pyramid, the ruins at Santa Cecilia Acatitlan, Cerro de la Estrella

(Hill of the Star), the temple at the Pino Suárez metro station, and the Templo Mayor of Tlatelolco, which for many years was the most spectacular of the monuments. Only the Pino Suárez altar is located within the limits of the pre-Hispanic city of Tenochtitlan.

Many exceptional circumstances had to occur for the situation to change. In fact, a presidential decision was necessary to overcome all of the obstacles to new archeological research. It wasn't until 1978 that Mexico-Tenochtitlan's Great Temple (Templo Mayor), located between the National Palace and the Metropolitan Cathedral near the Zócalo (Main Square), could finally be excavated. The discovery of a circular monolith representing the deity Coyolxauhqui was the catalyst for the research. Fittingly, the stone now occupies an important place in the museum built at the Templo Mayor.

Investigations continue, and many mysteries have yet to be solved. However, the excavation at the Templo Mayor has provided the largest amount of material to date about the Mexica, as well as some surprises. Related to this project are the excavations carried out during the 1990s to define the foundation of the temple (Matos, Hinojosa, and Barrera 1998).

If hardly any remains have been preserved, how can we know about Tenochtitlan's appearance and structure? Three routes remain open to investigators, each of which has advantages and drawbacks.

Colonial-Era Documents

The first source of information is colonial-era documents, mainly from the early years when vestiges of the past still existed. These vestiges were typically located outside the ceremonial enclosure. In addition, following orders from Cortés, the colonial city was built using the existing buildings, streets, canals, plazas, and markets of Tenochtitlan. The organization was basically the same as that of pre-Hispanic times, and as a result we have a considerable amount of precise information about the operation of the city from Spanish chroniclers such as Cervantes de Salazar (1985). This is both a blessing and a curse: some things remained the same while others changed considerably, and it is necessary to determine which is which. Researchers who argue that the changes were drastic and almost immediate after the Spanish conquest will find this information to be of little use. But for those of us who maintain that most things changed quite slowly, these sources are quite useful.

These documents include blueprints of houses that have been analyzed by Calnek (1973, 1974) and Alcántara (2004) as well as descriptions of life in the city.

Ancient Descriptions of Tenochtitlan

The second source of information is accounts of the pre-Hispanic world written after the conquest. A number of writers offer descriptions of the city and its buildings and operation. For example, the Franciscan friar Bernardino de Sahagún describes the seventy-eight buildings around the Templo Mayor (1577; [1577] 1951, Appendix II). The Dominican friar Diego Durán describes the temples in his work on religion (Durán 1570), and he describes the palaces, streets, and plazas in his *Historia de las Indias de Nueva España e islas de Tierra Firme* (Durán 1581). Here the problem is determining how knowledgeable these writers really were. Most had not actually witnessed what they described. Their information came from what they saw after the conquest, from what older indigenous people had told them, or from what was written in historical texts—that is, when it didn't come from their imagination, as Durán suggests it did sometimes. Indeed, some, such as the Conquistador Anónimo (Anonymous Conqueror), had very vivid imaginations. Two exceptions were Hernán Cortés and Bernal Díaz del Castillo. However, Graulich has recently argued that Díaz del Castillo didn't witness the events he recounts at Tenochtitlan because he lived in the garrison at Villa Rica, Veracruz, the entire time he was in Mexico (Graulich 1996; see also Rojas 2004). Cortés is the only one who wrote while the events he described were actually taking place, when the final outcome of his campaign was still unknown. His description of the city—recorded while the campaign was still under way—is invaluable in this aspect. However, we should still corroborate the validity of his statements with archaeological data.

Many of the other chroniclers who wrote about Tenochtitlan did not see it right after the conquest. Some of them lived in Mexico several decades after that time, and some of them, like Fray Juan de Torquemada, repeated the words others had written. But sometimes these "amplifiers" did a very good job and their descriptions are very beautiful. So we prefer quoting their words to those of their more terse predecessors.

Maps and Illustrations

The third dataset consists of images. These include ancient maps, more or less imaginative images like those published in Cortés's *Cartas de relación de la Conquista de México* ([1519–1526] 1979; 2001) or the Uppsala Map (Toussaint, Gómez de Orozco, and Fernández [1938] 1990). In addition, we have works produced by painters and engravers. Again, we must consider whether the mapmakers were preserving what they saw, copying or interpreting texts; reusing images to illustrate books (which happened very frequently), or simply projecting their imaginations (Sebastián 1992).

While we are on the topic of imagination, we should also consider how researchers decide which materials to use and which geographically or temporally distinct groups to use in comparisons. Researchers use their vital knowledge and experience to fill in holes in information and tie together existing data in order to develop a plausible theory.

These are the reeds we have with which to weave our basket. They are rather few and far between. Some are more trustworthy than others, and which ones we select depends on many factors. However, with this data we can offer a glimpse of life in pre-Hispanic Tenochtitlan and the role it played during its time.

Clarification of the Terminology

The empire whose capital was Tenochtitlan has traditionally been referred to as the Aztec Empire. However, I prefer Barlow's term Culhua-Mexica Empire (1949). The word Aztec refers to the groups that left Aztlan, a place of origin whose location is still unknown. Different groups left from this place, including the Xochimilca, the Chalca, the Culhua, the Mexica, and so forth. The term Mexica refers to the followers of Huitzilopochtli, the god of war, sun, and human sacrifice. These are the people who settled in the Valley of Mexico and founded cities such as Tlatelolco and Tenochtitlan. In addition, the word Tenochca refers to the inhabitants of the city Tenochtitlan. As will be demonstrated in this book, Tenochtitlan was a cosmopolitan city that welcomed immigrants from many places. Thus, some Tenochca were not Mexica and not even Aztec, as occurs in modern cities.

It is not always easy to distinguish Tenochca from Mexica or Mexica from Aztec when referring to the city or the empire. But we must always try to do so. It's quite possible that our categories don't agree with the ones used in ancient times and that we may often focus on aspects that were not significant in those times.

Objectives of This Book

I will explain what we know about Tenochtitlan and suggest what we believe when there is no documentation on the topic. Most of the information comes from ancient chronicles and documents. Not many books or articles are specifically about Tenochtitlan (Rojas 1986; Matos Moctezuma 2006; Calnek 1972a, 1972b, 1974, 1976, 2003). The exception is the literature on the Templo Mayor excavations. Although the literature on this topic has grown rapidly in light of new archaeological work, it covers only a small portion of ancient Tenochtitlan. Though there are many useful general books on the Aztecs (Berdan 1982; Bray 1968; Carrasco and Sessions 1998, Clendinen 1991; Smith 2006; Soustelle 1970; and Vaillant 1962), most do not differentiate between rural and urban people in the Aztec world, and I will not quote them every time. This book is closely connected to another title published in this series, *Aztec City-State Capitals* (Smith 2008).

The first part of this book is dedicated to the founding and growth of Tenochtitlan and the Culhua-Mexica Empire. The second part deals with the physical features of the city and the urban network of supplies and distribution. The third part explains the public and private activities of the Tenochca, and the fourth part examines relations between Tenochtitlan and the Aztec Empire and offers a brief comment about the destiny of Tenochtitlan after the Spanish conquest.

The quotations from the ancient chronicles have been selected primarily from Spanish-language editions. With the help of Kristin Sullivan, Michael E. Smith, and Cynthia Carvajal, I have been able to select published English versions of most of the quotations. When this was not possible, the translation was done by Kristin Sullivan.

The Valley of Mexico: Nature and Culture

A popular Mexican song says that "Mexico [is] in a lagoon." This was the case before the lakes were drained and when the famous raised fields of Xochimilco to the south still existed.

The Valley of Mexico is more than 2,200 meters (7,200 feet) above sea level. It included five lakes surrounded by mountains: Xaltocan, Zumpango, Texcoco, Chalco, and Xochimilco (see Figure 1.1). With the help of a dike, Lake Texcoco was split in two in the fifteenth century: Lake Mexico to the west and Lake Texcoco to the east. Neither was very deep (only ca. 3 meters [10 feet] at the deepest point), and Lake Texcoco consisted of brackish water not suitable for human consumption. In fact, the division was in part an attempt "to desalinate" the water from Lake Mexico by isolating it from the salty water of Lake Texcoco. The basin was surrounded by mountains to the east, south, and west. The highest peaks are found to the east: the Popocatepetl (5,450 meters, or 17,880 feet) and Iztaccihuatl (5,290 meters, or 17,355 feet) volcanoes, which are nearly always covered with snow. The mountains formed an enclosed area where water accumulated in the center. The basin was fed by some perennial rivers, including Tlalnepantla, Azcapotzalco, Guadalupe, and Teotihuacan. Seasonal rivers and rain, which is more abundant in the south (1,000 millimeters, or 39.37 inches per year) and less so in the north (450 millimeters, or 17.72 inches per year), also played a part.

Several volcanic eruptions affected the valley and helped determine its appearance. The Xitle volcano stands out because at the beginning of our era its eruption buried the city of Cuicuilco to the south of the valley, near the present location of University City (UNAM). Volcanic eruptions weren't the only danger presented by nature; people also faced the problem of recurring floods. In fact, the maintenance of the Huehuetoca canal located in the north of the valley was an issue that worried the viceroy of New Spain for decades; the canal generated more expenses than profits.

Of the 8,000 square kilometers (or ca. 4,971 square miles) that make up the valley, the lakes accounted for only about 1,000 square kilometers (or ca. 621 square miles). However, their influence on life was considerably greater than the percentage of surface area they occupied.

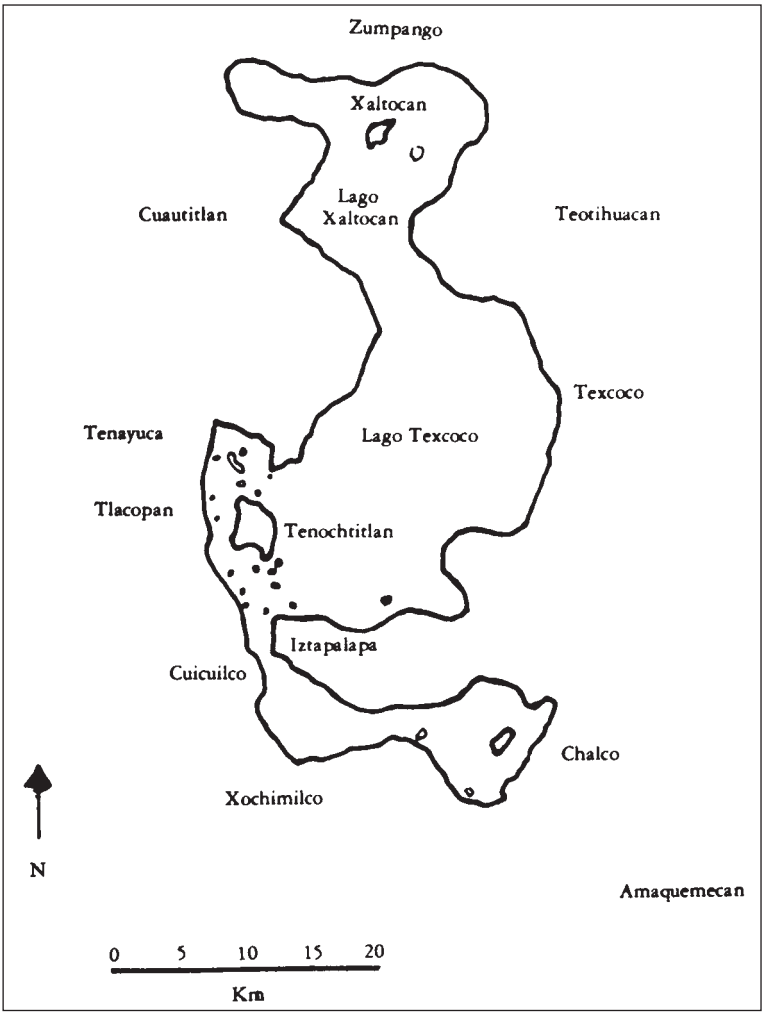

Fig. 1.1. The Basin of Mexico. After Sanders, Parsons, and Santley (1979, Map 2). Drawing by the author. Formerly published in Rojas (1986, 25).

Because of the variations in altitude, the flora of the region were diverse. Coniferous forests (pine, Mexican weeping pine, ponderosa pine) grew on the highest slopes. Evergreens and oaks, so useful in building the city, predominated at lower altitudes. At still lower altitudes, the plains were planted with crops. Willow, Moctezuma cypress, and ash grew along the edges of rivers and lakes. All of this was complemented

by dense aquatic vegetation that included rushes, grass, reeds, and water lilies. In the drier north, agave and mesquite proliferated.

The fauna also varied by habitat. In the forests there were deer, coyotes, spotted cats (ocelots), and rabbits that were targeted by hunters. However, what stand out the most are the lacustrine fauna: fish, frogs, snakes, larvae, mosquitoes, and a great variety of aquatic birds, including ducks and herons. All were important elements of the diet of the valley's inhabitants. Among the resources the lakes provided was the important nutrient-rich algae that grew in Lake Texcoco. It was called *tecuitlatl* in Nahuatl, and today we know it as spirulina. A small amount of this food consumed daily provided all of the essential amino acids for human life, compensating for any deficiencies in diet (Santley and Rose 1979, 193–96).

Among the plants used as food the most important were corn, beans, pumpkins, different varieties of chili peppers, tomatoes, chía, green amaranth, and fruits such as cherries, avocados, Mexican hawthorns, and sapodilla. Different areas were set aside for cultivation as the need arose. In addition to dry land and irrigated land on the plains, terraces were also constructed for growing corn on slopes that were up to 4,000 meters above sea level (13,123 feet). However, cultivation using *chinampas* (raised fields) was one of the main agricultural practices (Armillas 1987). These fields have often been called "floating gardens," although they were actually anchored to the ground. They were essentially land recovered from the lakes by piling various layers of mud in the shallow lake beds and securing the new land to trees, mostly Moctezuma cypress. The result was high productivity coupled with the possibility of obtaining several harvests of different products every year. Irrigation was facilitated by canals between the *chinampas*. The recovery of mud from the lake bed simultaneously fulfilled two functions: fertilizing the land and cleaning the canals. Enhanced productivity was obtained by sowing seeds early; only the plants that germinated were transplanted to the *chinampas*. Productivity was also enhanced by sowing two crops together in the same bed, such as corn and beans, which not only maximized the amount of land available but increased the yield from both products (Ramos, Hernández Xolocotzi, and Kohashi 1985). These practices also meant that the amount of available land was effectively multiplied. This ability to maximize agricultural

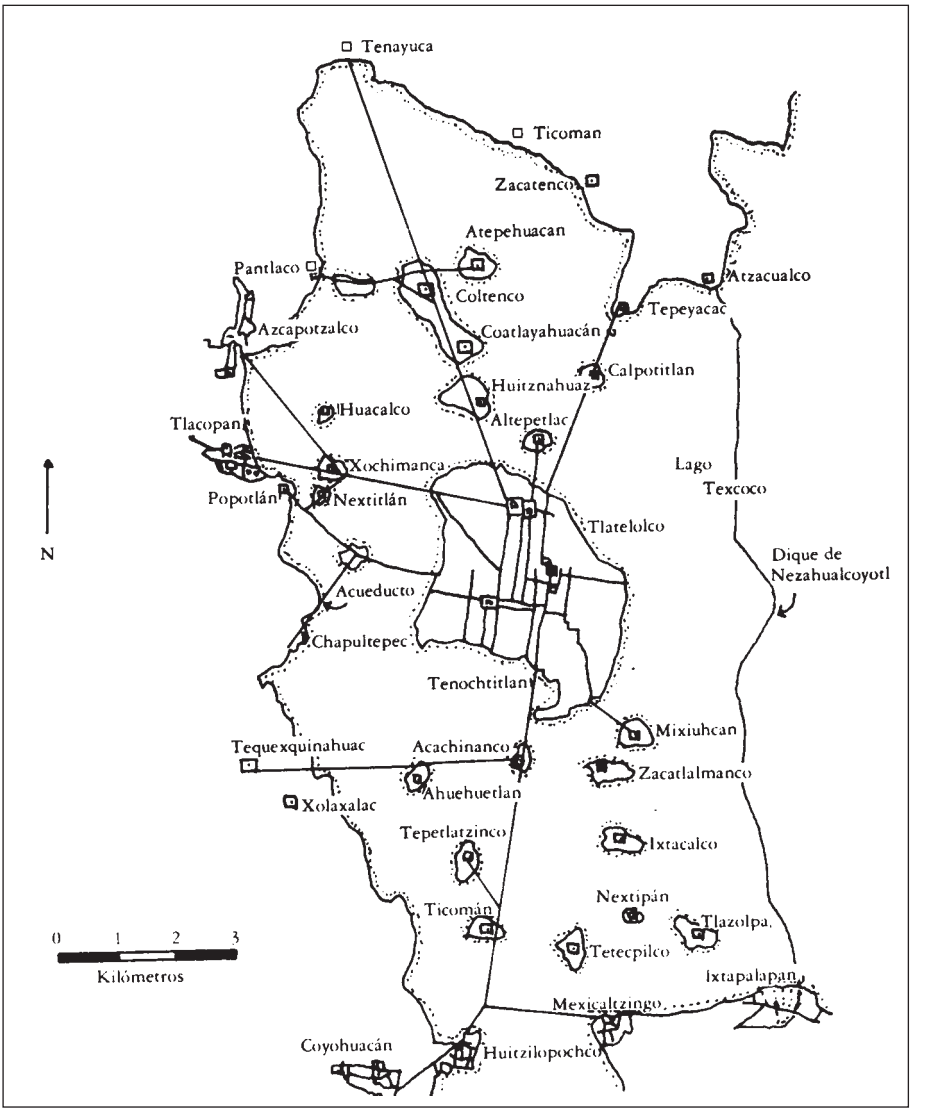

Fig. 1.2. The Tenochtitlan causeways. After Sanders, Parsons, and Santley (1979, Map 19). Drawing by the author. From Rojas (1986, 38).

land was one factor that enabled the great concentration of population in the Valley of Mexico.

Cultural Antecedents

The founding and settlement of cities in the Valley of Mexico dates to antiquity. The resource-rich lake edges were occupied in the Formative period, especially at centers such as Cuicuilco and Copilco. The Classic period was dominated by the influence of Teotihuacan, located in a nearby valley. After Teotihuacan fell, the Toltecs rose to prominence, although the exact location of the Toltec capital is not clear. During the last sixty years it has been identified as the archaeological site of Tula de Allende in Hidalgo state, some 100 kilometers (62.14 miles) north of Mexico. Recently, however, opposing viewpoints have been presented by investigators such as Stuart (2002, 406) and myself (see Rojas 2005), who postulate that Teotihuacan is a strong candidate for the Toltec capital. Smith and Montiel (2001, 268–69; see also Smith 2007, 598) state that Tula does not seem to have been the capital of an empire but was a very important town with great influence in Mesoamerica. What is certain is that the greatest Toltec influence that we know of is located in the Valley of Mexico, quite far from the supposed capital. The occupation of the region was not interrupted as much after the fall of Tula and during the Classic period as it was in the Early Postclassic. This period is when we begin to see places that would later play an important role in the history of Tenochtitlan and are sometimes called "Epigonal Toltecs," or heirs of the Toltecs. These include Azcapotzalco, Colhuacan, Coyoacan, Iztapalapa, Texcoco, Huitzilopochco, and Tenayuca. Many of them are today districts of Mexico City (see Figure 1.2; Smith 2008). In their time, each played a part in the history of the Mexica. They are towns on the edge of the lake in which Tenochtitlan was founded, and their legitimization can indeed be traced to the Toltecs.

Sanders, Parsons, and Santley (1979) describe in detail the evolution of the occupation of the valley, which they illustrate with several maps. The edges of the lakes were occupied by cities of different sizes. Some of them grew into small empires like that of the Tepanecs of Azcapotzalco. Others, like Texcoco and Colhuacan, formed important dominions whose past was linked to mythical settlers. The lakes served an important role in canoe transportation in addition to providing different

resources. Over time, they were transected by roads that converged on the central island where Tlatelolco and Tenochtitlan flourished. Both Aztec cities shared an ancestral home for decades, in a particular type of coexistence that maddens the investigators who cannot avoid the problem of understanding this relation.

The growth of the two Aztec cities brought modifications to the lake system. This was particularly so with the rise of Tenochtitlan, which became a great center of consumption and the place to which all roads led. The increase in the surface area of the *chinampas* was tied to the increase in the nutritional demands of the new capital. The need to control the waters inspired the construction of dike-roadways that allowed travelers to walk along roads while also permitting canoe travel on the water. These were covered with planks for pedestrians, and the ability to remove them converted the communication system into a defensive one. Nezahualcoyotl's dike to the east of Tenochtitlan also separated the waters of Lake Mexico from those of Lake Texcoco, although some authors question the existence of this wall (Armillas 1987). For those who believe it existed, it appears to have been the main reason for the separation of Lake Mexico from that of Texcoco. These waters were filled with canoes that continually transported goods between the city and the mainland. We assume that, as in colonial times, there would have been some way to regulate canoe traffic so as to avoid chaos on the lakes. Palerm (1973) has studied this traffic control system.

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The Mexicas' Search for a Home

One of the great successes of the Mexica has been the importance that we, as investigators, have given the interpretation of the past they bequeathed. When they came into power, they rewrote history, and theirs is generally the version we have followed. An oft-repeated passage tells of Tlacaelel, who was second in command after the victorious Itzcoatl, burning the codices after the Mexicas defeated Azcapotzalco "because many lies were told in them." The Mexica then rewrote history so that they were the chosen people who rose from obscurity, wandered until they reached their promised land, and fulfilled their fate of dominating the world. This idea is present in most Aztec histories. Belgian investigator Michel Graulich (personal communication) has extended this idea; he postulates that each *tlahtoani* (ruler) reinterpreted history so that it logically led to his own leadership, an argument I find convincing. This practice can also be connected to the behavior of many indigenous lords in New Spain who fought to justify their position in the social structure. And perhaps it may be linked to the ancient Mesoamerican habit of expanding temples by building over existing ones. This is good for archaeologists now, and it was good for ancient rulers because after the new construction, their people saw only their own exploits. The Mexica implemented this strategy at the Templo Mayor.

The official version of Mexica history begins with the Mexicas' migration from a mythical place and their arrival many years later in the already-occupied valley. Our knowledge of what happened relies on the stories the Mexica themselves told. A detailed account of this period may be found in Davies (1973a, 1973b).

The Mexicas' Version of History

The word Aztec means "inhabitant of Aztlan." Aztlan is an island located in the middle of a lake in a place that is still unknown. It is the origin place for diverse groups who emerged before the Mexica (see Figure 2.1). Nearly all of them settled in the Valley of Mexico. Thus, the arrival of our protagonists in the same area was a sort of reunion with their former neighbors. This is important to Mexica mythology because it demonstrates both the fulfillment of the destiny of Huitzilopochtli's followers and the importance of the Mexica in events. In this version of history, the focus is not on the fact that they were the last to leave Aztlan. Rather, what the Mexica emphasize is that they sent the other groups ahead of them so that when they arrived in the Valley of Mexico they simply assumed their rightful place.

One of the more famous accounts of the migration appears in the Boturini Codex, which is often referred to as the Tira de la Peregrinación (The Strip Showing the Travels). This codex narrates the exodus of the preceding groups, followed by exodus of the Mexica. The Mexica left with four priests carrying the sacred bundle portraying Huitzilopochtli, their patron god. They wandered through various areas, staying different lengths of time in each, sometimes as long as twenty years. When they stopped, they built temples and planted maize and beans. The migration began in the year 1 Flint (A.D. 1168), according to the most accepted chronology.

Various divisive episodes occurred during the migration. The first incident happened at the very beginning, when a tree under which the Mexica sought shelter broke in two. Huitzilopochtli told them that the group must also be divided in two and that only the most virtuous would continue with him. The second incident is narrated by Friar Diego Durán (1581, chap. 3). He explains that the reason for the antagonism between the Mexica and the principal contemporary empire, the Purépecha (or Tarascans) of Michoacán, was that they came from the same ancestors. According to the story, as the Mexica stood near Lake Patzcuaro, Huitzilopochtli ordered some of them to bathe themselves. While they were bathing, he ordered those who remained on land to remove the clothes of the group that had entered the water. Those without clothes were thus shamed and became the Purépecha. Those who

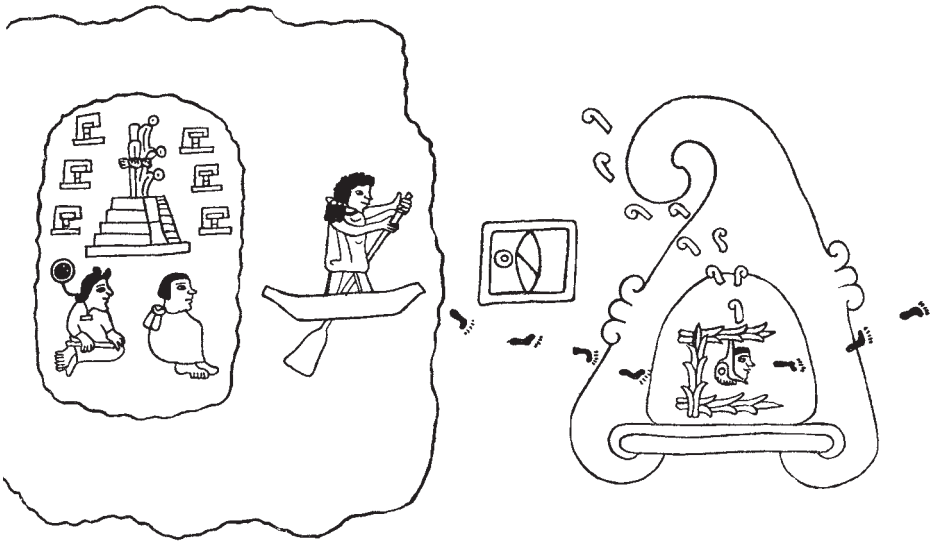

Fig. 2.1. The exit from Aztlan in the Codex Boturini. Drawing by the author.

left with Huitzilopochtli became the Mexica, who were the enemies of the Tarascans after that time.

As it turns out, the origin of the Malinalca would be more important. Huitzilopochtli had a very beautiful sister named Malinalxochitl. However, she had become a sorceress and had caused considerable harm to the group. The priests asked Huitzilopochtli for advice, and he ordered them to leave her and her followers in the night. So while Malinalxochitl and her followers slept, the Mexica left for Tula, stopping first at Coatepec. When Malinalxochitl and the others awoke, they could not figure out where the others had gone and decided to found the city of Malinalco. Even today there is an interesting temple carved into the rock at this location. Malinalxochitl had a son named Copil who played a decisive role in the foundation of Tenochtitlan, as we will see later.

Coatepec is also an important place because it is the setting for one of the fundamental Mexica myths: the birth of Huitzilopochtli. Friar Bernardino de Sahagún tells us that Coatlicue, the earth goddess, was sweeping the temple when she found a ball of feathers. She held it close to her womb, and miraculously she became pregnant. This angered the children she already had: a girl named Coyolxauhqui and innumerable

sons, known as the Centzon Huitznahua. They wanted to kill Coatlicue, and she fled to Mt. Coatepec with her sons in pursuit. During this time, Huitzilopochtli spoke to his mother while in her womb and calmed her, and one of her innumerable sons told him where their pursuers were. When the innumerable sons reached the top of the mountain and prepared to exact their revenge, Huitzilopochtli was born fully armed with the *xiuhcoatl*, or fire serpent, and killed them all. Coyolxauhqui was completely dismembered when she rolled down the mountain. The different characters represent the earth (Coatlicue), the sun (Huitzilopochtli), the moon (Coyolxauhqui), and the stars (Centzon Huitznahua). Thus, the myth dramatizes the triumph of the sun over the moon and stars when it rises each day. All of these elements, as we shall see, are represented at the Templo Mayor of Tenochtitlan.

The next important phase of the migration occurred at Chapultepec, along the western edge of Lake Texcoco. The Mexica were not welcome there, a situation that Friar Diego Durán (1581, chap. 4) blames on Copil's attempts to avenge his mother, Malinalxochitl. He conspired with the inhabitants of Azcapotzalco, Tlacopan, Coyoacan, Xochimilco, Culhuacan, and Chalco against the Mexica and then withdrew to the hill of Tezcotzinco on a large island in the lake. These allies attacked the Mexica, but the Mexica managed to escape and take refuge in Atlacuihuayan, known today as Tacubaya, another town on the western edge of the lake. Meanwhile, Huitzilopochtli had already alerted his priests, and an expedition that had been sent ahead before the siege took Copil by surprise and killed him. The priests removed his heart and their god ordered that a priest stand in the reeds and throw it with all his might. A prickly pear cactus would sprout from the heart, and in that place the Mexica would build their city. They would recognize the site because an eagle clutching a serpent would be perched on the prickly pear cactus. This image is the glyph for Tenochtitlan (see Figure 2.2).

But that was still a few years away. Looking for another place to stay, the Mexica asked Achitometl, the lord of Culhuacan, to allocate a place for them. He met with his council and conveyed the request. However, the request was not received favorably because the Mexica had not gained the respect of the inhabitants in the towns they had stayed in. Achitometl decided to offer the Mexica Tizaapan, a place that had been deserted because it was infested with poisonous snakes. The Mexica were at first unhappy when they arrived at the site, but

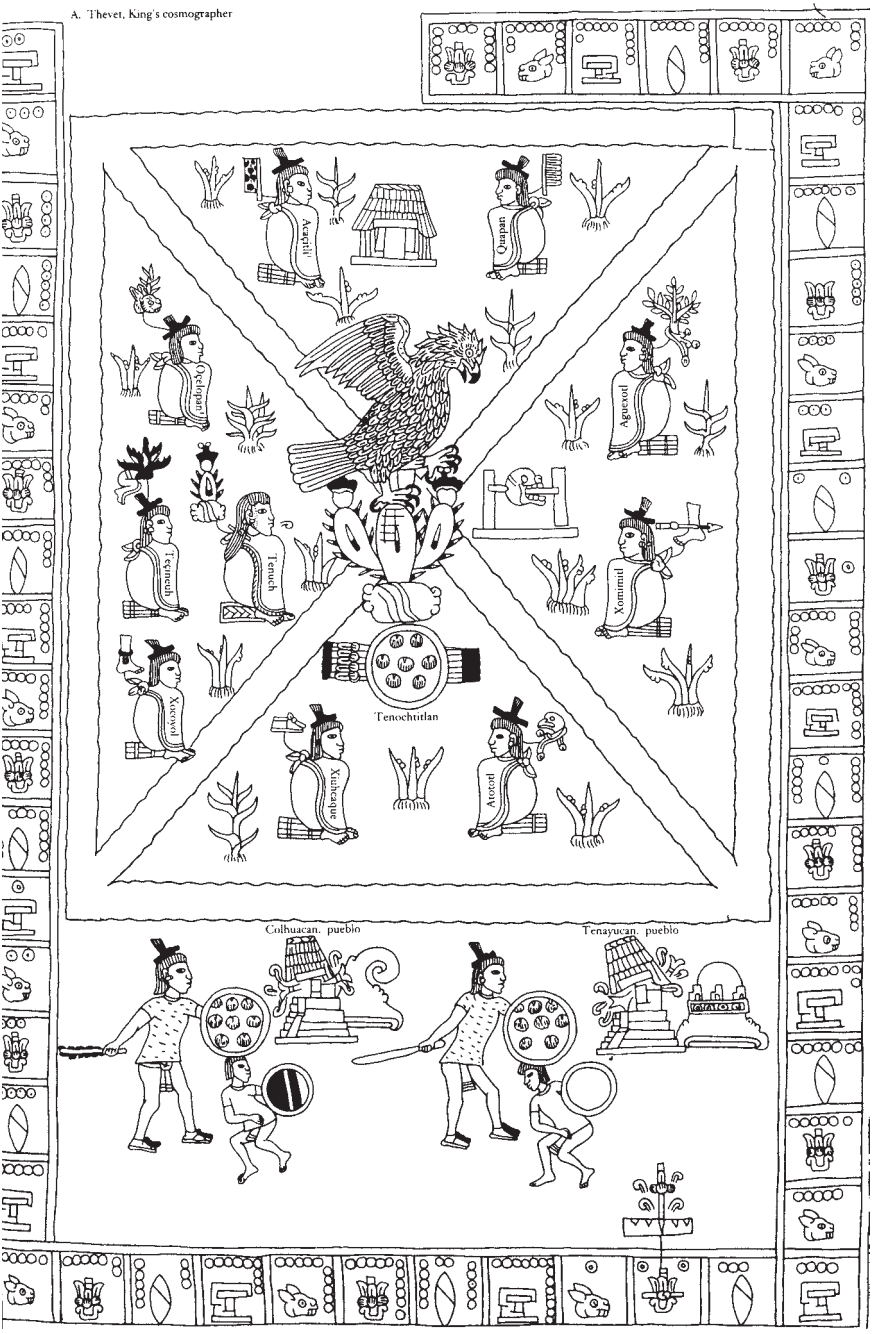

Fig. 2.2. The founding of Tenochtitlan in the Codex Mendoza, f.2r (Berdan and Anawalt 1992, 4:9). Courtesy of Frances F. Berdan.

they soon discovered the advantage: they ate the serpents. Those in Culhuacan awaited the demise of the Mexica, and after some time had passed, they went to see how they were. They found highly cultivated fields, well-built huts, and a temple dedicated to the Mexica god. Taking advantage of their confusion, the Mexica requested permission to enter the city of Culhuacan to do business and asked permission to marry people from that city. They were granted all they asked because of the fear they instilled in Achitometl and his people.

The Founding of Tenochtitlan

Another episode from this period provides us with a clear image of the qualities of the Mexica. Under the command of Culhuacan, they took part in a war against Xochimilco. To ensure that their accomplishments would be recognized later, they cut off an ear from each prisoner and saved it. Thus, when the prisoners were counted and their capturers were identified, they could demonstrate in a barbaric yet unmistakable way who they had captured (Berlin-Neubart and Barlow 1980, 41).

But the insatiable Huitzilopochtli was not yet finished. He ordered the Mexica to ask Achitometl for one of his daughters, who would become a Mexica lady and the wife of their god. Achitometl agreed and gave his daughter to the Mexica and was in turn invited to the marriage ceremony. He arrived accompanied by his chief advisors, bearing many gifts. He was invited to climb the temple where his daughter had already been married to their god. As he approached he discovered the truth: she had been sacrificed and skinned, and a priest was dressed in her skin. He flew into a rage and he and his people attacked the Mexica, who once again were forced to flee. They headed toward the lake and came ashore at Iztapalapa. There, Huitzilopochtli consoled them and ordered his priests to look for the prickly pear cactus and build a temple in his honor. They followed the order and found the place on an island in the middle of the lake where Azcapotzalco, Texcoco, and Culhuacan converged. And thus Tenochtitlan was founded as "the place of the wild prickly pear cactus" in the year 2 House (A.D. 1325), according to the accepted accounts.

As I have already mentioned, there is a discrepancy between what the Mexica sources tell us and what other sources, including those based on archaeology, argue. The place was not deserted but rather was a subject town of Azcapotzalco known as Tlatelolco (Barlow 1989, 5; González

Rul 1998; Obregón 1995, 273; Santamarina 2006, 286–88). Researchers have given less attention to Tlatelolco, the "twin in the shade," than to Tenochtitlan (Bueno 2005), and indeed it was overshadowed (and ultimately conquered) by its neighbor.

Texcoco and Other Cities

In the early times of the Mexica there appeared other places and other lords that I have not mentioned in this brief summary. The primary role the Mexica play in their own histories has eclipsed the geopolitical reality, turning the true protagonists into little more than "extras" and the small group of Mexica nomads into the heroes of the story (see Rojas 1995). However, as we have seen, the Valley of Mexico had been populated for some time, and the existing cities played an important part throughout Mexica history.

After the fall of Tula, cities flourished throughout the valley. These cities included Azcapotzalco, Culhuacan, and Tenayuca, legacies of the Toltecs. People from the north, the Chichimecs, began to arrive. They were hunters and gatherers who underwent an acculturation process that allowed them to become true Mesoamericans. One of the most famous figures among them was Xolotl, whose history is told in the Codex Xolotl (Dibble 1980) and by chroniclers such as Ixtlilxochitl (1975–77). Xolotl arrived in A.D. 1224 (Bernal 1976, 110) and settled in Tenayuca, where there was a pyramid that had been expanded several times using the typical Mesoamerican technique of building new structures over a previous building. In each of its stages, the pyramid was topped with twin temples, characteristic of those built by the Aztecs. One of them was dedicated to Tlaloc and the other to Tezcatlipoca, and the pyramid was surrounded by serpents (see Figure 2.3). Xolotl was succeeded by his son, Nopaltzin, who died in A.D. 1315. He in turn was succeeded by his son Quinatzin, founder of Texcoco and its Chichimec dynasty (León-Portilla 2005, 77). A member of that dynasty, Nezahualcoyotl, would later play an important role in the fifteenth century; he was the Mexicas' main ally against Azcapotzalco and one of the founders of the Triple Alliance.

Culhuacan had been occupied by the Toltecs, who arrived in the thirteenth and fourteenth centuries. The Culhua dynasty laid claim to the legitimization of the Toltec empire, and the Mexica went to Culhuacan to request lordship, as we will see in the next chapter. Thus,

Fig. 2.3. The pyramid of Tenayuca. Photo by the author.

the Culhua-Mexica inherited the right to rule the legendary imperial capital.

Another important place was Coatlichan, located along the edge of the lake. The lord of this place was Acolmiztli. The city lost its hegemony as a result of attacks by Huexotla and Texcoco. Life in the valley was far from calm. The predominant power in the fourteenth century was the Tepanecs of Azcapotzalco; two lords of this group, Acolnahuacatl (1304–1363) and Tezozomoc (1363–1426), governed for more than a century. These two rulers built an empire that dominated all of the Valley of Mexico and some places outside the valley. They became the dynastic reference for everyone else in the complex system of marriage alliances that predominated in Mesoamerica. They can also serve as a reference for us, since the Mexica later followed their model of domination (Santamarina 2006). Not surprisingly, the Mexica, having just settled in their newly established city, found themselves under Azcapotzalco's power. The Mexica helped the Tepanecs fight their frequent wars and tried to marry into the Azcapotzalco elite. Since resources on the island, especially building materials, were scarce, the Mexicas had to look for ways to support themselves, which they did by trading

lacustrine products and serving as mercenaries. The latter played an important role in their future.

The first steps for the inhabitants of newly founded Tenochtitlan involved improving their standing within the Tepanec empire—that is, until they eventually defied the Tepanecs, having gained enough power to do so. The Mexica's early times in the Valley of Mexico were characterized by a real struggle to become Mesoamericans and then to improve their place in the Mesoamerican world. Regarding the form and extent of the city at that time, we only know that they built a temple to Huitzilopochtli made of perishable materials.

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The Rise and Fall of the Mexica Capital

The early years were difficult. The houses were mere huts, and the temple for Huitzilopochtli was made of perishable materials. The Mexica had to accumulate resources, and lake-based activities were one means of doing so. At the same time, they continued using *chinampas* to reclaim land from the water and make expansion possible. We do not know the size of the population at this point. Some have argued for 10,000 people at the time of the exodus from Aztlan and about 18,000 when Tenochtitlan was founded (León-Portilla 1980, 251–52). Both numbers seem very high for a nomadic group and pose serious logistical problems in terms of the migration and later settlements. The sources all mention that the people were organized in *calpulli*, a structure identified with a conical clan, although the term evolved over time to acquire a different meaning. For Tenochtitlan, the most important structural unit was the "neighborhood" (Spanish *barrio*), in which people lived in the same place without necessarily being related or practicing the same occupation. There were seven *calpulli* at the start of the migration and fifteen when Tenochtitlan was founded. We do not know how the new groups were formed, although the most likely scenario is that groups began to split off as they grew. Each *calpulli* had a leader. Above him, at the head of the hierarchy, was a superior council composed of four priests who carried the god Huitzilopochtli. According to these accounts, a lord or supreme head of state did not exist among the Mexica. However, as we have seen, such leaders did exist in the cities that had already been established at the time the Mexica migrated. The head of state may be an element they acquired when arrived in the valley, or perhaps the status of the Mexica in the valley was not great enough for them to merit their own lord. If the latter were the case, obtaining a lord would be a sign of prosperity. Thus, their persistence in obtaining the best lord possible,

not just any lord, should not seem strange. To do this, they had to belong to prestigious lineages as descendants of the Toltecs or descendants of the lord of Azcapotzalco, the most important city of the time.

Tenochtitlan under the Control of Azcapotzalco

What we have managed to understand of the political organization of central Mexico in the Postclassic indicates that there was a pyramidal system of domination in which the lord of a particular city—in this case, Azcapotzalco—was in charge of the lords of other towns. These other lords were related to each other through intermarriage with the families of leaders from important cities—Culhuacan, Coatlichan, Iztapalapa, Huitzilopochco. Thus, a father-in-law, brother, son, or grandson of the supreme Mexica lord would govern subject places. The practice of polygamy allowed the establishment of a considerable network of similar relations both in the Valley of Mexico and outside it. In addition, each of these lords had a similar system with his subjects. The subjects might also, if they had the required status, reproduce the system on their lower level. Understanding this system is important for understanding why the Mexica made their request for a lord not to the lord of Azcapotzalco but to the lord of its dependent, Culhuacan. At this time, the status of the Mexica was very low despite their presentation of themselves as the "chosen ones."

The Mexica called their lord *tlahtoani* ("leader" or "ruler"), although it is possible they did not deserve this rank at this time. The election of the lord appears in various sources. These texts vary somewhat, particularly concerning the role of the woman Ilancueitl, who appears as the mother or wife of Acamapichtli, the chosen man. Acamapichtli, who was of the Culhua lineage, began to govern Tenochtitlan and married the daughters of the leaders of the *calpulli* to establish a Mexica aristocracy (see Rounds 1979). Thus, power relations within Mexica society changed, no longer moving upward from the lowest ranks to *calpulli* lord but instead descending from the supreme lord to the *calpulli* lords. The Mexica, who were now called Tenochca, now formed part of the prevailing system of domination. The new lord established his own network with his subjects. Significantly, the principal wives, who were destined to produce heirs,came not from the new lord's network but from the superior system, as did the new governor. This contradicts

the idea that governors and their subjects belonged to a single ethnic group, although it reinforces Armillas's (1987) idea that a great pan-Mesoamerican family of governors existed.

Acamapichtli

The dates, once again, vary from source to source, but we can place the establishment of the Mexica *tlahtoani* at around A.D. 1372. It is interesting that Acamapichtli appears twice in the Mendoza Codex. The first instance was in the year 1 Tecpatl with a glyph that can be read as "*cihuacoatl*," the position that would later be the "second in command" in the Mexica organization. Seven years later, in 8 Acatl, he appears as *tlahtoani*. The commentary in the codex states that the first appearance refers to the start of his reign, while the second indicates his rise to power. However, the glyphs seem to suggest the political mobility I have just mentioned (Figures 3.1, 3.2, and 3.3).

It is interesting to note that when Acamapichtli arrived at Tenochtitlan, the new leader of Tlatelolco was Cuacuapitzahuac, one of the sons of the powerful Tezozomoc of Azcapotzalco. This placed the city of Tlatelolco above Tenochtitlan in the hierarchy.

Times were hard for the Mexica during this period. Azcapotzalco's lord, Tezozomoc, enjoyed considerable power, and his tribute demands were considerable. But no matter how unfairly he taxed them, the Mexica always came through. According to Friar Diego Durán's account, Huitzilopochtli worked several miracles so the Mexica could fulfill all of their obligations, however difficult they might be. One of the most spectacular episodes occurred when they were asked to supply a raft filled with different types of vegetables, along with a duck and a heron, both sitting on their eggs. The tricky part was that the chicks had to be born when the raft was delivered. Thanks to Huitzilopochtli, the Tenochca met the obligation, and their renown grew even more. Regarding Tenochtitlan at this time, the sources tell us only that houses, roads, canals, and "other necessary things" were constructed (Durán 1581, chap. 6).

Also interesting in terms of understanding the Mesoamerican political system are the Mexicas' conquests during this period. Documents such as the Codex Mendoza (Berdan and Anawalt 1992) attribute various military feats of arms to Acamapichtli, including the conquest of

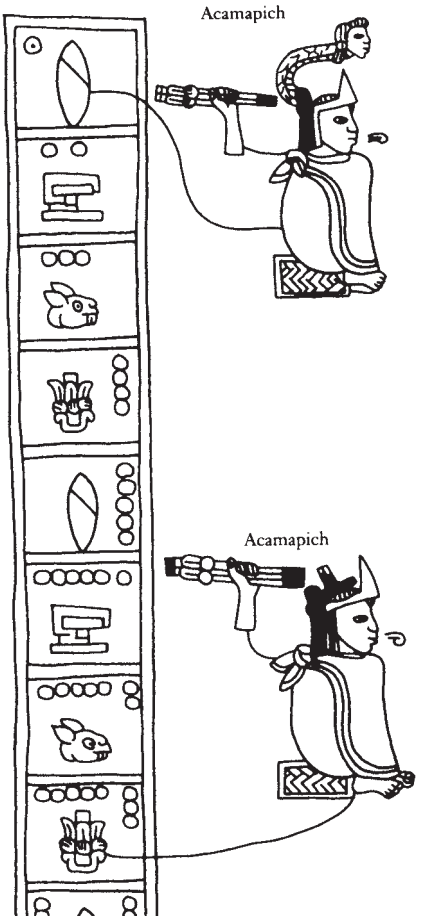

Fig. 3.1. Acamapichtli, Codex Mendoza, f. 2v (Berdan and Anawalt 1992, 4:10). Courtesy of Frances F. Berdan.

Cuauhnahuac, Mizquic, Cuitlahuac, and Xochimilco. However, we must keep in mind that these campaigns were carried out in the name of Azcapotzalco. In some cases, the Mexica were part of campaigns in which the army was composed of men from different cities. In some cases, the army of a city could act alone. In fact, conquering new territory for the ruling lord was one way the subject cities could ascend in the hierarchy. This produced benefits to the superior power, yet the military success of the subject city often aroused the suspicion of the ruling lord. Authors such as Durán say that the increase in tribute was brought about by the Mexicas' "arrogance."

Huitzilihuitl

Acamapichtli was succeeded by his son Huitzilihuitl in A.D. 1391. From the list of Huitzilihuitl's spouses we can see that the status of Tenochtitlan had increased. He had a wife from Tlacopan who, like the inhabitants of Azcapotzalco, was Tepanec, but of a lower order. When she died, the Tenochca asked none other than Tezozomoc, the lord of Azcapotzalco, head of the Tepaneca empire, for a granddaughter to be a consort of their lord, Huitzilihuitl. Their request was granted and Chimalpopoca, who would succeed his father, was born of the union. Miahuaxihuitl, daughter of the lord of Cuauhnahuac and mother of Motecuhzoma Ilhuicamina, stands out among the other spouses of Huitzilihuitl. Huitzilihuitl had four other sons and daughters with other women. One son was Tlacaelel, the powerful *cihuacoatl*. Matlalcihuatl, his daughter, was the wife of Ixtlilxochitl of Texcoco and the mother of Nezahualcoyotl, the great king of Texcoco. We will see the role each of these figures played later on.

Chimalpopoca

Relations with Azcapotzalco improved after the birth of Chimalpopoca. This positive trend continued after Chimalpopoca's rise to power due to the death of Huitzilihuitl around 1415 and because Tezozomoc felt great affection for Chimalpopoca. This enabled the new Tenochca ruler to obtain permission to construct an aqueduct from Chapultepec. However, a later request for the materials to construct it didn't sit well with some of the Tepanec factions, who didn't look favorably upon the steady ascent of the Tenochca. Tezozomoc died around A.D. 1426, and a serious dispute arose over who would succeed him. The dispute was resolved by one of his sons, Maxtla, who eliminated his rivals and took control of the throne. He then began to eliminate those who had supported his rivals. Some sources attribute the deaths of Tlatelolco's Chimalpopoca and Tlacateotl to Maxtla. Others say that Chimalpopoca committed suicide when faced with the impossibility of his fate. However, the third alternative is most interesting: Chimalpopoca paid with his life for his close alliance with the Tepanec dynasty of Azcapotzalco (Santamarina 1998).

Itzcoatl

The death of Chimalpopoca is very much related to the political situation. The death of his grandfather Tezozomoc sparked a period of uncertainty, struggle, alliances, and treason, as does the death of any powerful lord. The Tenochca had prospered enough to feel capable of defying Azcapotzalco's power, and in this period of turmoil, they easily found allies in the Tepanec city of Tlacopan and in the son of Ixtlilxochitl, the overthrown lord of Texcoco, whose name would become famous. That son was Nezahualcoyotl, a close relative of the Mexica rebels. The independence of the Mexica from Azcapotzalco had to be symbolized with such actions as selecting a non-Tepanec lord. The information we have indicates that there was no means of removing a *tlahtoani* from office, except through his death, and so Chimalpopoca was killed. Chimalpopoca's uncle and two of his brothers, Itzcoatl, Motecuhzoma I, and Tlacaelel, who were also Nezahualcoyotl's uncles, then occupied the main positions. The former two were *tlahtoani*, one after the other. Tlacaelel was the *cihauacoatl*, or second in command, who actually ruled, according to Diego Durán. He held the position for a considerable time, throughout the mandate of at least three *tlahtoque*, although some sources cite the unlikely number of five leaders. He also carried out incredible feats during the war for independence from Azcapotzalco. He was succeeded by a son and the position remained in his family. However, we know little of his successors and there is some speculation as to whether it was the position of *cihuacoatl* that was important or whether Tlacaelel was simply the only important *cihuacoatl*.

After Chimalpopoca died, the intriguers Itzcoatl, Motecuhzoma and Tlacaelel, with the help of Nezahualcoyotl and other allies, defied the power of Maxtla and defeated him, changing the balance of political power in the Valley of Mexico dramatically (Santamarina 2006). This realignment of power is an excellent example of the Mesoamerican political organization and helps us understand the development of the empire of the Triple Alliance.

Tlacaelel distinguished himself as a soldier and a diplomat during several trips between Tenochtitlan and Azcapotzalco. He was one of the main protagonists in calling "the truce between the lord and the *macehuales* [commoners]." Because the poor did not want to wage war

Fig. 3.2. The Mexica lords in the *Primeros Memoriales* of Sahagún (Sahagún, Sullivan, and Nicholson 1997, f. 32r). Drawing by the author.

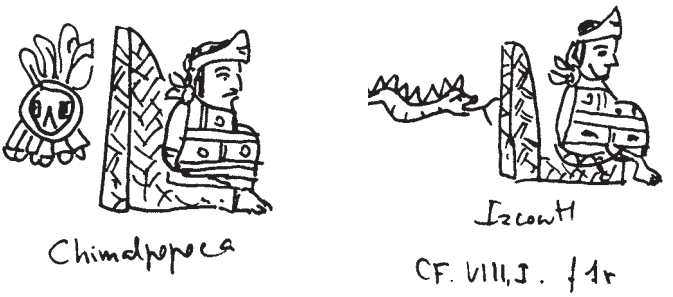

Fig. 3.3. The Mexica lords in the Florentine Codex, Book 8, chap. 1, f. 1r (Sahagún [1577] 1954). Drawing by the author.

against Azcapotzalco, the pact stated that the Mexica lords would become servants of their vassals if they were not victorious. If they prevailed, it would be the other way around, and the *macehuales* would serve the victors. Thus, the social stratification of the city was justified (Durán 1581, chap. 9).

The Empire Is Born

After the Mexicas defeated Azcapotzalco, the wars continued; the Mexicas had to convince some cities that they had not gained their freedom but had simply changed lords. At the head of the new empire was Itzcoatl, the lord of Tenochtitlan. His well-known nephews, Tlacaelel and Motecuhzoma, and their nephew Nezahualcoyotl, the lord of Texcoco, were also prominent rulers of the empire with Itzcoatl.

Thus, a new dynastic legitimacy was established, led by the governing Tenochca family. In the capital, Itzcoatl and Motecuhzoma decided that they would be succeeded by individuals who had descended from both of them. It is possible that this was not the original plan and that Motecuhzoma's long rule (1440–69) mandated this strategy. One of Itzcoatl's sons, Tezozomoc, married Huitzilxochtzin, one of Motecuhzoma's daughters, and they had three sons who would become Motecuhzoma's successors. I think that the man who should have followed Motecuhzoma was his cousin and son-in-law, Tezozomoc, but that Tezozomoc died before coming to power and this right was passed to his children. Thus, when Motecuhzoma died, his grandson Axayacatl succeeded him. Axayacatl was succeeded by his brothers, Tizoc and Ahuitzotl, all three of whom were grandsons of *tlahtoque* (lords) in both dynastic lines. The Tenochca wife became the principal wife of the lord of Tenochtitlan and the children of this couple held the highest position in every town until the arrival of the Spaniards. However, this privilege was not without problems, as we will see.

These dynastic arrangements placed the Tenochca in a preeminent position. They cemented this position by increasing their political and economic power. Itzcoatl committed himself to subjugating the towns in the Valley of Mexico, convincing them that they had not been freed of Tepanec control but rather had simply changed lords. This seems to have been the Mesoamerican way of conquest. Some cities were quickly incorporated into the empire, but others engaged in prolonged wars. For example, Chalco, to the south of the valley, resisted until almost 1460. Itzcoatl also carried out some conquests in the north of what is now the state of Guerrero and in Totomihuacan, Puebla (Kelly and Palerm 1952, 287–90).

The Mexica extracted tribute from the subjugated groups and distributed the conquered lands among the victors, and wealth began to

flow to Tenochtitlan. This was reflected in the appearance and population of the city, which attracted numerous immigrants and grew quickly. This rapid growth increased logistical problems within the city and prompted reforms.

Motecuhzoma Ilhuicamina

Motecuhzoma Ilhuicamina's government played a key role in creating the structure of the empire. The primary source documents tell us that he maintained peace for thirteen years (A.D. 1440–53), during which time he initiated social, economic, and political reforms. Among these were dress codes that determined the types of clothing and adornment people of different social classes could wear. The new code extended to homes as well:

> 8. Only the great noblemen and valiant warriors are given license to build a house with a second story; for disobeying this law a person receives the death penalty. No one is to put peaked or flat or round additions [towers? gables?] upon his house. This privilege has been granted by the gods only to the great. (Durán 1581, chap. 26 [1994, 209])

Other rulings affected the city's legal and education systems:

> 11. In the royal palace there are to be diverse rooms where different classes of people are to be received, and under pain of death no one is to enter that of the great lords or to mix with those men [unless of that class himself]. Each one is to go to the chambers of his peers. A tribunal is to be set up to resolve complaints, disputes, and possible damage caused.
>
> 12. An order of judges is to be established, beginning with the judges of the supreme council. After these would come regular court judges, municipal judges, district officials, constables, and councilmen, although none of them may give the death sentence without notifying the king. Only the sovereign can sentence someone to death or pardon him. (Even in this they wished to act like gods.)
>
> 13. All the *barrio*s will possess schools or monasteries for young men where they will learn religion and correct comportment. They are to do penance, lead hard lives, live with strict morality, practice for warfare, do physical work, fast, endure disciplinary

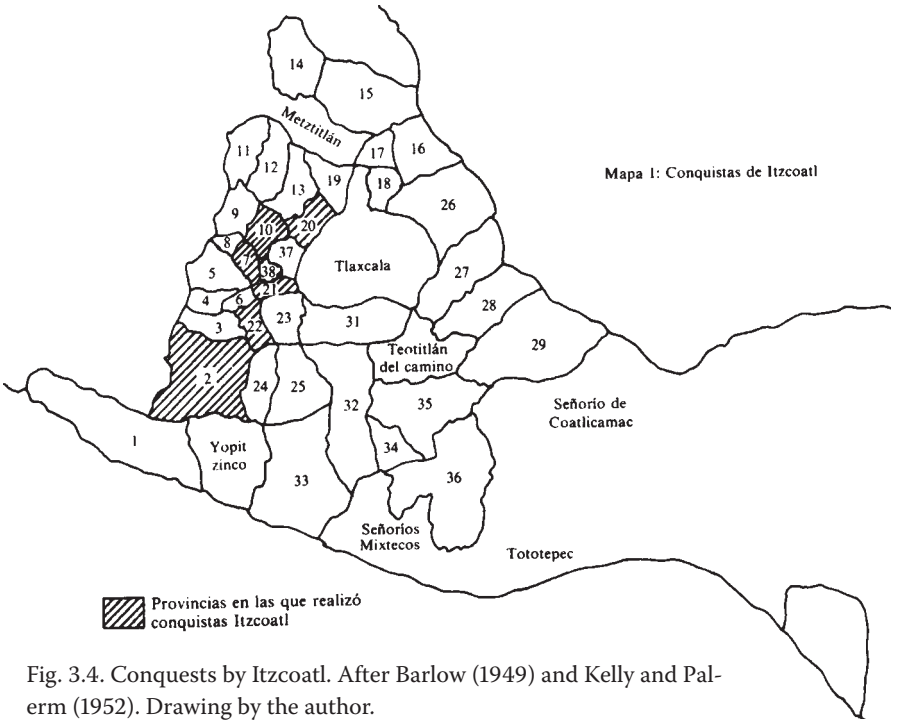

Fig. 3.4. Conquests by Itzcoatl. After Barlow (1949) and Kelly and Palerm (1952). Drawing by the author.

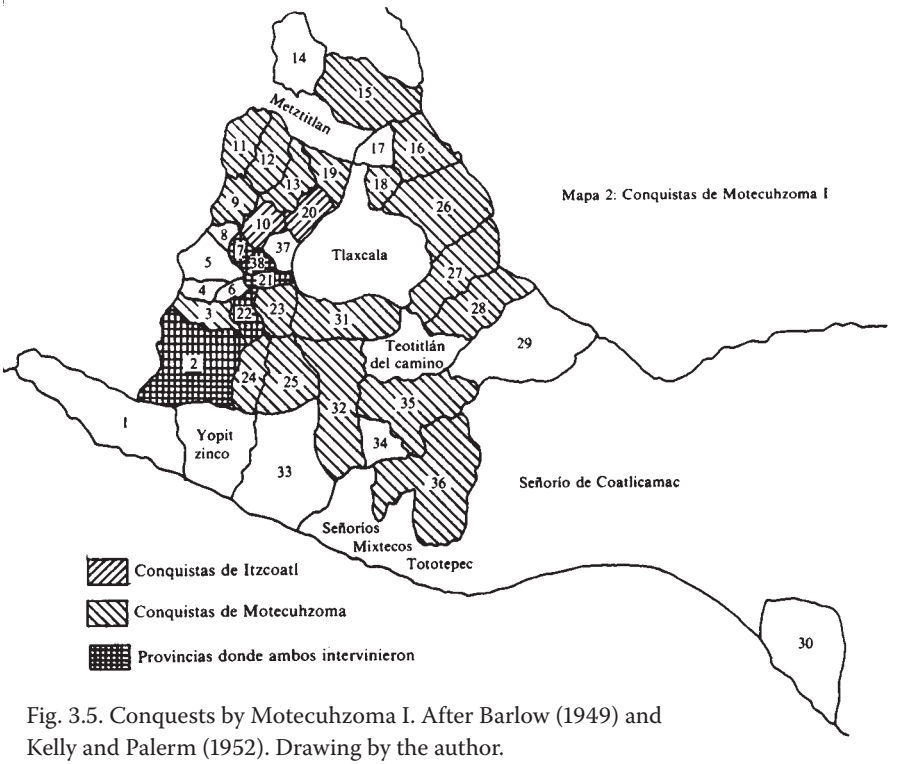

Fig. 3.5. Conquests by Motecuhzoma I. After Barlow (1949) and Kelly and Palerm (1952). Drawing by the author.

> measures, draw blood from different parts of the body, and keep watch at night. There are to be teachers and old men to correct them and chastise them and lead them in their exercises and take care that they are not idle, do not lose their time. All of these youth must observe chastity in the strictest way, under pain of death. (Durán 1581, chap. 26 [1994, 210])

The peace of Motecuhzoma's reign was disrupted by an episode of great consequence: in A.D. 1450 a drought struck the valley and many crops were lost. Hunger threatened the city. The drought lasted for three more years, and all of the reserves were depleted. The descriptions are dramatic: some parents sold their children for a handful of corn cobs. The loss of life was considerable, and many left the city. The city lost the majority of its population, and its operation certainly must have been affected. We have to assume that this situation would have affected the other cities of the valley that shared the same habitat. However, the primarily Tenochca sources do not discuss the consequences of the crisis for the rest of the Valley of Mexico. In order to avoid a repetition of these circumstances, Motecuhzoma decided to assure a steady supply of staple goods. The way to do this was to conquer the major grain-producing zones: the *chinampa* area near Chalco, which was located in the valley; the adjacent Toluca valley to the west, a great grain producer; and Totonacapan ("the place of our sustenance"), which was located on the coast of the Gulf of Mexico to the east. Expansion outside the valley had already begun, and a comparison of the maps showing the conquests of Itzcoatl and Motecuhzoma I shows spectacular growth (see Figures 3.4 and 3.5). Spreading the risk of crop failure over a sufficiently large area guaranteed the flow of grain, and it was supplied through tribute, commerce, and rent that was paid for the lands that the lords occupied in the conquered regions (see Rojas 1987b). This diversification also implied development of the city's administration and the supervision of communications in order to guarantee that the resources would arrive in the city on time.

Axayacatl

This dynamic expansion continued with Motecuhzoma's successor, his grandson Axayacatl. During his term in office, Tlatelolco was finally annexed, after a difficult war that was initiated under a variety of pretexts

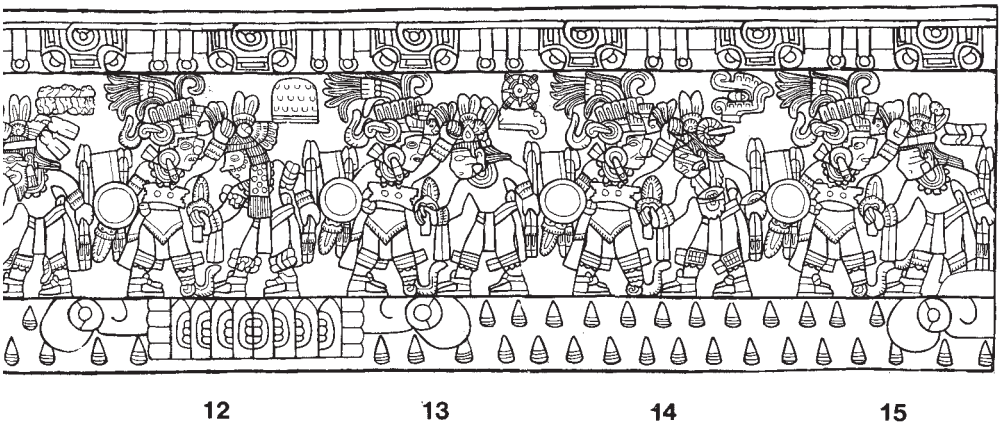

Fig. 3.6. The Stone of Tizoc. Drawing by Emily Umberger. Courtesy of Emily Umberger.

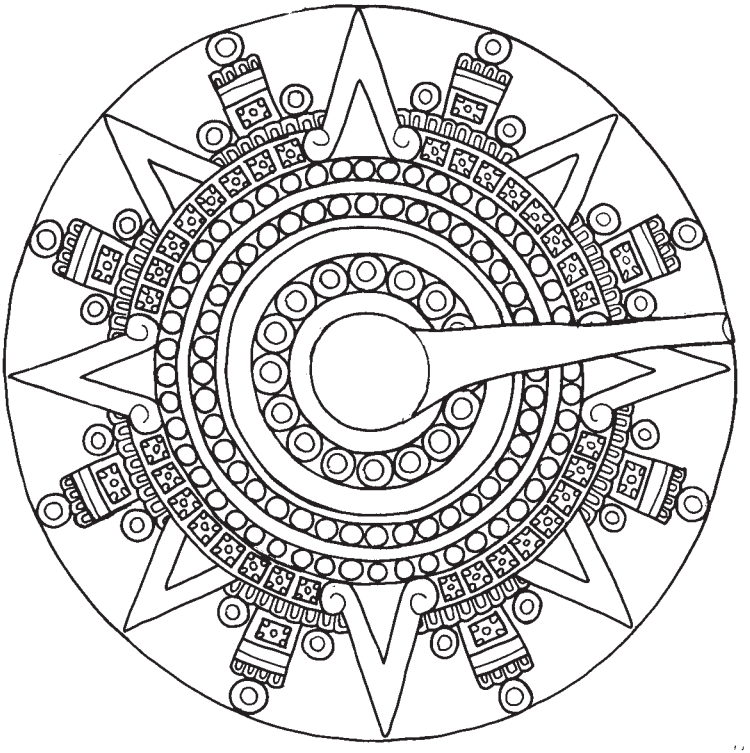

Fig. 3.7. The sun disk in the upper part of the Stone of Tizoc. Drawing by Emily Umberger. Courtesy of Emily Umberger.

(A.D. 1473). The unification of the city gave Tenochtitlan control of both the market and the prosperous retailers of Tlatelolco. We know nothing more of the consequences of this annexation, although they must have been significant.

Axayacatl appears as a great conqueror; he extended the limits of the empire considerably. However, when we look at the map (Kelly and Palerm 1952, Map 15), it is clear that his conquests are far fewer than those of his grandfather. His reputation was tarnished by the first recognized defeat of Mexica forces, which took place at the hands of the Tarascans of Michoacan. If we believe the numbers given in the sources, a great loss of life was involved.

Tizoc

Axayacatl was succeeded by his brother Tizoc, whose reign was short lived (A.D. 1481–86). The documents say that he did not fulfill the expectations for a warrior, even though sources such as the Codex Mendoza attribute the conquest of fourteen areas to him. He also appears as a conqueror in the Tizoc's Stone monument (Figures 3.6 and 3.7). What is certain is that he was killed, as had happened with Chimalpopoca (Santamarina 2002). His brother Ahuitzotl, another great conqueror, was then crowned *tlahtoani*.

Tizoc is a controversial character. It is not clear what drove those who helped him to power to later kill him. His weakness, particularly his inability to conquer, was cited as the reason for suppressing him. However, he was able to begin a program of expansion of Mexico-Tenochtitlan's Templo Mayor that was ultimately completed by his successor. The descriptions of its inauguration in A.D. 1487 call it the greatest Mexica celebration. The sources do not agree on the number of prisoners sacrificed in honor of Huitzilopochtli at that event, and even those who provide the highest numbers note that they are questionable. For example, Diego Durán (1581, chap. 46, f. 132r) notes that the number seemed to him to be "so incredible" that if he had not found it written in the sources he read, he would not have believed it. The number cited is truly incredible: 80,400 sacrificed in four days. However, the fact that these numbers come from written sources does not necessarily make them accurate, as we shall see later (see Graulich 1991 for a long discussion; see also Rojas in press b).

Ahuitzotl

Ahuitzotl (A.D. 1486–1502) was a great conqueror who extended the empire's domain from one ocean to the other. He conquered Oaxaca, the Pacific coast, Tehuantepec, and Xoconochco (Kelly and Palerm 1952, Map 17). The growth of the city during his reign meant that measures had to be taken to ensure access to water, since the Chapultepec aqueduct no longer provided a sufficient supply. He decided to construct another aqueduct that would draw water from the Acuecuexco spring in Coyoacan. The lord of this locality warned him of the risks he was taking, but he was killed for his trouble. When the aqueduct was opened, the Mexica could not control the water, and it flooded the city. With considerably difficulty, the flow of water was stopped, and professional divers inspected the spring and repaired the problem. Ahuitzotl then left on his final conquest, in which he subdued Xoconochco, located along the Guatemala border. He died shortly after he returned. Some sources say that his death was the result of a blow to the head that he suffered while running out of a room in the palace during the flood. Others don't connect the two events. I should note that in maps based on Barlow's map (1949), Xoconochco was an anomalous province that was physically separated from the others (see Rojas 1989). In contrast, in the maps of the empire that we use today (Berdan et al. 1996), that separation no longer exists because we have an alternative explanation for the organization of the empire (see Chapter 9).

Motecuhzoma Xocoyotzin

The most famous of the Aztec emperors now makes his appearance in our account: Axayacatl's son, Motecuhzoma Xocoyotzin. He held the position from A.D. 1502 to 1520 and conquered several areas, in particular Oaxaca and the Pánuco region on the Gulf coast. However, he is better known for having introduced social reforms that gave more prestige to the old nobility and discredited those who had recently been promoted. He replaced the people Ahuitzotl had promoted to prominent positions with others who owed their prosperity to Motecuhzoma. This accords with the argument that each *tlahtoani* created new symbols and stories regarding his ascent to power. It is possible that the "inaugural" war that began each reign and captured the prisoners who were to be sacrificed at the coronation was a type of re-inauguration

of the empire carried out by each new governor. Motecuhzoma is also known for his role during the Spanish conquest.

The Arrival of the Spaniards

Sources such as Friar Sahagún talk about the existence of several omens that announced the arrival of strange people and the end of the empire. These would have frightened Motecuhzoma. The discussion about whether these omens were real or were invented during colonial times continues (for example, see Tomicki 1986; Graulich 1994, 226–34), and this discussion is relevant for interpreting the conquest. In fact, the Spanish had been traveling along the Mexican and Central American coasts since before Motecuhzoma rose to power. Given the existing systems of communication in the empire, some news of these movements would have reached Tenochtitlan. Thus, the presence of the expedition ships of Hernández de Córdoba and Juan de Grijalva on the coast in A.D. 1517, before Cortés's arrival, would have been well known. The presence of Gonzalo Guerrero and Jerónimo de Aguilar in the Maya area may have been known as well; we know that Cortés knew of them, which would have been almost impossible if news of their presence had not spread from the coast.

Traditionally, the history of the conquest of Mexico has been told from the Spanish point of view and has emphasized the feats of the few Spaniards who accompanied Cortés and took down a powerful empire. Recently, more attention has been given to the role of indigenous geopolitics in the conquest (Hassig 1994). We have also begun to learn more about the importance of indigenous states such as Tlaxcala and lords such as Ixtlilxochitl of Texcoco, Nezahualcoyotl's grandson, whose desire to be *tlahtoani* had not been fulfilled (Rojas 2007, 2009). Knowledge of the structure of the Mexica Empire and the Mesoamerican political tradition helps us understand the conquest. Likewise, information from the earliest colonial times enables us to better understand the provincial structure of the empire. We now know that most of the troops, provisions, and information were in the hands of indigenous people who wanted to free themselves of the Mexica yoke. From this perspective, the Spanish conquest is similar to the war that ended the reign of Azcapotzalco, including the tactic of convincing the allies that when the enemy capital fell they had not been freed but had simply changed masters.

The indigenous presence is evident throughout the conquest. From the very beginning of the conquest, it was apparent that Cortés understood that the Mexica Empire was not composed of a singular entity of subjects. During his maneuvers in Cempoala, a subject town of the Culhua-Mexica Empire, Cortes forced Cacique Gordo, the lord of the town, to side with the Spaniards and betray Motecuhzoma. When Motecuhzoma's sentries arrived in Cempoala to ask Cacique Gordo to explain why he had received the Spaniards without permission, Cortés took the sentries prisoner, to Gordo's horror. Although Cortés had promised Gordo that nothing would happen to him, he freed the prisoners and blamed the misunderstanding on the Cempoalan lord, saying that he wanted to be friends with Motecuhzoma and that he released Motecuhzoma's sentries as proof of his good will. The Cempoalans were afraid that Motecuhzoma would punish them and thought that the only safe course was to ally themselves with Cortés. Cortés and his new allies headed toward Tlaxcala, the home of the archenemy of the Mexicas, and the Tlaxcalans initiated a battle. The Cortés group soon made peace with the Tlaxcalans, although not without some fighting. The Cempaloans were part of the Aztec Empire and so were enemies of the Tlaxcalans, and they didn't know what had happened to Motecuhzoma's sentries. Clearly, the Tlaxcalans fought the Spaniards because they arrived with the Cempoalans, their enemies. In the meantime, Motecuhzoma's sentries arrived in Tenochtitlan with the news of the rebellion of the Cempoalans, and the Tlaxcalans must also have heard this report. From there Cortés and his Cempoalan allies went to Cholula, where there was a slaughter that is still poorly understood, and the Spaniards continued on their way accompanied by the Cempoalans. We could suppose that Moctezuma's reluctance to receive Cortés was also related to the company Cortés arrived with.

Timing is a very important factor here, and researchers have not paid adequate attention to it. Cortés arrived on Mexico's gulf coast in April of 1519 and entered Tenochtitlan on November 8th of that year. He was in the city until June 30, 1520, by which time Motecuhzoma had already died and his brother Cuitlahuac had succeed him. The siege of Tenochtitlan had begun by the end of May 1521. During that year, Cortés and his troops did not nurse their wounds in Tlaxcala. Instead, he began an active campaign of conquests and alliances aimed at isolating Tenochtitlan. The Cempoalan allies who joined Cortés played a very

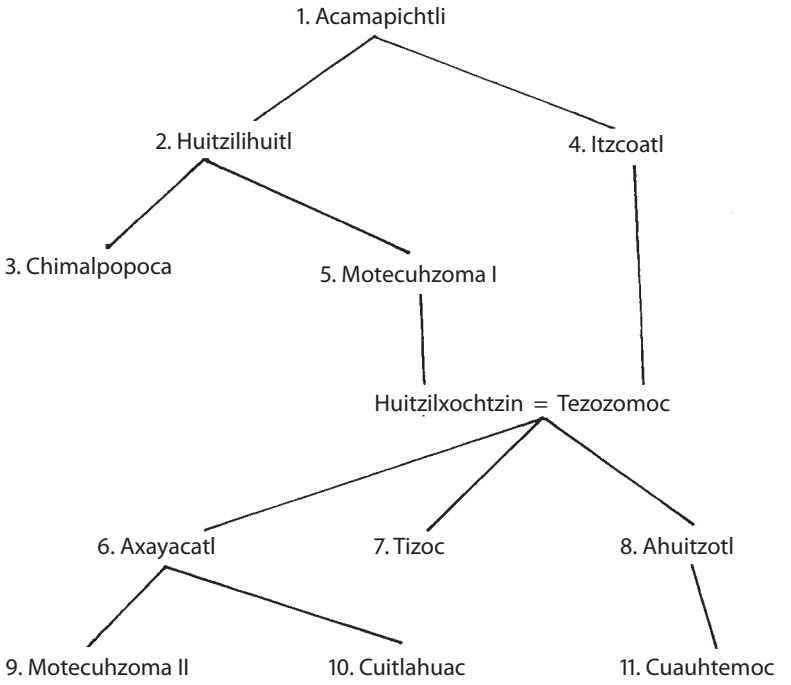

Fig. 3.8. Genealogy of the Aztec lords.

important role in the task, as did the Tlaxcalans and others. Ixtlilxochitl's collaboration stands out. He was the son of Nezahualpilli, the son and successor of Nezahualcoyotl and a Mexica lady. On the death of his father in A.D. 1515, Ixtlilxochitl expected to succeed him, but Motecuhzoma preferred his brother Cacamatzin. Ixtlilxochitl allowed himself to be appeased, but grudgingly so. After the Spaniards arrived, Cacamatzin died and Motecuhzoma then favored Coanacochtzin, another brother. After that, Ixtlilxochitl went to the Spanish side. We can only assume that he did so with his supporters and his influence. Finally, when Coanacochtzin died, Cortés confirmed Ixtlilxochitl, now don Fernando Ixtlilxochitl, as the lord of Texcoco.

We should situate the circumstances of the death of Motecuhzoma in this account. According to the "Spanish" versions, the natives killed him. According to the "indigenous" versions, the Spaniards killed him. According to the irresolutes, the indigenous people injured him and the

Spaniards finished him off (Batalla 1996). As I have commented before regarding the deaths of Chimalpopoca and Tizoc, there was no way of demoting the *tlahtoani* in pre-Hispanic Mexico; only after his death could another take his place. From that perspective, those who needed the death of Motecuhzoma were the Mexica, since they wanted to name Cuitlahuac king so that he could lead the fight against the Spaniards. Cuitlahuac, Motecuhzoma's brother, died just a short time later, the victim of a smallpox epidemic, and he was succeeded by Cuauhtemoc, Ahuitzotl's son and the nephew of his two immediate predecessors.

Most of the lords who cooperated with the Spaniards were able to continue as heads of their domains after the conquest and to pass that power on to their sons. Even some of those who opposed the Spaniards were able to retain an important share of power during colonial times. In Tenochtitlan, the Mexica dynasty recovered shortly after the death of Cuauhtemoc with the rise to power of Diego Huanitzin, the nephew of Motecuhzoma and Cuitlahuac who had married a daughter of Motecuhzoma. He continued governing until well into the sixteenth century (Figure 3.8). It is necessary to study in more detail the role of these colonial *tlahtoque*, whose power, though limited to the city, was quite remarkable.

This vision of the conquest of Mexico depends on previous history, including the development of the Aztec Empire, particularly the most recent activities, such as the wars against Huexotzinco or the isolation of Tlaxcala. The Mesoamerican political tradition was very present in the Spanish conquest and formed part of colonial life; its strength was greater farther away from the Spanish centers of power.

Most of the information we have regarding the city, its organization, its celebrations, and its operation come from this period. The stories of the conquest, which are mainly derived from Hernán Cortés's *Cartas de relación de la Conquista de México* ([1519–1526] 1979; 2001), are an invaluable source of knowledge about the city of Tenochtitlan in its heyday. They will be mentioned frequently in this book. Although the city was practically destroyed during the siege, it was reconstructed to establish the Spanish capital. During the earliest years of the conquest, the city continued to function much as it had before the Spaniards arrived. Thus, descriptions of the earliest colonial times provide information that allows us to describe the city and how it functioned.

4

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The Construction of a Metropolis

Most of the data we have on Tenochtitlan comes from the time of the conquest and the beginning of the colonial period. Before that, there are a few isolated statements. However, they are hardly comparable in detail to later sources, and they do not enable us to follow the evolution of the city during its nearly two centuries of pre-Hispanic history. The only thing we know with certainty is that the village founded in the center of the lake grew into a great metropolis. That growth was marked by two incidents: the extreme famine of A.D. 1451–54 that eliminated much of the city's population and the flood at the end of the fifteenth century brought about by the opening of the Acuecuexco spring.

Construction of the City

Tenochtitlan's location in the middle of a lake created certain needs that Tenochca met little by little. Land was certainly an important requirement. The small, barren island grew through human intervention, which created joined islands that formed a continuous surface of land, if we consider the canals to be part of the land mass.

Control and management of water were two important tasks. It was necessary to leave gaps in the land so that the water could flow, especially during the rainy season when there was an increased risk of floods. Canals were created using a technique that was likely very similar to that used to build the *chinampas*. These canals not only permitted the flow of water but were also a means of transport.

There is some speculation about whether the growth of the city followed a plan or was more or less spontaneous. However, if we heed our texts, what the Spanish saw at the beginning of the sixteenth century

was the result of the reconstruction of the city after the flood at the end of the fifteenth century (Lombardo 1973, 92). This may have been an opportunity to reorganize a city that had grown spontaneously.

> At the time Cortés arrived, Mexico was a city of 60,000 houses. Those of the king and lords and courtiers were large and fine; those of the others were small and miserable. The latter had no doors or windows, but however small they might be, they generally contained at least two or three and up to ten inhabitants, so that the city had a very large population. The main part of the city was surrounded by water. Its thoroughfares were of three kinds, all wide and splendid: one of water alone, with a great many bridges; the second of earth alone; and the third made half of land, where people could walk, and half of water, where canoes could navigate. These three types of streets determined the structure of the city. (López de Gómara 1966, 156)

Streets and Neighborhoods

We know that the city center was the ceremonial enclosure of the Templo Mayor. Within the enclosure were more than seventy buildings, and these were surrounded by a wall decorated with images of serpents, called a *coatepantli*. The streets that extended from the enclosure opened up to the causeways leading to the shores of the lake: Iztapalapa to the south, Tepeyac to the north, and Tlacopan to the west. To the east, where the lake extended further than in the other three directions, there was no causeway to link the city to the edge of the lake. Nezahualcoyotl's dike, which divided the waters of the Lake of Mexico from that of the Texcoco, and the rock of Tezcotzinco, where Moctezuma had baths and gardens, were located in this area. Also in the same region was Pantitlán, a natural drain that collected excess water. Here the Mexica performed different ceremonies dedicated to the gods of water, who were headed by Tlaloc. The roads demarcated the main zones, or *campan*, of which there were four: Cuepopan to the northwest, Moyotlan to the southwest, Teopan to southeast, and Atzacualco to the northeast. (These lasted through the colonial period, when they were associated with Christian saints.) To the north was the city of Tlatelolco, which was later incorporated into Mexico-Tenochtitlan; we do not have information about its structure.

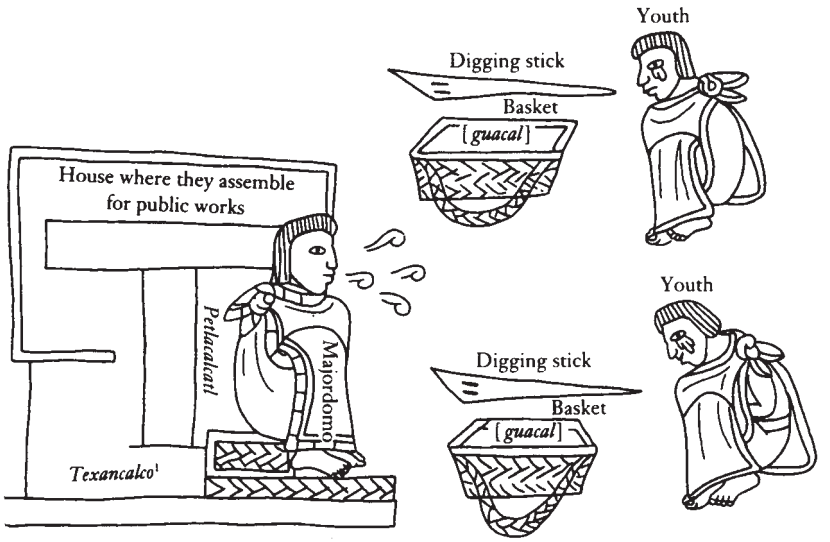


Fig. 4.1. Public works, Codex Mendoza, f. 70r (Berdan and Anawalt 1992, 4:145). Courtesy of Frances F. Berdan.

Each of the four districts of Tenochtitlan was composed of *calpulli*, or *tlaxilacalli*, which were based on kinship or settlement units called neighborhoods. The nature of these districts is still being discussed by specialists. When the city was formed, there were fifteen to twenty *calpullis*; by the time of the Spanish conquest the number had grown to 106 (see Caso 1956; Rojas 1986, 44–47). The names of each reveal the possibility that some of their residents specialized in particular occupations, such as skilled crafts or commerce.

Each neighborhood had its own authorities, temple, and school, which was called *telpochcalli* (house of youth) and was led by a teacher, or *telpochtlato*. The young men who went to these schools were obligated to contribute labor to the public works necessary for maintaining the city (see Figure 4.1).

The best buildings were near the center of the city. Friar Diego Durán (1581, chap. 26 [1967, 2:212]) tells us of a law that prohibited commoners from building large houses, which were reserved for the "great lords" and the "great captains." There must have been many of the latter, not only those who had achieved status by fighting in wars but

also representatives of the subject towns who had homes in the capital reflecting their rank:

> In this great city there are very nice and very large houses, and the reason for so many large houses is that all of the lords of the land, vassals of Muteczuma[,] have their houses in the city and reside there during part of the year. In addition, there are also many rich citizens who have very nice houses. All of them, aside from having nice and large lodgings[,] also have charming orchards with diverse flowers, in both the lower and upper rooms (Cortés, Second Letter, [1519–1526] 2001, 107).

The gardens and orchards are a constant in the descriptions of the city.

Canal water could be used for irrigation, but it wasn't potable. Thus, a constant provision of potable water was necessary. This need was meet by the springs located throughout the city, but mostly by the Chapultepec aqueduct. This structure was several kilometers long and used a twin-pipe system: one pipe transported the water that water carriers distributed throughout the system while the other pipe was being repaired and cleaned (Alcocer 1935, 15). The Mexica must have had a system for protecting the water from the point of origin to the point of distribution. As I have already mentioned, the attempt to take water from another spring was a disaster. The city's dependency on outlying areas for potable water was one of the its main weaknesses, particularly during droughts.

Houses

Only a few studies consider the structure and sizes of houses. In their work on the plans of the city created during the sixteenth to eighteenth centuries, Toussaint, Gómez de Orozco, and Fernández (1990) provide some information about the Maguey Plan. Data is also provided in the chronicles and in two studies based on an analysis of colonial-period plans (Calnek 1974; Alcántara 2004).

The houses of commoners were generally made with adobes (Vetancurt 1971, 92; Pomar 1941, 63; Torquemada 1975–83, 1:399) and had roofs or terraces. They were whitewashed, and the few doors and windows were covered with straw mats (Vetancurt 1971, 92). The houses were grouped around patios that included a kitchen and steam bath.

The custom of bathing in the steam bath, or *temazcalli*, was very important in pre-Hispanic Mesoamerica. The practice had religious as well as hygienic significance.

We know very little about the type of furniture Mexicas used. Straw mats are cited as the raw materials for most of the furniture, including sleeping mats (*petates*), seats, and storage boxes. We have very little information about utensils. Each person must have kept tools appropriate to their occupation at home. There must also have been vessels for cooking and preparing food, such as *metates* and *molcajetes*, as well as dishes for serving food. These items appear to have been hung from roof beams, but we don't have more information.

Calnek (1974, 46) states that two to six family groups lived in each house. The houses were generally between 30 and 40 square meters; the smallest were at least 10 square meters (ibid., 30). There are also other, much larger examples that may have been palaces. Among the structures that appear on the plans Calnek analyzed are "tall buildings" with outer stairs, cisterns, and bins for storing corn (ibid., 31–32). Sometimes there were walls around the patios. The building known as the *cihuacalli* (house of women) is interesting. It tended to be one of the bigger and better areas of a house and contained the family altar. Sometimes there was more than one *cihuacalli* in a group. The *cihuacalli* frequently included the kitchen (ibid., 45–46). The houses Calnek analyzed had *chinampas* that ranged in size from 4 to 1,377 square meters, although given the characteristics of the sample it is very difficult to draw conclusions about how many of them were in the city (ibid., 47).

Alcántara (2004, 169) identifies four types of house complexes in Tenochtitlan: exclusively residential, residential with domestic *chinampas*, residential with areas for nonagricultural production or service, and estates with multiple functions. The area of house complexes that had *chinampas* ranged from 87 to 267 square meters. Only the properties that were contiguous with canals had domestic *chinampas* (ibid., 182). Within the different types of houses, the most important aspect was the diversity of strategies used to accommodate growing families, which in some cases led to overcrowding.

Nearly all of the building materials had to be imported from the mainland, which implies a network of domination with access to provisions and the existence of a complex transportation network. Very

little appears in the tribute codices about construction materials; the only thing that is said is that wood was provided by the Quahuacan province. Building materials and tools were sold in the market, as we shall see below. All of this, of course, considerably increased the cost of construction within the city, and it is possible that full-time specialists were dedicated to the construction and maintenance of houses.

Extent of the City

Cortés argued that Tenochtitlan was as great as Seville and Cordoba, although it isn't clear if he meant relative to the two cities together or to each of them separately. At any rate, this is the first mention we have of the extent of the city, which has since concerned both the authors of the chronicles and researchers. Today researchers rely on analysis of the early testimonies and the old plans, which are not very precise. Clearly the Mexica did not try to be precise; their objective was to give to an approximate idea of the location and structure of the city. Their documents emphasize its insular position, its roads, and its general structure.

Cook and Simpson (1948, 32–33) accept a dimension of twenty square miles (a little more than 53 square kilometers) for the city. Bancroft (1875, 2:561) originally followed the Conquistador Anónimo's estimate of a twelve-mile perimeter, which supposes an area of 11.9 square miles. He later increased this to an eighteen-mile perimeter, or 17.5 square miles (Bancroft 1883–88, 1:277). The highest number is given by León y Gama (1927), who argues that the lengths of the north-south and east-west axes were two leagues, bringing the area to 26.3 square miles (68.9 square kilometers). More recently, Lombardo (1973, 120) offers measurements of 3.7 kilometers for the longer axis and 2.9 for the shorter one, with a median of 3.3 kilometers. She interprets this as a circle whose circumference would be 10.36 square kilometers. She states that this comes close to the estimates given by the Conquistador Anónimo: a perimeter of two leagues, or roughly 13.9 kilometers. The area thus obtained is 8.5 square kilometers for the bulk of the city, to which 1.75 kilometers should be added for the small barren island of Nonoalco to the northwest.

The Conquistador Anónimo was not precise; he wrote that the city measured "more than two and a half leagues or perhaps three in

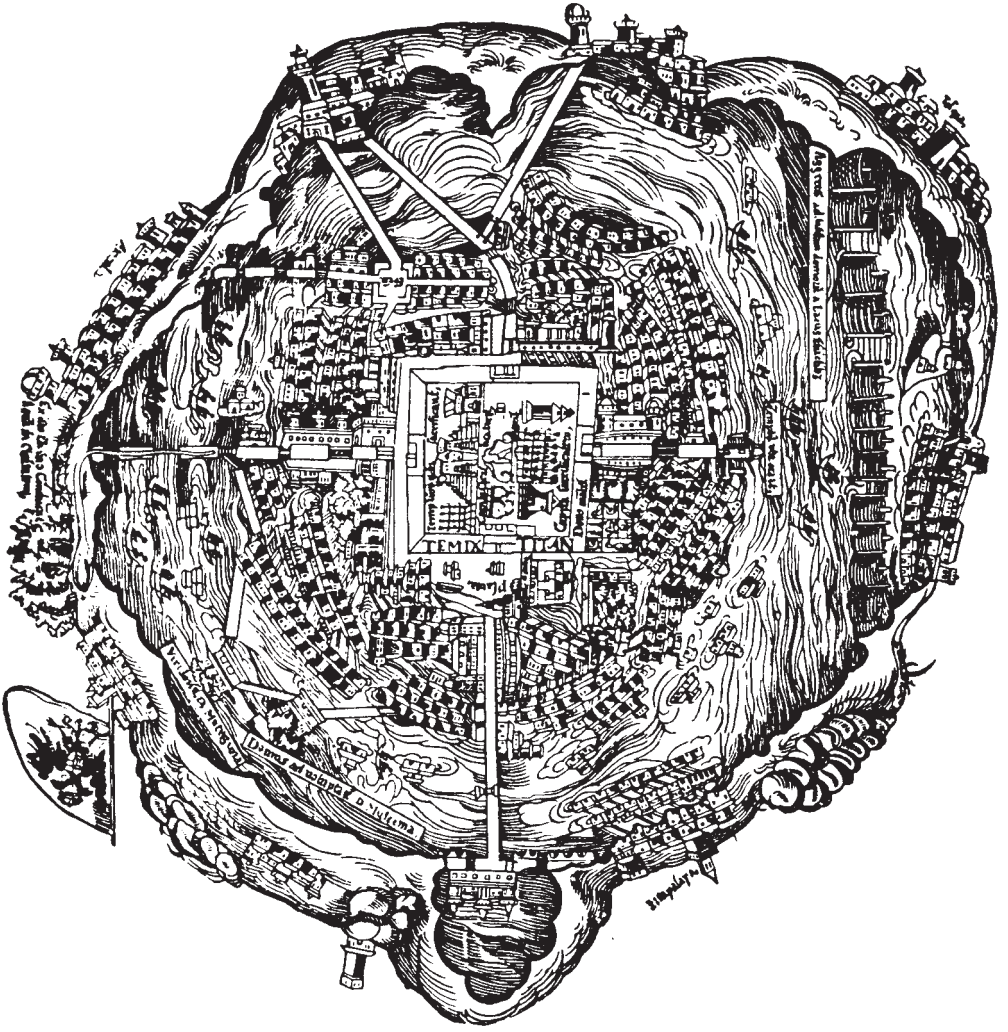


Fig. 4.2. Map of Tenochtitlan by Hernán Cortés, sixteenth century. From Rojas (1986, 40).

circumference, more or less" (Conquistador Anónimo 1971, 390). When multiplied by 5,572 meters, the "official" measurement of a league, the area would be from 13.93 to 16.71 square kilometers, so we see that Lombardo used the smaller number to derive her calculations. Geometry is necessary to estimate the area. The estimates for the perimeter provide different results depending on whether we consider the area to be circular or square. Taking the 3.3-kilometer average of the axes to be the sides of a square produces an area of 10.89 square kilometers. However, if we use the actual measurements, 3.7 by 2.9 kilometers, the result is 10.73 square kilometers. Both estimates are considerably larger than the result when we consider the area to be that of a circle (8.55 square kilometers). This last idea comes from the representation in the Plan of Cortés (Figure 4.2). Soustelle (1956, 25) interprets the city to be a square of about 3 kilometers per side, with an area of about 10 square kilometers. Calnek (1972a, 105) cited 12 square kilometers excluding Nonoalco and between 10 and 15 square kilometers total (Calnek 1974, 22).

Here, I accept the limits of the city identified by Caso (1956), which I superimposed on a plan of the modern city (Guía Roji, ed. 1981, scale 1:32,500) to obtain the contours of the city that appear in Figure 4.3. The surface is irregular and the calculation of the area comes to 13.6 square kilometers, very close to Calnek's estimate.

The structure of the city and its area are of great importance in contrasting the proposed population estimates, as we shall see below.

Communications

An important part of the structure of the city is the road network that facilitated communication. Because basic provisions were not produced within the city and its inhabitants relied on outlying areas, the road network had to permit people and products to enter and exit the city. It also had to provide arrival areas and storage areas. I have already briefly discussed the water supply. A canal system was necessary so that the canoes carrying water from the aqueduct could distribute it throughout the city. This network required maintenance. The flow of canoes was regulated, as was the picking up and dropping off of people and merchandise. Likewise, in order to receive the provisions transported in the canoes, houses must have had some type of access to the

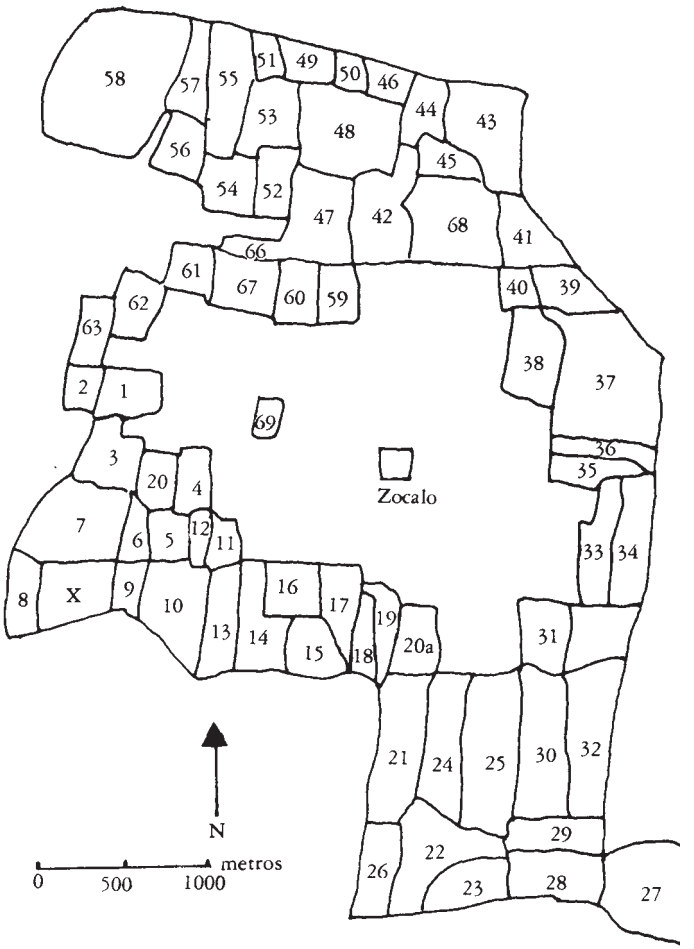


Fig. 4.3. The *calpulli* of Tenochtitlan. From Rojas (1986).

San Juan Moyotlan: 1. Tzapotlan; 2. Chichimecapan; 3. Huehuecalco; 4. Tecpancaltitlan; 5. Teocaltitlan; 6. Tecuicaltitlan; 7. Atlampa; 8. Aztacalco; 9. Tlacomulco; 10. Amanalco; 11. Cihuateocaltitlan; 12. Yopico; 13. Tepetitlan; 14. Atizapan; 15. Xihuitonco; 16. Tlatilco; 17. Tequesquipan; 18. Necaltitlan; 19. Xoloco; 20. Tlaxilpa; 69. Milpantonco
San Pablo Teopan: 20a. Cuezcontitlan; 21. Acatlan; 22. Tultenco; 23. Otlica; 24. Ateponazco; 25. Tlaxcuititlan; 26. Macuiltlapilco; 27. Mixiuca; 28. Tzacatlan; 29. Tzoquiapan; 30. Iznahuatonco; 31. Temazcaltitlan; 32. Otzoloacan; 33. Ometochtitlan; 34. Atlixco; 35. Cuauhcontnzinco; 36. Tozcomincan; 65. Tultenco
San Sebastián Atzacualpa: 37. Tomatlan; 38. Coatlan; 39. Zacatlan; 40. Tzahualtonco
Santa María la Redonda Cuepopan: 59. Colhuacatonco; 60. Tezcatonco; 61. Analpan; 62. Teocaltitlan; 63. Atlampa; 64. Copolco; 65. Cuepopan
Tlatelolco: 41. Mecamalinco; 42. Atenantitech; 43. Atenantitlan; 44. Tecpocaltitlan; 45. Apohuacan; 46. Azococolocan; 47. Atezcapan; 48. Tlatelolco; 49. Hueypantonco; 50. Tepiton; 51. Capoltitlan; 52. Cohuatlan; 53. Xolalpan; 54. Acozac; 55. Tlaxoxiuhco; 56. Tolquechiuhca; 57. Iztatla; 58. Nonoalco; 68. Teocaltitlan

canals. As we have already seen, there were streets that were just canals. Canoes were the principal means of transport in the lacustrine region. Before the arrival of the Spaniards, there were no beasts of burden and the wheel was not used for moving goods in Mesoamerica. All goods were transported on water or carried by porters, who occupied one of the most mobile positions in the Mexica Empire. If we accept larger population estimates for Tenochtitlan, we must also consider that more provisions were needed and more porters were needed to transport them. Several thousand porters were necessary every day.

Tenochtitlan was connected to land by means of several roads (see Figure 1.2). They were constructed on the water with a system similar to that of the *chinampas*. Space was left at regular intervals so that water could circulate. These spaces were covered with wooden planks that allowed porters and travelers to use the canals. The planks could be removed when necessary, which is just what the Spaniards did during the conquest of Mexico. The result was a struggle in which the Spaniards tried to close the passages while the Tenochca tried to open them. In fact, one of the reasons the city was destroyed during the siege was that the Tenochca used rubble from demolished houses to block the drains and permit men and horses to pass in and out of the city. Descriptions of the causeways at the time of the conquest state that they were so wide that eight men on horseback could pass simultaneously. Towers were placed at certain points for defense (Cortés, Second Letter, [1519–1526] 1979, 56).

Since the lakes were not very deep, the deeper canals ensured that most of the canoes that existed could circulate through the city; there were several thousand, according with the chronicles. A wharf for unloading merchandise was located behind the Templo Mayor. The lord of Tenochtitlan had people there who charged a type of tax (Cortés, Second Letter, [1519–1526] 1979, 74).

Maintaining the communication channels was vital and required many workers. Maintaining the public water system figured prominently in the responsibilities of the students; particularly important was the construction of dikes to separate the salt water from the fresh water. The dikes also controlled the water level, which was particularly important given the unequal height of the lakes, Texcoco being lower.

Cortés understood the fundamental role of communication in the city. He took control of water communication by launching thirteen brigantines along with the canoes of his Indian allies.

Population

We do not have reliable data about the size of the population of Tenochtitlan when the Spaniards arrived. The first accounts provide comparisons with other cities whose populations at the time we also do not know. Later calculations are based on a variety of sources, including the tribute lists. The latter provide an underestimate, since everyone who could avoid being placed on the taxpayer lists did so. Some calculations are based on how many people the available food could sustain or on the number of square meters occupied by the city multiplied by the density of inhabitants as estimated by scholars. It is not unusual then that we find such different numbers in the literature.

We begin with the information from the chroniclers, some of whom speak of inhabitants. Others discuss heads of households, while still others refer to houses. In the latter cases we must multiply the number of household heads by the number of dependents each neighbor had or by the number of people in each house.

The Anonymous Conqueror (Conquistador Anónimo 1971, 391) states that there were 60,000 inhabitants. This differs from other testimonies in an important way. Those who argue for a larger population say he refers to household heads. Those in favor of a smaller population rely on his numbers in their calculations. Gonzalo Fernández de Oviedo (1851–55, 3:528) mentions 50,000 household heads. Other sources discuss houses: 60,000 (Cervantes de Salazar 1971, 1:324; Hernández 1946, 68; López de Gómara 1987, 180), 70,000 (Vetancurt 1971, 92), 100,000 (Aguilar 1903, 11), and 120,000 (Torquemada 1975–83, 1:399, 404). Las Casas (1909, 131) argues that there were 50,000 houses, 200,000 families, and 1,000,000 inhabitants.

None of them saw the city in action, and some copied others, arriving at an exaggerated figure (Las Casas is an example). Hernán Cortés, the one person who could clarify the situation, limits himself to saying that Tenochtitlan was "as great as Seville and Cordoba" (Second Letter, [1519–1526] 1979, 69). As I have mentioned, this leaves us wonder-

ing whether he meant as great as each of them or as great as the two together.

To these numbers have been added the speculations and calculations of modern investigators, who do not always explain how they have arrived at their estimates. Vaillant (1973, 127, 137) argues for 300,000 inhabitants. This is the result of multiplying the number of houses most often mentioned by five, his estimate of the size of households. Katz (1966, 26), Willey (1966, 157), Weaver (1981, 425), and Parsons (1976, 98) have followed this method. Other authors offer slightly higher numbers: 340,000 (Cook and Simpson 1948, 34), 350,000 (Bray 1968, 98), 360,000 (Borah and Cook 1963, 78–79, following Holt 1976, 54), and 400,000 (Gibson 1978, 387). The estimates by French scholars stand out: Soustelle (1956, 26–27) argues for between 80,000 and 100,000 houses with seven people living in each, arriving at a total population of 560,000 to 700,000 people. Duverger (1979, 221) agrees with this estimate.

Two calculations have been made using the Maguey Plan, with very different results: 62,000 people (Toussaint et al. [1938] 1990, 32) and 213,000 people (Maudslay 1909, 51). Using the alternate methods of ecosystem data and population density estimates, Sanders and Price (1968, 151) accepted a population of between 60,000 and 120,000 people. Calnek (1974, 54; 1976, 288) argues for between 150,000 and 200,000, the result of multiplying the estimated density of 12,000 inhabitants per square kilometer by the 12 to 15 square kilometers Tenochtitlan occupied. This is the most widely accepted estimate for English-speaking scholars, such as Smith (1996).

The reality is that we do not know the actual number. Some accept very high numbers to emphasize the fatal consequences of the arrival of the Spaniards for the indigenous population. They thus emphasize the extent of depopulation when comparing the original population figure with the records of the sixteenth century. Others favor the higher estimates to exalt the virtues of Mesoamerican civilization. Still others argue for lower numbers because they do not think that the technological conditions of pre-Hispanic Mexico could have maintained such large populations. I argue for a relatively large population, possibly more than 150,000 inhabitants and perhaps as many as 300,000, following the numbers provided in the documents (Rojas 1987a). Smith (1994)

argues that we need to search for more information, such as archaeological remains, but as far as I know this work had not been done yet. Some other great cities developed earlier, such as Teotihuacan, Tikal, or Cantona, but we have problems calculating their populations because we don't have documents.

With a similar comparative aim, let us return now to the subject of the city's area, to consider the amount of space available per person and thus try to verify the feasibility of the population estimates I have mentioned.

Borah and Cook (1963, 90) accept a density of 12,000 inhabitants per square mile for Tenochtitlan, which assumes 4,633 inhabitants/square kilometer. This number is similar to the figure proposed by Lombardo (1973, 122), who divided the 15.3 square kilometers of area by 60,000 inhabitants to obtain 3,983 inhabitants/square kilometer. That number seemed high to her, but she accepted it because it was similar to the estimate for Teotihuacan during the Xolalpan phase (4,140 inhabitants per square kilometer). The density obtained by dividing 15.3 square kilometers by 300,000 inhabitants, or 19,556 inhabitants/square kilometer, seemed unacceptable to her (Lombardo 1973, 122–23). The most successful calculation is that of Sanders, Parsons, and Santley (1979, 154–55), who estimate a density of 12,000 to 13,000 people per square kilometer. That figure multiplied by the area of Tenochtitlan, which they estimated to be between 12 and 15 square kilometers, resulted in a population estimate of between 150,000 and 200,000 inhabitants. These densities are much lower than the 48,000 recorded for London in 1801 (Gouoru 1979, 278), or the 33,587 of Lagos, Nigeria, in 1950 (Bascom 1962, 699). It is also much lower than the 1968 population of two Naples districts: Stella San Carlo Arena, which had 307,000 inhabitants per square kilometer, and Vicaría, which had 671,000 (Gourou 1979, 273). These are both very small places with numerous buildings.

Other estimates can be made on the basis of the number of square meters available to each inhabitant. If we take 13.5 square kilometers as the extent of the city and accept 300,000 as the number of inhabitants, 45 square meters was available to each person. If the population was 200,000 inhabitants, the number increases to 67.5 square meters. Of course, these numbers include streets, plazas, canals, and public enclosures. Calnek (1972a, 111; 1973, 92; 1974, 30) estimates that the houses

were, on average, 30 to 40 square meters and sheltered 10 to 15 people, the result of equally dividing the maximum of 30 and the minimum of 2 for his sample. If we accept this, houses occupying only 10 percent of the total area of the city could have lodged 300,000 people. That seems reasonable, although it does not prove anything. However, that does not mean that the estimate is incorrect.

Structure of the Population

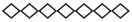
While quantity is important, we cannot forget demographics. In preindustrial conditions comparable to those of Tenochtitlan, the number of men and women tends to be balanced for the population as a whole. However, this is not the case for individual segments of society: more male children are born than female children, and, at the opposite end of the spectrum, there are more elderly women than elderly men. Perhaps in a warrior society like that of the Mexica there was a greater mortality rate for adult males. The birth rate could have been around 4 percent and the mortality rate close to 3.5 percent, with an annual growth rate of 0.5 percent in the absence of epidemics. The age pyramid of preindustrial populations tends to be regular, and approximately a third of the population would have been children. The life expectancy was usually short. All this is very important for calibrating the activities of inhabitants and the labor dedicated to maintenance and reproduction. The supposed shortage of adult men because of the increased mortality rate related to war, for example, can affect the rate of activity or the percentage of the population that worked. A lower rate of activity would produce a greater number of dependents or would force a greater proportion of women to take on male productive roles. However, a lower rate of activity does not affect the reproductive potential.

The structure of the population is fundamental to establishing the numbers that convert the number of household heads, houses, and tribute payers into a total population estimate. The greater the dependency rate, the greater the multiplication factor.

The population estimates for Tenochtitlan at the time it was founded seem very high to me. The only way to arrive at the population estimates others have mentioned is to presuppose immigration. Natural increase alone would have been enough to provide only the lowest population estimates, even if we assume very high rates of growth. If

the 10,000 inhabitants cited in A.D. 1325 grew constantly at an annual rate of 1 percent (twice the rate that is mentioned), the city's population would have reached nearly 70,000 in 1519. But as we have seen, there were two episodes of depopulation of unknown quantity during that time. If we believe the descriptions of the two catastrophes offered in the documents, the population loss in the period A.D. 1451 to 1454 must have been significant.

5



A Visit to Tenochtitlan

After Motecuhzoma found lodging for them in Axayacatl's palace, the Spaniards, led by Hernán Cortés, were able to visit the city. The first descriptions of the city and the only description of the pre-Hispanic city before the conquest derive from this visit: Cortés's Second Letter, dated October 30, 1520. Other descriptions are based on this account, although they differ in some details. In addition, the role of some narrators in the conquest has been questioned recently. This is true, for example, of Bernal Díaz (Graulich 1996; Rojas 2004).

Temples and Other Religious Buildings

In these accounts, as is to be expected, the temples stand out as much for their size and splendor as for the importance of religious beliefs for both the Mexicas and the Spaniards. This is precisely why they were the first buildings the Spaniards demolished after the conquest. The materials were used to build the new city. It is a very interesting exercise to compare the descriptions of the Templo Mayor by figures such as Cortés and Clavijero with the findings of the excavations undertaken since the end of the twentieth century. This comparison links the work of the archaeologist with that of the ethnohistorian.

Let's start with Cortés's description:

> There are as many as forty towers, all of which are so high that in the case of the largest there are fifty steps leading up to the main part of it; and the most important of these towers is higher than that of the cathedral of Seville. They are so well constructed in both their stone and woodwork that there can be none better in any place, for all the stonework inside the chapels where they keep

> their idols is in high relief, with figures and little houses. (Second Letter, [1519–1526] 2001, 105–6)

The Templo Mayor

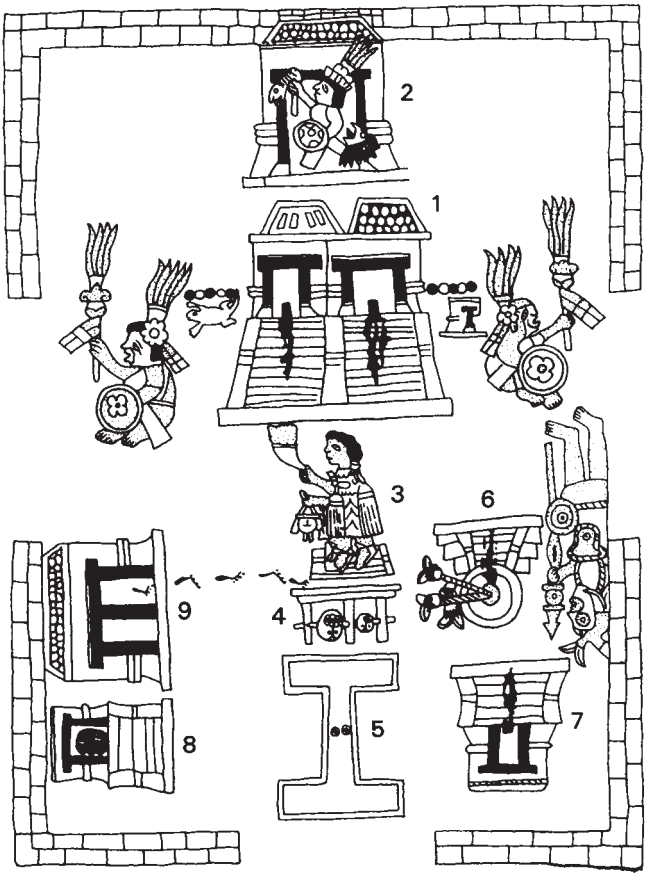
There is some doubt as to whether the temple Cortés described was the Templo Mayor of Tenochtitlan or that of Tlatelolco. The description follows that of Tlatelolco market, and the ruins visible in the Plaza of the Three Cultures in contemporary Tlatelolco are similar to those of Templo Mayor at Tenochtitlan.

A very well-known description and illustration come from the Dominican friar Diego Durán (1570, chap. 2 [1967, 2:19–24]). He states that the temple had 120 steps; two upper chambers filled with figures, one dedicated to Huitzilopochtli and the other to Tlaloc; and a stone for human sacrifice in front of the chambers. Situated around the Templo Mayor were other temples, the schools of priests, and the skull rack, which I will discuss in more detail below.

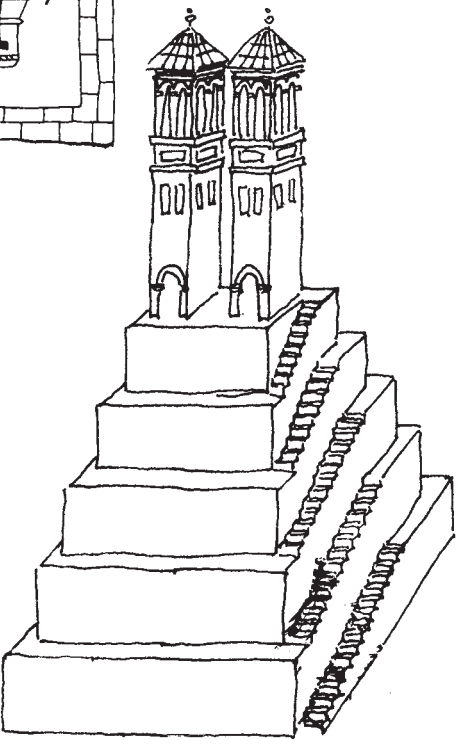
Franciscan friar Bernardino de Sahagún spent a considerable amount of time describing the Templo Mayor (Figure 5.1). At the beginning of Appendix II, Book II he describes the seventy-eight buildings in the enclosure surrounding the temple (see Text Box 5.1).

The similarities between the Durán's image and de Sahagún's description are obvious. This does not happen with later texts, like that of Clavijero, which is described in Text Box 5.2 and Figure 5.2.

Since the end of the eighteenth century, various detailed excavations have been undertaken in the enclosure of the Templo Mayor. The discovery of several emblematic pieces of Aztec art during these excavations is well known. The Sun Stone, or the Aztec Calendar (Figure 5.3), was uncovered on December 17, 1790; the monumental statue of Coatlicue (Figure 5.4) was discovered on August 13, 1790, the anniversary of the date Tenochtitlan fell (August 13, 1521); and the Stone of Tizoc (Figure 5.5) was found at the beginning of 1791. After being exhibited in several locations, these artifacts were reburied, although they were unearthed again for illustrious travelers, such as Alexander von Humboldt. More than a century would pass before archaeological work was done in the zone of the Great Temple under the supervision of Leopoldo Batres, and nearly another century before the Templo Mayor saw the light of day again. The fortuitous finding of the Coyolxauhqui sculpture took place on February 21, 1978 (Figure 5.6). The monolith, which is almost



Above: Fig. 5.1. The sacred precinct of Tenochtitlan. From Smith (1996, 229). Courtesy of Michael E. Smith.



Right: Fig. 5.2. The Great Temple of Tenochtitlan as described by the Anonymous Conqueror, sixteenth century. Drawing by the author.

5.1. The Templo Mayor Precinct

[In] the [great] square of [the Temple of] Uitzilopochtli, all was thus, [as followeth]:

It appeared to be perhaps two hundred fathoms [square]. And here, in the center [of the square], were very large temples, which were temples of demons. The one which was tallest, of greater height, was the house of Uitzilopochtli, or Tlacuepan Cuexcochtzin. This one was very large, very tall.

And this one was in the middle [of the square]. And with it was the house of Tlaloc. Both were together, side by side. And at the very top, [one] stood a little high[er]—perhaps as much as a fathom.

[Of] both of these, [one] was taller, rising higher; only they were quite similar. And at the top of each was a temple; at the top was a house.

Here was the image of Uitzilopochtli, also Ilhuicatl Xoxouhqui. And in another [house] there was the image of Tlaloc.

And also at the top [of the pyramids] were circular stones, very large, named *techcatl* [offering-stones], upon which they slew victims. Thus they paid honor to their gods. And the blood—the blood of those who died—reached the base, flowing thence. All were thus in all the temples which were of the devils.

And this temple of Uitzilopochtli and of Tlaloc faced the setting of the sun. And its stairway was very wide. It reached up to the top, whereby all ascended. And for all the temples there were stairways; all were alike. Very straight was its stairway.

Sahagún (1577, Book 2, Appendix 2; [1577] 1951, 165; 1975, 158).

three meters in diameter, represents Huitzilopochtli's sister, who died when he was born. After that discovery, obstacles were overcome and the Templo Mayor project began. The project was directed by Eduardo Matos Moctezuma. Since then, the area has been exposed so that it is possible to visit most of the temple. A museum that surrounds the main part of the ruins allows visitors to see the Coyolxauhqui sculpture from all floors of the building.

The excavations have revealed the structure of the temple in several stages of historical development and one double frontal staircase that rises to the upper stage where there are two temples, one dedicated to

5.2. Francisco Javier Clavijero Describes the Templo Mayor

Clavijero, a Jesuit priest, describes the enclosure of the temple:

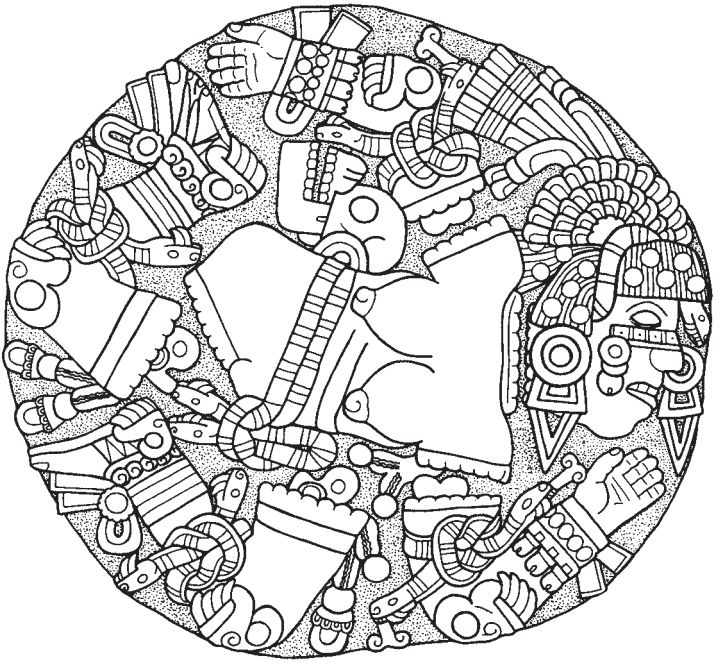
> In the middle of this area rose a vast solid rectangular building, its exterior covered with square stones of equal size, and composed of five stages almost equal in height, but unequal in longitude and latitude because the higher they were the more narrow. The first stage, which served as the base, was 120 yards (Castilian) from east to west and less than 100 from north to south. The second stage was about seven feet smaller than the first on each side; the third was again smaller than the second, and in the same proportion as the others; and thus on each story was a space through which three to four men could walk shoulder to shoulder following the contour of the stage. The stairs that were on the south side were of large, well-worked stone and consisted of 113 steps, each of little more than a foot high. These stairs were not totally continuous as represented by Prevost and those in the letters published by Cortés in Mexico, but rather divided in as many sections as there were stages. Each section ran diagonal to its frame until reaching the hall or space left by the smaller amplitude of the following story; in such a way that in reaching the top of the first stairs, it was necessary to round the corridor to the east, north and west, to take the second stairs, and reaching the top of this it was necessary to give another similar turn to take the third, and so on for the fourth and fifth flights; which will be understood better in the image of this temple which we presented, based on that of the Anonymous Conqueror, although corrected as already noted, in the measures he and other historians provide. (Clavijero [1780] 1976, 160–61; translated by Kristin Sullivan)

This description is better understood by considering the image in Figure 5.2. The source Clavijero used was a sixteenth-century text by the Conquistador Anónimo. It was published in Italian in Italy, and Clavijero preferred it over other accounts. Clavijero's text said that the temple was 126 feet high. This did not include the towers, which would add another 66 feet. One of the towers was dedicated to Huitzilopochtli and the other to Tezcatlipoca, and the sacrificial altar in was located in front of the two temples. It is important to note that those who give exact numbers are not always more credible than those who give estimates.

Above: Fig. 5.3. The Calendar Stone (Museo Nacional de Antropología e Historia, México D.F.). Drawing by Emily Umberger. From Umberger (1996b, 99). Courtesy of Emily Umberger.

Left: Fig. 5.4. Coatlicue (Museo Nacional de Antropología e Historia, México D.F.). Drawing by the author.

Left: Fig. 5.5. Detail of the Stone of Tizoc. Drawing by Emily Umberger. From Umberger (1996b, 101). Courtesy of Emily Umberger.



Below: Fig. 5.6. Coyolxauhqui. Drawing by Emily Umberger. From Umberger (1996b, 93). Courtesy of Emily Umberger.

Tlaloc and the other to Huitzilopochtli. The temples correspond to the second of a total of seven identified phases and date to ca. A.D. 1400. In front of the temple of Tlaloc, to the north, was the statue of a human figure lying on his back, known as Chacmool, and a sacrificial stone was located next to the temple of Huitzilopochtli, to the south. The excavations have made clear that the Mexicas followed the Mesoamerican practice of enlarging structures by covering existing ones. This technique allowed them to enlarge the building quickly and economically, and it had the added merit of covering commemorations to previous leaders. This is in accordance with what the sources repeatedly tell us—that each lord increased the size of the temple (Figure 5.7). It also reinforces Graulich's idea that each leader rewrote history when he rose to power. As can be seen in Figure 5.7, the statue of Coyolxauhqui was on the Phase IV platform.

The excavation was not limited to the main building; many of the buildings described by the chroniclers have come to light, as well as some structures whose existence had previously been ignored. Notable among these are the skull rack, the Red Temples, the House of the Eagles, and various portable altars. More recently the Urban Archaeology Program has increased the excavation area and the excavations under Mexico City's Christian cathedral, enabling the discovery of the ball court and the Temple of Ehecatl, which is uniquely circular (Matos, Hinojosa, and Barrera 1998). The number of people involved in the discoveries at the Templo Mayor is enormous, as is the number of pieces that have been recovered. All of this contributes to a visual image of the Mexica Empire that was not possible until recently. Some surprises have emerged; for example, our understanding of the way the Mexicas (and likely other previous and contemporary Mesoamerican groups) expanded on past cultures has changed. Some buildings are of a clear Toltec style, and among the artifacts are many pieces that could be classified as pertaining to other cultures, such as the Olmec or Teotihuacan. In some cases these are ancient pieces that were reused, and in others they are pieces that the Mexica made in the style of other areas. An example of this use of the past is the relation the Mexicas had with the other great city of Central Mexico, Teotihuacan, which was already in ruins when Tenochtitlan was founded (see López Luján 1989).

The literature on the Templo Mayor continues to increase. Some studies are general (Matos Moctezuma 1982; Boone 1987; Broda,

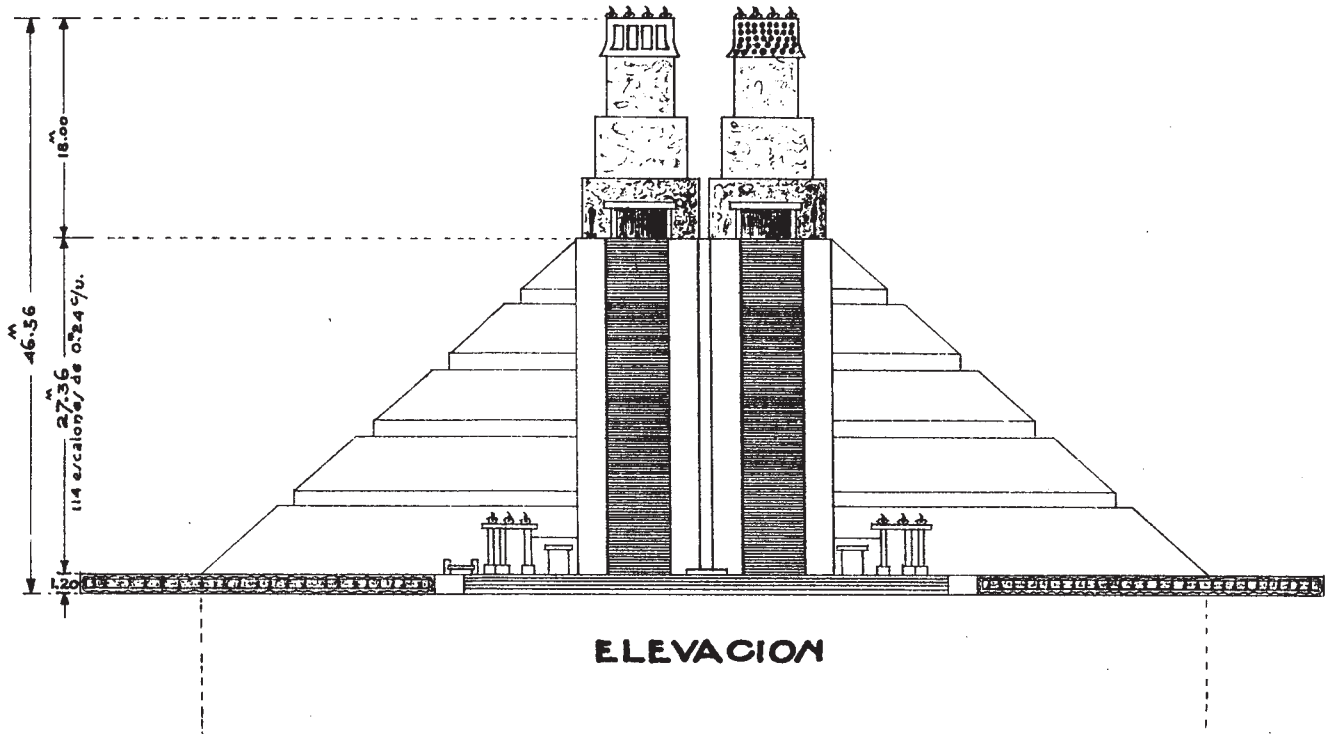


Fig. 5.7. Reconstruction of the Great Temple of Tenochtitlan. After Alcocer (1935: between 28 and 29).

Carrasco, and Matos 1987), while others focus on particular issues such as the offerings at the temple (López Luján [1994] 2005) or particular buildings such as the Casa de las Aguilas (House of the Eagles) (López Luján 2006) or the Red Temples (Olmeda 2002). Numerous articles have been written on gods such as Tlaltecuhtli (Barrera, Islas Dominguez, López Arenas, Barroso Repizo, and Lina Hernández 2007; Matos and López Luján 2007) or the color used in decorations on buildings and statues (López Luján et al. 2005). The Templo Mayor is now the better known part of Ancient Tenochtitlan, and it is the main link with the Mesoamerican past.

All of these finds force us to reconsider our vision of Mesoamerican artistic styles and pay better attention to the pieces that have been recovered outside archaeological contexts.

Other Temples

Let us now consider the enclosure of the Templo Mayor as described by the chroniclers. Among the seventy-eight buildings that surrounded the temple that Friar Bernardino Sahagún lists (Text Box 5.1), several *calmecacs* (religious schools for noble children) stand out. Recently Barrera and López excavated a building in the Templo Mayor precinct that may have been a *calmecac*, although the identification is very tentative (Barrera and López 2008, 25).

The other buildings around the temple included a *coacalco*, which was a type of jail in which the Mexica imprisoned the gods of conquered areas; a temple dedicated to the *Huitznahua*; and a building known as the *tlacochcalco*, which was like an armory. A building called the *netlatiloyan* housed the skins of sacrificed victims, which were removed during the celebration of Tlacaxipehualiztli, and another with the same name housed the skins taken in celebration of Ochpaniztli. Another building was dedicated to the Centzontotochtin, or "400 Rabbits," the innumerable gods of drunkenness. It was said that they were innumerable because a person gets drunk differently each time, suggesting they are possessed by different gods. There were skull racks, or *tzompantli*. There were also numerous *temalacatl* (sacrificial altars for gladiators) where the so-called gladiatorial sacrifices took place. In most of the temples, human sacrifices took place on particular dates. However, the most important were done in the Templo Mayor and were related to conquests and the enlargements of the building.

Human Sacrifice

The number of sacrifices that appear in documents (and are frequently taken at face value by investigators) is quite high. The most well-known example of massive sacrifice is Ahuitzotl's inauguration of the Templo Mayor in 1487, which Graulich (1991) has analyzed.

Different numbers appear in the sources about this event, but the most commonly cited figure is 80,400 sacrificed prisoners. The discussions about the accuracy of this number have focused on Friar Diego Durán's description of the ceremony and the time needed to carry out the various operations. Graulich (1991, 129–30) has shown how the interest of each investigator has led him or her to accept particular numbers or invent justifications for accepting, without question, figures given in a primary source. Graulich argues that Durán's figure may have referred to the number of spectators rather than to the number of sacrificial victims. In Durán's description, the sacrifice lasted four days, from dawn to sunset, and four sacrifices occurred at a time (1581, chap. 44 [1967, 2:343–49]). First to be sacrificed were the lords of the three capitals of the Triple Alliance—Tenochtitlan, Texcoco, and Tlacopan—and Tlacelel, who was second in command to Ahuitzotl. When sacrificers got tired, they would be relieved by a new crew, a practice that allowed them to keep the numbers high. The prisoners formed four lines, each of which had 20,100 people. This is where the calculations begin. Although not all of the prisoners would be in line at the same time, each line extended for several kilometers. The calculations that have been used assume 1 meter of space per individual, which supposes that they were quite close and that it would have been difficult for them to walk. Using this calculation, each line would have had to have been more than 20 kilometers long. Mariano Cuevas (Clavijero [1780] 1976, 121n15) states that the high totals would have been possible if, in order to save time, new prisoners were put in line to replace those who had been sacrificed. In any case, that only transfers the problem to another part of the event, because those who were to be sacrificed had to be located somewhere, and someone had to make sure each that each prisoner occupied his position and didn't rebel.

But let us return to the calculations related to the sacrifices. Graulich (1991, 125–27) provides us with the numbers given by a variety of authors, but here I will present my own calculations: 80,400 prisoners

sacrificed in four days by four sacrificers makes 5,025 sacrificed each day on each altar. Assuming twelve hours from dawn to dusk, the sacrificers would have had 8.59 seconds for each sacrifice. During that time they would have had to have laid the prisoner on the stone, opened his chest with a flint knife, removed his heart, and removed the body from board so that the next prisoner could be put into place. Since this seems impossible, many authors have chosen to accept a lower number of sacrificed victims. Some have chosen to multiply the number of sacrificers and say that they were placed all over the city, using the indications of blood in other temples as evidence for their hypothesis (see Graulich 1991, 126). In order to maintain the rate, it would have been necessary to restrict the ritual associated with each sacrifice to the minimum (ibid., 125). To my mind, this is a contradiction in terms that diminishes the importance of the ceremony. However, there is one point that other authors have not yet considered, perhaps because it is not even mentioned by Durán: what happened with the bodies of those who were sacrificed? They could walk up to the sacrificers and accept their destiny, but that was no longer possible after they were killed. The fastest way to get rid of the corpses would have been to throw them to the patio, but without a system to remove them, they would have quickly piled up. It seems that we have never considered seriously how much space 80,000 bodies would take up. In summary, these numbers are impossible to accept from a practical point of view.

(A similar exercise can be done with the size of the armies that appear in the primary sources. Of particular importance is the fact that the soldiers moved on foot, which considerably reduces the speed of the operations. Some sources mention armies of 200,000, but in that case the vanguard would have finished their day before the rear would have been able to begin their march.)

Returning to the human sacrifices, what we do know is that throughout the year, they were conducted in a variety of places and at different celebrations, and that particular types of sacrifice were associated with particular deities, according to Durán. This includes particular ways of killing and particular types of sacrificial victims, from military prisoners to children offered to Tlaloc to slaves bought in the market for this purpose.

Practically every sacrifice was related to ritual activities that included spectators. In the large ceremonies, such as the inauguration of the

5.3. Fray Diego Durán Describes the *Tzompantli*

In front of the main door of the Temple of Huitzilopochtli there were thirty long steps about one hundred eighty feet in length. These were separated from the courtyard wall by a passage. On top [of the platform] was a walk thirty feet wide and as long as the steps. The passage was plastered, and its steps were finely worked. Along the center of this ample and long walk stood a finely carved palisade as tall as a great tree. Poles were set in a row, about six feet apart. All these thick poles were drilled with small holes, and the holes were so numerous that there was scarcely a foot and a half between them. These holes reached to the top of the tall, thick poles. From pole to pole, through the holes, stretched thin rods strung with numerous human heads pierced through the temple. Each rod held twenty heads. These horizontal rows of skulls rose to the height of the poles of the palisade and filled it from end to end. One of the conquerors assured me that they were so numerous they were impossible to count, so close together that they caused fright and wonder. These skulls were all that remained of those who has been sacrificed.

After the latter were dead and their flesh had been eaten, the skulls were delivered to the ministers of the temple, who strung them there.

Durán (1570, chap. 2 [1971, 78–79]).

Templo Mayor, the lords of the different parts of the empire were present as well as the lords of vanquished places or their representatives. However, according to Durán and Tezozomoc, the lords entered secretly to view the ceremonies and thus directly experienced the power of the hosts.

Related to the problems associated with the number of sacrificed victims in the primary sources and in the secondary literature is the presence of a variety of *tzompantli*, or skull racks, that were located in the enclosure of the Templo Mayor (see Text Box 5.3 for a description).

The account of the skulls on the *tzompantli* comes from the conqueror Andrés de Tapia (1971, 583), who states that there were heads on poles with the teeth facing outward. Others were strung along poles one yard long with five skulls on each, supported by beams. He and Gonzalo de Umbría counted the poles, multiplied them by five, and

found that there were 136,000 skulls, "not counting those of the towers." Based on Tapia's data, Graulich (1991, 131) reaches the conclusion that the beams were at least fifty meters tall, and that the entire interior surface of the skull rack had to have been covered with skulls. These numbers are again unbelievable.

What the excavations have shown us is that the platforms were decorated with skulls. They are much smaller than the size required to accommodate the numbers the chroniclers cited. Smith (2008, 110) states that these were not *tzompantlis* but monuments dedicated to the *tzitzimime* (goddesses).

The Birth of Huitzilopochtli and the Templo Mayor

Despite these discrepancies, the evidence archaeologists have unearthed in the Templo Mayor of buildings and sculptures corresponds with the events mentioned in the account of Huitzilopochtli's birth. The god is represented at the top of the temple as a personification of Coatepec. At the foot of the temple lies the dismembered body of the lunar goddess, Coyolxauhqui. The myth tells us that she was pushed down the mountain. We also find statues that may represent some of the *huitznahuas* (gods of the southern stars) (Matos 1986, 75). Following the description given by Andrés de Tapia, Leon-Portilla (1978, 49–50) argues that Coatlicue was represented at the top and that this representation could be the statue that was found in 1790. The placement of the Temple of Tlaloc next to that of Huitzilopochtli may correspond to another myth. Matos (1986, 80–81) argues that Tlaloc might symbolize fertility and life and that Huitzilopochtli may symbolize war and death. Alternatively, the temples may represent the earth (Coatlicue), water (Tlaloc), and the sun (Huitzilopochtli), three elements necessary for life.

In many ceremonies, the blood came from the sacrifice of quails or the bloodletting that priests or some of the faithful performed on themselves. The most common method was to draw blood from the ears, the tongue, or the legs, although the penis was sometimes bled.

Although there is a tendency to call the 365-day Mesoamerican calendar "civil" and the 260-day calendar "religious," both were in fact religious and marked the timing of the ceremonies dedicated to the different gods. The expression "movable feasts" is an unfortunate expression that appears as early as the writings of Sahagún, who talks about the

5.4. The Mexica Calendar

The calendar system the Mexica used was the traditional Mesoamerican one based on two calculations: a 365-day year and a 260-day year. Each day corresponded to a date in each calendar, and the combination of the dates from the two systems made practically any date unique in the life of each person because each combined date took 52 years to repeat. We refer to this 52-year period as the "Aztec century."

The 365-day calendar, or *xiuhpohualli* ("count of years"), was made up of eighteen months of twenty days each. Five additional days, or *nemontemi,* were added each year to reach 365 days. These additional days were considered unfavorable for people. This calendar was roughly similar to ours, with the name of the month changing after 20 days. The largest celebrations were held at the end of the month.

The 260-day calendar, or *tonalpohualli* ("count of days or destinies"), was composed of twenty thirteen-day periods and twenty day names. Both lists advanced a position every day until the number one coincided with the first day, or *cipactli*, once again. This happened every 260 days.

The combination of both calendars is known as the Calendar Round. In it every day was denominated by its position in both systems. A given date was repeated every 18,980 days, which is 52 years of 365 days or 73 years of 260 days.

Every day of the 365-day count could be combined with only four names from the divinatory calendar. These names were combined with a number from 1 to 13, and the last day of the year had a title that can be loosely translated as "Year Carrier" based on the images in the codices. An understanding of this system has helped investigators situate chronologically the incomplete inscriptions with only a small margin of error. The celebration that took place every 52 years and involved the lighting of the New Fire on the Hill of the Star was known as the "Tying of Years."

festivals on the 260-day calendar that have different dates on the 365-day calendar from year to year (see Text Box 5.4). In fact, in one calendar, these were fixed celebrations, but in the other calendar the date of the ceremonies changed each year. The month with the most activities was Panquetzaliztli; the preparations began eighty days before. Altogether, researchers have identified festive activities on 139 days in the 365-day calendar. To this we must add those of the 260-day calendar, which sometimes coincided with festival days of the 365-day calendar (Rojas 1998a). That does not mean that everyone had to participate in every ceremony, but the religious activities were quite extensive and constituted an important part of daily life within the city. Not all of the rites were bloody. Dances and banquets were an important part of each celebration. Sanctioned drunkenness seems to have been part of the Mexica system of laws, as happened on day ten xocotlhuetzi, when there was "great drunkenness" (Durán 1579, chap. 13 [1967 1:272]). Also, during the month of Quecholli, when the Mexica celebrated the production of pulque, a single earthenware jar was continuously refilled and all were invited to partake. Some dances were not so innocent, if we take at face value the complaint of friar Diego Durán (1570, chap. 21; 1967, 1:192–93), who wanted them prohibited.

Education

In the enclosure of the Templo Mayor were *calmecac*, one of two types of training centers in Tenochtitlan. According to Sahagún's description (1577, Book 2, Appendix V; [1577] 1975, 172) the students at the *calcamec* were trained to be priests. The discipline was very strict. The students worked as guards at night and had to provide firewood for the temples in addition to participating in projects to maintain public infrastructures (1577, Book 3, chap. 8; [1577] 1975, 213). Their teachers were called *tlamatinime* (wise men):

> Thirteenth: Most especially was there teaching of good discourse. He who spoke not well, who greeted others not well, they then drew blood from [with maguey spines].
> Fourteenth: Especially was there teaching of songs which they called the god's songs inscribed in books. And especially was there teaching of the count of days, the book of dreams and the book of years. (Sahagún 1577, Book 3, chap. 8; [1577] 1978, 67; 1975, 214)

The second type of training center was the *telpochcalli*, or house of youth, where young men were educated. There was one in each district. It has often been mentioned that the *calmecac* was reserved for the children of nobility and the *telpochcalli* for the children of *macehuales*, or commoners. However, the distinction is not so clear (Rojas 1986, 191) because there is evidence that some noble children attended the *telpochcalli*. The teachings at the *telpochcalli* seem to have been less spiritual and the young men returned to their homes to sleep. It seems that general lessons were taught in these schools and that the young men learned the occupations of their families there (ibid., 193).

Palaces and Houses

The information on houses at Tenochtitlan has been discussed in Chapter 4. There have been some studies of houses in locations other than Tenochtitlan (Novic 2006; Smith 1993; Smith, Heath-Smith, and Montiel 1999), but there are no descriptions of what the common houses at Tenochtitlan looked like.

I have already mentioned that some of the houses were so large that they could have been palaces. The language in the city's laws suggests that the houses of the nobility had more than one floor and that they had gardens. This was the case with the homes of Motecuhzoma and of his father Axayacatl, where the Spaniards were housed during their first stay in Tenochtitlan. However, there are only a few descriptions of these buildings, and the excavations at Tenochtitlan have not revealed much. There are some descriptions of palaces outside Tenochtitlan (Evans 1981, 1991, 2004; Elson 1999; Smith 1998), and Smith (1993) has compared archaeological and ethnohistorical data on palaces. Smith (2008, 115–19) also discusses the form and meaning of Aztec palaces.

Bernal Díaz del Castillo (1975, 181) says that the palace of Axayacatl had a patio and many rooms, enough for everyone, with a "portable altar" and above all, a secret chamber where treasure was kept. The Spaniards ransacked the chambers before they left the city, which turned out to be the ruin of many of them. The loads the Spanish soldiers were carrying were so heavy that some of them fell into the canals and drowned.

The image in the Codex Mendoza has been used repeatedly to describe Motecuhzoma's palace (Figure 5.8). However, the image doesn't do it justice. The conquerors were very sparing in their descriptions,

and we must turn to López de Gómara to find something a little more detailed:

> The one where he had his permanent residence was called Tecpan, that is to say, palace. It had twenty doors opening on the square and public streets, and three large courtyards, in one of which was a beautiful fountain. It had many halls and a hundred rooms 25 to 30 feet square, and a hundred baths. It was constructed without nails, but very solidly. The walls were of stone, marble, jasper, porphyry, black stone shot with veins of ruby red, white stone [alabaster]; the ceilings, of wood, well finished and carved to represent cedars, palms, cypresses, pines, and other trees. The chambers were painted; the floors, covered with mats; the drapes, of cotton, rabbit fur, and feathers; the beds, poor and uncomfortable, being merely blankets laid over mats of straw, or mats alone. (López de Gómara 1966, 148)

Cervantes de Salazar's text (1971, 1:316) offers basically the same description.

Motecuhzoma's wives lived in this residence. Some argue that he had 5,000 wives; others say only 1,000. His children and servants also lived there. There were 600 knights on duty daily, each with his own servants, who numbered 3,000 (Torquemada 1975–83, 1:316). All ate in the palace and Cortés, after attending one of these meals, left us an account of the occasion, shown in Text Box 5.5. Such meals must have required a great number of cooks, suppliers, and servants.

The Palace as a Court

The palace served as more than just the royal house. It was also the court headquarters, and different rooms were dedicated to different tasks. Sahagún mentions eight functions: hearings, which were divided into criminal lawsuits, civil lawsuits, and hearings for nobles; the military council; storage; housing for stewards; housing for singers; and housing for captives (1577, Book 8, chap. 14; [1577] 1975, 465–68).

The hearings served as courts of justice. These hearings focused on the facts of the case and did not dwell on causes of criminal behavior. The plaintiffs would bring in paintings presenting the facts, the witnesses would be heard, and the sentence would be passed. The noble court was reserved for the elite, who were judged by their peers when

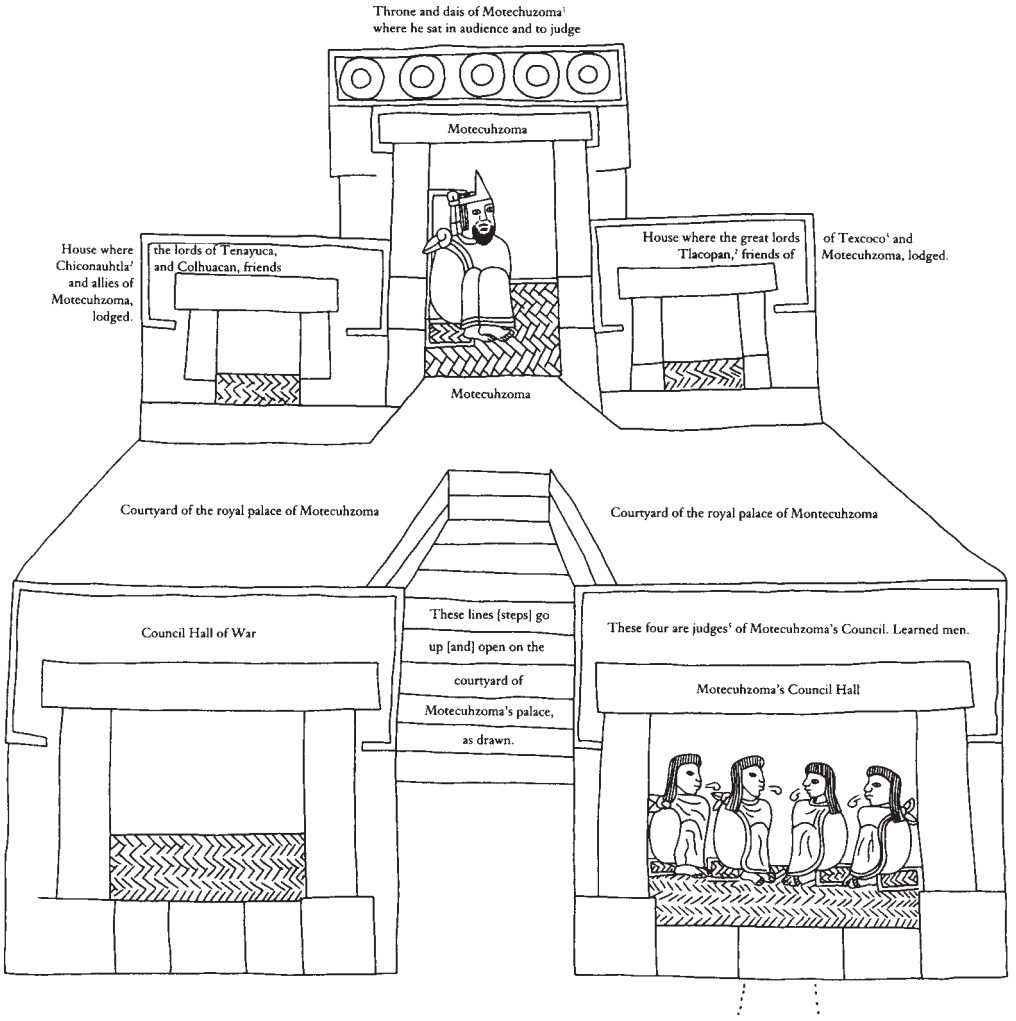


Fig. 5.8. The Palace of Motecuhzoma, Codex Mendoza 69r. From Berdan and Anawalt (1992, IV: 143). Courtesy of Frances F. Berdan.

5.5. A Meal in the Moctezuma's Palace

Three or four hundred boys came bringing the dishes, which were without number, for each time he lunched or dined, he was brought every kind of food: meat, fish, fruit and vegetables. And because the climate is cold, beneath each plate and bowl they brought a brazier with hot coals so that the food should not go cold. They placed all these dishes together in a great room where he ate, which was almost always full. The floors were well covered and clean and he sat on a finely made, small leather cushion. While he ate, there were five or six old men, who sat apart from him; and to them he gave a portion of all he was eating. One of the servants set down and removed the plates of food and called to others who were farther away for all that was required.

Cortés, Second Letter ([1519–1526] 2001, 111).

they committed a crime or adultery. The sentence for the guilty tended to be death.

The military court occupied several rooms. Sahagún mentions the place where the *tlacochcalcatl* and *tlacatecatl* captains, the highest military ranks, met; the room where the bailiffs carried out sentences; and a room called the *cuicacalli* (music conservatory) where the teachers of the young men met to wait for orders about what public works the students were needed for. Sahagún also tells us that "every day, until sunset, they were accustomed to go naked to this house of *cuicacalli* to sing and dance" (Sahagún 1577, Bk. 8, Ch. 14, [1577] 1975, 466). Somewhat later he clarifies that those who were going to dance were the young men, who were there until 11 p.m. and then went to sleep in the houses of the *telpochcalli*, not their own. Sahagún also mentions that the sentence for those caught cohabitating, committing adultery, or getting drunk was death.

Also in the palace were the storerooms where maize, kidney beans, salt, chili peppers, pumpkin seeds, and many other types of seeds were kept. Also, there was the *petlacalco*, where the steward (*calpixqui*) of the lord oversaw "those who had committed some crime, but did not deserve death" (Sahagún 1577, Book VIII, chap. XIV; [1577] 1975, 467).

The name coincides with that of one of the "provinces" in the Codex Mendoza. If we believe that the tribute cited in this and similar documents actually arrived in Tenochtitlan, the warehouses would have to be of considerable size (see Rojas in press a).

The next room, the house of the stewards, or *calpixcacalli*, was an important center for the economic organization of the empire. All of the stewards met there with the records of all the tributes under their control. The demands for integrity were very great, and the punishment for those who infringed upon the norms was very strict, generally capital punishment. Annexed to this room was the *coacalli*, where the foreign lords stayed when they visited the lord of Mexico.

Next was the house of songs, where the singers and musicians got together to await orders from the lord.

Finally, the *malcalli*, or the house of the prisoners, is mentioned. This is where the war captives were kept. Given the numbers of captives, these rooms must have been of considerable size.

Motecuhzoma's Zoo

Sahagún also describes the place where Motecuhzoma kept wild animals:

> *Totocalli*: there majordomos kept all the various birds—eagles, red spoonbills, trupials, yellow parrots, parakeets, large parrots, pheasants. And there all the various artisans did their work: the gold and silversmiths, the copper-smiths, the feather-workers, painters, cutters of stones, workers in green stone, mosaic, carvers of wood. Caretakers of wild animals, majordomos, there guarded all the wild animals: ocelots, wolves, mountain lions, and mountain cats. (Sahagún 1577, Bk. 8, chap. 14; [1577] 1954, 45; 1975, 468)

Hernán Cortés's description of the zoo was much more extensive:

> He also had another house, only a little less magnificent than this, where there was a very beautiful garden with balconies over it, and the facings and flagstones were all of jasper and very well made. In this house there were rooms enough for two great princes with their household. There were also the pools in which were kept all the many and varied kinds of water birds found in these parts, all

> of them domesticated. For the sea birds there were pools of salt water, and for river fowl of fresh water, which was emptied from time to time for cleaning and filled again from the aqueducts. Each species of bird was fed with the food which it eats when wild, so that those which eat fish were given fish, and those which eat worms, worms, and those which eat maize or smaller grain were likewise given those things. And I assure Your Highness that the birds which eat only fish were given 250 pounds each day which were taken from the salt lake. There were three hundred men in charge of these birds who knew no other trade, as there were others who were skilled only in healing sick birds. Above these pools were corridors and balconies, all very finely made, where Moctezuma came to amuse himself by watching them. (Cortés, Second Letter, [1519–1526] 2001, 109–10)

He also describes a room in the same house where albino men, women, and children were kept, as well as "male and female monsters in which there were dwarves, hunchbacks, and others with other deformities" (Cortés, Second Letter, [1519–1526] 1979, 76). In addition to the albinos, Hernández (1946, 97) mentions hunchbacked, disabled, and epileptic individuals, as well as anyone who had a malformation or rare shape, adding the surprising affirmation that "many had not been born this way." Cervantes de Salazar adds more details:

> And yet they say that for this end they broke them and trained them from the time they were children when they were more malleable, saying that in the house of such a great king, by his very greatness, there must be things that were not found in the houses of the other princes. (Cervantes de Salazar 1971, 1:318, translated by Kristin Sullivan)

Incidentally, these ideas appear Gary Jennings's novel *Azteca*, which features a "monsters' house" and describes the intentional deformation of children, mainly the offspring of poor people. These children were then sold to the *tlahtoani* officers. The existence of these rooms also presupposes a network that enabled officers to take control of children with particular deformities or to replace the losses not met naturally by newborns.

Motecuhzoma's zoo extended to other rooms, where a multitude of caretakers were in charge of a great quantity and diversity of animals:

> In the lower rooms were many cages of stout timbers; in some, lions were kept; in others, tigers; in others, lynxes; in still others, wolves. In short, there was no kind of four-footed beast that was not represented, and all for the purpose of Moctezuma's being able to boast that, however fierce they might be, he [dared] to keep them in his house. They were fed turkeys, deer, dogs, and game. In other rooms, in great earthenware jars, pots, and vessels of the kind, filled with water or earth, reptiles were kept, such as boa constrictors (*muslos*), vipers, crocodiles (which they call *caimanes*, that is to say water lizards), lizards of other kinds, and such-like vermin, as well as land and water snakes, fierce and poisonous, and ugly enough to frighten the beholder.
>
> In another apartment and in the courtyard, in cages with round perches, were kept all manner of birds of prey, such as lanners, hawks, kites, vultures, goshawks, nine or ten varieties of falcons, and many kinds of eagles, among which were some fifty a great deal larger than our red-tails. At one feeding each of them would eat a turkey of the country, which is larger than our peacock. There were many birds of each kind, and each kind had its own cage. (López de Gómara 1966, 150–51)

We often reflect upon the impact European animals, particularly horses and dogs, had on native animals. Yet we almost never consider the effect in the opposite direction, especially concerning reptiles. In Europe there are very few kinds of serpents. There are only two or three poisonous species, and they are small and not really very dangerous. Thus, when the Spaniards encountered constrictors and a wide range of poisonous serpents in the tropics, some of which have very fast-acting effects, they must have been shocked. They likely saw them as diabolical monsters. It is against this background that we should consider the following passage by Lopez de Gómara, who, we should remember, never stepped foot in America:

> The snakes and their mates were given the blood of men killed in sacrifice, to suck and lick, and some even say there were fed on the

> flesh, which the lizards devoured with great gusto. The Spaniards did not witness this, but they did see the ground all encrusted with blood, as in a slaughterhouse, which stank horribly and quaked if a stick was thrust into it. (López de Gómara 1966, 151)

It is interesting to point out that Cervantes de Salazar, who so often follows Gómara, omits this passage. However, his description of the hubbub of people entering and leaving the palace to take care of the animals does agree with Gómara's account (see Cervantes de Salazar 1971, 319). Gómara noted that although the Spaniards enjoyed watching this commotion, they

> did not enjoy [the animals'] frightful hissing, the hideous roaring of the lions, the howling of the wolves, the screams of the tigers and lynxes, and the yelps of the other animals, owing to hunger or perhaps to the thought that they were caged and could not give vent to their fury. (López de Gómara 1966, 151)

These sounds joined the murmur of water, the ringing of the drums that announced the hour, the flutes and trumpets of the schoolboys who did not leave until late at night (Escalante 2004a, 205–6), and the buzz of different languages that rose from the market and could be heard up to a league away. Escalante also speaks of the scents, which leads us to the market.

Markets

The classic descriptions, from Cortés and later from Bernal Díaz del Castillo, speak of the Tlatelolco market and its greatness, but it was not the only one in the city. It was possible to acquire necessary items in many districts, especially food (Conquistador Anónimo 1971, 394; Hernández 1946, 80). Cervantes de Salazar (1971, 1:329–30) said that prepared food was also sold on the streets. In this respect, colonial Mexico City was not very different from the modern one.

The most common description, which nearly everyone followed with some variation, is that of Cortés (Text Box 5.6). In it one can perceive how the market was organized and what products were sold. The other authors follow this description quite closely, although each one emphasizes his own field of interest, be it fruit, vegetables, the different

5.6. Hernán Cortés Describes the Tenochtitlan Market

There is also one square twice as big as that of Salamanca, with arcades all around, where more than sixty thousand people come each day to buy and sell, and where every kind of merchandise produced in these lands is found; provisions as well as ornaments of gold and silver, lead, brass, copper, tin, stones, shells, bones, and feathers. They also sell lime, hewn and unhewn stones, adobe bricks, tiles, and cut and uncut woods of various kinds. There is a street where they sell game and birds of every species found in this land: chickens, partridges and quails, wild ducks, flycatchers, widgeons, turtledoves, pigeons, cane birds, parrots, eagles and eagle owls, falcons, sparrow hawks and kestrels, and they sell the skins of some of these birds of prey with their feathers, heads and claws. The sell rabbits and hares, and stags and small gelded dogs which they breed for eating.

There are streets of herbalists where all the medicinal herbs and roots found in the land are sold. There are shops like apothecaries', where they sell ready-made medicines as well as liquid ointments and plasters. There are shops like barbers' where they have their hair washed and shaved, and shops where they sell food and drink. There are also men like porters to carry loads. There is so much firewood and charcoal, earthenware braziers and mats of various kinds like mattresses for beds, and other; finer ones, for seats and for covering rooms and hallways. There is every sort of vegetable, especially onions, leeks, garlic, common cress and watercress, borage, sorrel, teasels and artichokes; and there are many sorts of fruit, among which are cherries and plums like those in Spain.

They sell honey, wax, and a syrup made from maize canes, which is as sweet and syrupy as that made from sugar cane. They also make syrup from a plant in the islands is called maguey, which is much better that most syrups, and from this plant they also make sugar and wine, which they likewise sell. There are many sorts of spun cotton, in hanks of every color, and it seems like the silk market at Granada, except here there is much greater quantity. They sell as many colors for painters as may be found in Spain and all of excellent hues. They sell deerskins, with and without the hair, and some are dyed white or in various colors. They sell much earthenware, which for the most part is very good; there are both large and small pitchers, jugs, pots, tiles, and many other sorts of vessel, all of good clay and most of them glazed and painted. They sell maize both as grain and as bread and it is better both in appearance and in taste than any found in the islands

continued

Text box 5.6—*continued*

or on the mainland. They sell chicken and fish pies, and much fresh and salted fish, as well as raw and cooked fish. They sell hen and goose eggs, and eggs of all the other birds I have mentioned, in great numbers, and they sell tortillas made from eggs.

Finally, besides those things which I have already mentioned, they sell in the market everything else to be found in this land, but they are so many and so varied that because of their great number and because I cannot remember many of them nor do I know what they are called I shall not mention them. Each kind of merchandise is sold in its own street without any mixture whatever; they are very particular in this. Everything is sold by number and size, and until now I have seen nothing sold by weight. There is in this great square a very large building like a courthouse, where ten or twelve persons sit as judges. They preside over all that happens in the markets, and sentence criminals. There are in this square other persons who walk among the people to see what they are selling and the measures they are using; and they have been seen to break some that were false.

Cortés, Second Letter ([1519–1526] 2001, 103–5).

types of corn, or the number of judges that made up a "hearing." Friar Bernardino de Sahagún adds the most information, mainly because he speaks of the salesmen and gives the names of the goods in Nahuatl (Sahagún [1577] 1965, Books 8 and 10; Sahagún [1577] 1961). His account mentions raw materials, manufactured objects, tools, jewelry, textiles, prepared and uncooked food, and what we might call "services" (see Text Box 6.1). The information provided in the various sources is summarized in Rojas (1986, 171–77).

Among the raw materials were gold, silver, precious stones, feathers, cotton, thread, paper, wax, dyes, different types of wood, firewood, coal, finished and unfinished stone, adobes and bricks, plaster, lime, saltpeter, and leather. The sections in the chronicles regarding tools list stone knives, copper and brass axes, hoes or wooden planters, oars, levers, ropes, awls and chisels, looms, spindle whorls, and tumplines used for carrying loads (see Text Box 5.6).

The sources also list containers of all types for domestic use, including griddles, mortars for making sauces, braziers, and objects made of

matting, such as rush mats, boxes, and baskets. Mirrors and brooms are also mentioned. The clothing he lists includes capes, ponchos, the loincloths worn by men (*maxtlatl*), women's skirts, and women's blouses, the famous *huipiles* (traditional embroidered blouses) that are still made today. The main footwear was sandals. Jewelry was made of gold, silver copper, tin, precious and nonprecious stones, bone, shell, and conch. There were also rich feathers. Other items of personal ornamentation were cosmetics, including *tzictli*, the Nahuatl word for chewing gum, although its use in ancient Mesoamerica was not the same as in modern times. Tobacco was used for both cosmetic and therapeutic purposes in the forms of "scent tubes" and "smoke tubes" and pipes.

But the most detailed section describes food, both prepared and uncooked, and live or dead animals. The lists are quite specific about which birds, mammals, and reptiles were sold, whereas for fish the list says only "fish." Cortés gives the most information about live animals, particularly birds. He lists hens, ducklings, ducks, partridges, quails, turtledoves, doves, parrots, eagles, crows, hawks, sparrow hawks, and kestrels. He also noted the presence of deer, hares, rabbits, and dogs. Cervantes de Salazar (1971, 1:329) is the most explicit about dead animals, such as snakes, moles, dormice, mice, worms, toasted ants, ground squirrels, and serpents. Others add hens, birds, "fierce beasts," and deer. Sahagún and some other documents mention the existence of butchers.

Many varieties of vegetables were sold. The list includes cacao, kidney beans, chía, different types of corn, chili peppers, amaranth seeds, tomatoes, roots, seeds, leaves, grass, vegetables, onions, leeks, pumpkins and squashes, garlic, watercress, borage, sweet potatoes, yam beans, and many fruits, including cherries, plums, avocado, sapodillas, pineapple, sapote, and guavas. The drinks included cacao and pulque (a fermented drink made from the sap of the maguey cactus). The presence of the latter is interesting because in spite of the existence of severe restrictions on the consumption of spirits, it was repeatedly mentioned as an item that was sold in the market. Finally, we cannot forget the sale of salt.

Prepared foods were also sold. The list begins with different types of honey and treats such as nut nougat, marshmallow, and chía nougat. Pumpkin seeds, cooked corn on the cob, *atole* (hot and cold drinks made from corn gruel), *pinole* (toasted, pulverized corn mixed with

cinnamon and sugar), and *chilmolli* (a tomato stew made with chili peppers) were also sold, as were different stews of roasted and cooked meat, bird pies, tamales (corn dumplings), corn tortillas, tacos (Sahagún says "tortillas with ground chili peppers or meat with *chilmolli*"), fish stew, and fish pies. Houses existed "where they provide[d] food and drink at a price." Also found were *tecuitlatl*, or cakes made from spirulina.

Services were provided by herbalists and druggists; barbers; stove makers; water bearers; craftsmen such as potters, carpenters, and wood cutters; and those who provided transportation services such as shippers and canoeists. Also present were slaves.

All this was complemented by a service related to hygiene that is mentioned only by Bernal Díaz del Castillo, whose testimony deserves to be mentioned in length:

> I must apologize for adding, that boat loads of human ordure, were on the borders of the adjoining canals for the purpose of tanning leather, which they said could not be done without it. Some may laugh at this, but I assert the fact is as I here stated it, and moreover, upon all the public roads, places for passengers to resort to, were built of canes and thatched with straw or grafs in order to collect this material. (Díaz del Castillo 1800, 144)

It is interesting that this paragraph does not appear in other translations of Bernal Díaz del Castillo's book We have less information about how many salesmen were associated with each item in the market. However, Lopez de Gómara (1987, 186) says of the prepared food that "it is frightening to think where so much stewed food is ruined and wasted and how so much food was cooked." The sources agree that those selling similar items were located in close proximity to each other, forming specialized streets of sorts. Everyone had their assigned place; for example, those who sold heavy items, such as beams, were located on the outskirts of the market. In addition to bartering, the Mexica used several types of currency, including cacao and blankets. However, few things were expensive enough to require the latter. The salesmen had to pay rent for their spots, and the judges and the bailiffs saw to it that law and order were enforced and no fraud was committed.

Knowledge of the diversity of products sold in the market is important in itself, but so too is the reason for such diversity. Cortés cites

60,000 as the number of people who went to the market each day, most of whom must have come to purchase goods. Most of the goods came from outside the city; thus, the market was an important part of the supply network that I will discuss in more detail in Chapter 6. What Tenochtitlan offered was the transformation of raw materials into goods and services. The presence of craftsmen, raw materials, and tools in the market suggests it was a place where craftsmen could be supplied with raw materials and work and where they could obtain clients. The abundance of foodstuffs, textiles, and domestic objects tells us that the population of Tenochtitlan focused on other aspects of the economy and needed to buy what they did not produce. In most of the books on the Aztecs, the commoners are described as nearly self-sufficient cultivators and part-time craftsmen. However, this description does not apply to most of the inhabitants of the city. Most were occupied with a great number of other tasks and used the income they earned to buy what they needed in the market, as we will see in Chapter 7.

We don't have descriptions for other markets in Mesoamerica, but we can imagine that the main market at Teotihuacan must have looked very similar, and this may be true for other markets in places such as Chichén Itza, Monte Albán, and Xochicalco.

Means of Exchange

The presence of a means of exchange, what we typically refer to as currency, is key to the operation of a city of specialists, although some authors prefer to reserve the term "currency" for metal coins. However, in Mesoamerica, several items served as currency, among which cacao stands out because it constituted the smallest denomination. Cotton blankets were next; different values were assigned to them corresponding to the value of 65, 80, and 100 cacao beans. Gold-filled tubes for feathers are also mentioned, as are copper axes. But cacao and cotton cloth were the most commonly mentioned mediums of exchange. These also had an important presence during colonial times, and cacao largely coexisted with Spanish coins for quite some time (Rojas 1987c, 1998b). Although there is some mention of payment in spices, cotton cloth and cacao were typically used.

The descriptions offered by the chroniclers generally do not include most roads and canals, except for some brief notes by Cervantes de Salazar (1985). We can catch a glimpse in the accounts of the conquest,

but the chroniclers barely linger on the descriptions of such places and even less on the activities associated with them. Thus, our knowledge of the structure of the districts, the presence of temples, schools, patios, and streets populated with trees or other shade, and daily life in all corners of the city is quite limited. However, Chapter 8 will provide some information about these topics in the context of a discussion of the daily life of the inhabitants of Tenochtitlan.

6

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Supply and Distribution

The city of Tenochtitlan was founded on a small island where resources were limited. Even though it was located in the center of a lake, the water was brackish, which made the provisioning of fresh water for human consumption difficult. As a result, the Chapultepec aqueduct was one of the first major construction projects for the Tenochca.

As the city grew so did the number of people that inhabited it. Demand also increased, and almost everything consumed in the city came from elsewhere. Food, building supplies, and raw materials for craft production were all imported into the city. One of the first requests the Tenochca made of the lord of Azcaptozalco, which was not very well received, was for wood and stone for building.

An intricate network of transportation, storage, and distribution was necessary for provisioning and distributing all products. In addition, it was necessary to control production at the place of origin to ensure the flow of goods, which made this system a political matter that was closely tied to the ability of the empire to expand.

This system required many people, both inside and outside the city. Such employment opportunities likely attracted immigrants, and these new residents enabled the city to grow. We now turn to how Tenochtitlan organized the provision and distribution of necessary goods.

Drinking Water

The Chapultepec aqueduct was the main source of potable water in the city. However, some texts mention the existence of water sources at certain points within Tenochtitlan, such as at the palace of Motecuhzoma.

We know that water was channeled to some palaces, but most of the people purchased potable water in the market, at the end of the

aqueduct, or along the irrigation ditches. The water carriers who distributed potable water throughout the city were responsible for maintaining the irrigation ditches. City residents paid them for their work:

> Canoes paddle through all the streets selling the water; they take it from the aqueduct by placing the canoes beneath the bridges where those channels are, and on top there are men who fill the canoes and are paid for their work. (Cortés, Second Letter, [1519–1526] 2001, 108)

The system was quite vulnerable because if one part of the aqueduct was blocked, the flow of water would be interrupted throughout the city. Hence, we must assume that there was some way to monitor the aqueduct to prevent problems. The number of people whose jobs were related to providing and distributing potable water must have been quite high.

We do not have enough information about the existence of water tanks at houses and palaces for storing water or gathering rainwater during the rainy season. However, the lack of information does not negate this possibility.

Food Supply

Although we have testimonies of houses that had *chinampas*, the size of them suggests that they could only have been used to supplement other food sources. (Here I am referring to those that were not dedicated to growing flowers.) Most of the food consumed in the city came from elsewhere and arrived by two main routes: commerce (both short- and long-distance) and tribute.

Tribute

When the Mexica arrived in the Valley of Mexico, the extraction of tribute payments was already a well-entrenched practice in Mesoamerica. The Mexica themselves had to pay tribute to the Tepaneca for a long time as recognition of their dominion over them. After they obtained independence and rose to the top of the empire, they became the collectors.

Tribute has several aspects: the lords received it from their vassals whether they were the great *tlahtoque* like those of Tenochtitlan or

Texcoco or small lords who received it from those who worked their land. Some authors refer to the latter as "rent." The main difference between the two concepts is that "rent" is income for an individual and "tribute" is income for the state, and the problem for researchers is that we frequently do not know if there was some differentiation between state collections of tribute and personal collections of tribute. So within the category of tribute, goods entered the city in two ways. One way is through the large-scale tribute we typically call state tribute. However, this form of tribute was likely the patrimony of the *huey tlahtoani* (emperor). Surely there would not have been any type of separation between the ruler as supreme lord and the organization he presided over, which we would call an empire or state. The second form of tribute is the great contributions the other lords received. The documents tell us that the *petlacalcatl* (head steward) was in charge of receiving and caring for tribute, as is indicated in descriptions of Motecuhzoma's palace. The stewards had many people at their disposal, both in the palace itself and in the provinces.

The main sources that discuss tribute are the second part of the Codex Mendoza (Berdan and Anawalt 1992), the *Matrícula de Tributos* (Berdan and Durand-Forest 1980), and the *Información de 1554* (Rojas 1997). The former is the most commonly cited; it includes pictographs with Castilian notes and a lengthier Castilian text on the opposite page (see Figure 6.1). There is still controversy about the correct way to read this document. One of the biggest points of contention involves the quantity of the annual grain tribute, of which there were four types: corn, kidney bean, chía, and amaranth. All of these appear in the codex under the heading "bin." There are differences of opinion about the total number of bins because the values indicated in the Spanish texts and the pictures do not coincide. Some of the pictures indicate a single product and others indicate several. The problem is that in the latter case, the texts indicate that an entire bin of each grain was paid, thus increasing the total number of bins. Thus, there is a considerable difference between what the written texts and the painted pictures tell us. The pictures in the Codex Mendoza indicate four bins of corn, one of kidney beans, eighteen of corn and amaranth, seventeen of chía seeds and kidney beans, and two with all four products, for a total of forty-two. Using the first calculation technique yields a total of eighty-six bins. In the text that refers to the province of Tepeaca, each

bin is multiplied by two in the text, although there is only one product in each bin (Molins 1954–55, 305). The difference in quantity is multiplied when the capacity of the bins is taken into consideration.

The *Información de 1554* does not mention bins; instead, it says that 4,100 fanegas were delivered in each tribute. This is similar to the statement in the Codex Mendoza that each bin held between "four and five thousand fanegas" (Berdan and Anawalt 1992, f. 21r). Sahagún (1577, Book 8, chap. 14, [1577] 1954; 1975, 467) lists 2,000 fanegas as the capacity of a bin. Using these values, the smallest number would be 84,000 fanegas (42 bins × 2,000 fanegas) and the largest would be five times that: 430,000 (86 × 5,000). The most probable is 42 bins multiplied by 4,000 or 5,000—that is to say, 168,000 to 210,000 fanegas of total grain coming from annual tribute.

Very high numbers for the volume of the fanega have been offered, such as Katz's estimate of 144 liters (1966, 94). However, the most common equivalent in the sixteenth century was 55 liters per fanega. This yields an annual total of 9,240,000 to 11,550,000 liters of grains of all types. Researchers use all of these counts for different purposes, such as assessing the impact of tribute on subject provinces, calculating the cost of transport, determining the amount of storage capacity needed, and estimating population levels. So it is very important be as accurate as possible when using ancient numbers (see Rojas, 2011).

Another point of debate is how many people could be fed with this amount of grain. Corn is less dense than water; each liter weighs about 0.9 kilos. However, I will work with the numbers given previously to estimate their nutritional capacity. I also follow the custom of using corn to infer other points of data, although most of the tribute consisted of chía, amaranth, and kidney beans. Estimates of the daily requirements for feeding an adult vary considerably, depending on whose data is used. Parsons (1976, 247–50) calculates that each inhabitant of Tenochtitlan required about 200 kilos of corn per year. Using this number, the tribute listed in the Codex Mendoza could have fed between 46,200 and 57,750 people per year. But according to Katz (1966, 94), the grain tribute that appears in the codices is 52,800,000 kilograms, which he calculates would have provided food for 360,000 inhabitants. The disparity is significant. Katz argues that the tribute estimates could have fed a huge population. But Parsons' numbers indicate either

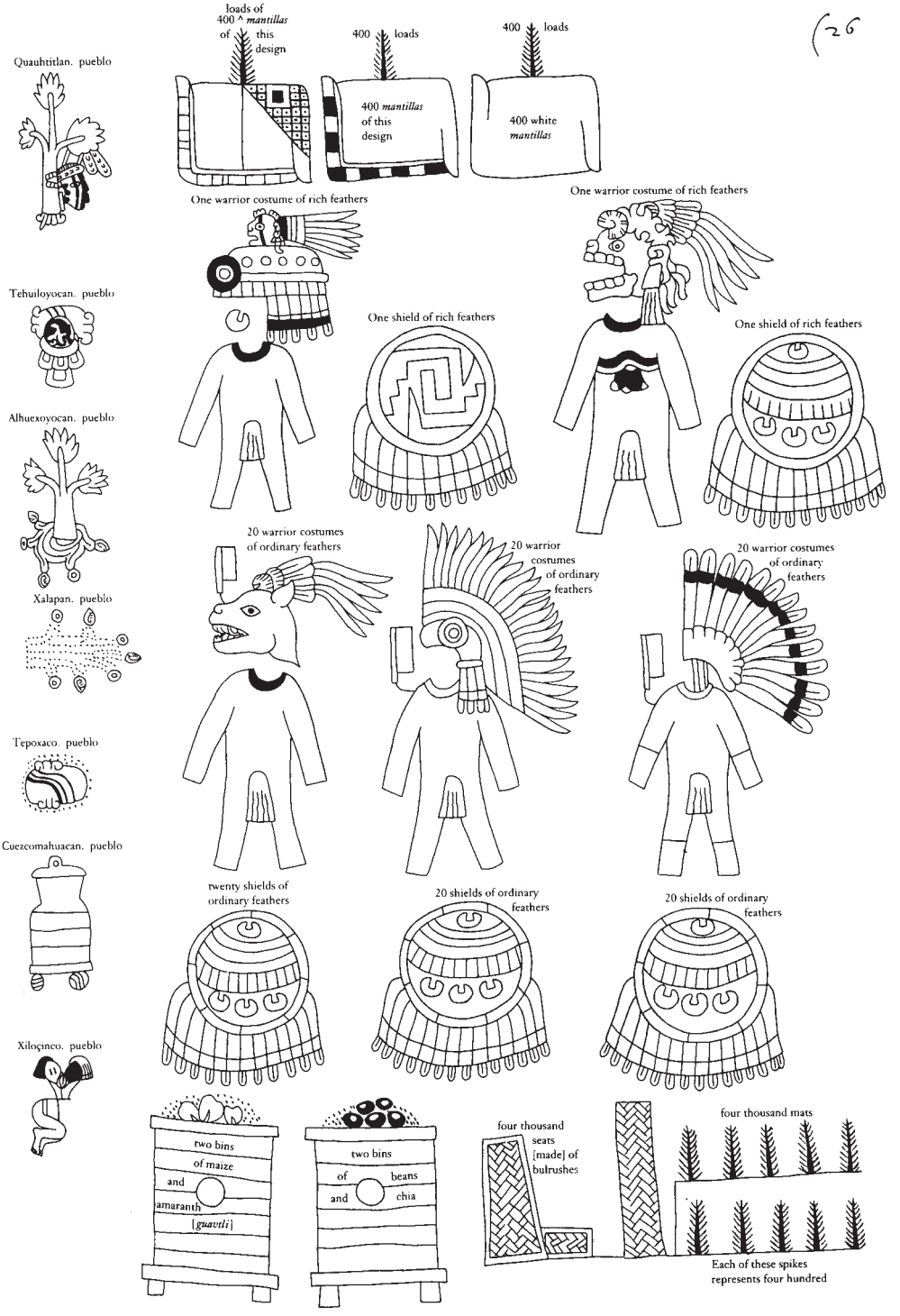

Fig. 6.1. Tribute from Quautitlan, Codex Mendoza, 26r. From Berdan and Anawalt (1992, 4:57). Courtesy of Frances F. Berdan.

that the city was considerably less densely populated than has been supposed or that there must have been other sources of food.

Parsons (1976) looks at other possible food sources, focusing on the *chinampas* located south of the Valley of Mexico lakes. He concludes that that region could have maintained 9,500 hectares of *chinampas* at the beginning of the sixteenth century with an average production of about 3,000 kilograms of corn per year per hectare. This yields an annual production of about 28,500,000 kilograms of corn. A work force of 12,700 people would have been necessary to cultivate this amount (ibid., 245). Parsons argues that 36,620 people may have depended on the *chinampas* for food. The amount of land required to maintain the number of *chinampas* needed to feed that number of people was 2,440 hectares, to which Parsons adds another 20 percent to cover other local needs, for a total of 2,870 hectares. The production surplus is then 6,630 hectares, or 19,890,000 kilograms, enough to feed nearly 100,000 people for a year, according to Parsons' calculations. His results are detailed in Table 6.1.

However, if the population was as great as 300,000 inhabitants, the possibility of a food deficit exists. I have used Parsons' numbers as an example of the calculations that can be done, although there are several other possibilities. For example, it is possible that the tribute quantities mentioned in the Mendoza Codex were considerably less than Parsons estimates because his calculations are based on the assumption that there were 86 bins of tribute each year. In addition, Ramos, Hernández, and Kohashi (1985, 412) note that it is possible that *chinampa* production could have been maximized through the techniques of simultaneously cultivating corn, kidney beans, and chía, thus increasing the yield of each crop; using the same plot for multiple harvests; and increasing the number or size of the fields. Increasing productivity through any or all of these methods would have added additional food resources to the corn collected as tribute. In fact these authors suggest yields of between 4,000 and 5,000 kilograms of corn per hectare per harvest. If the *chinampas* permitted several annual harvests, that would greatly increase the estimates of food production capacity, which would also increase estimates of the size of the population that could have been maintained in the Valley of Mexico.

It is possible that grain also came from other regions. The conquests in Veracruz and the Toluca Valley were carried out not only to extract

Table 6.1. Disposition of *chinampa* surplus (expressed in terms of kilos of corn)

Annual subsistence requirements for Tenochtitlan	
a. Population of 150,000	30,000,000
b. Population of 200,000	40,000,000
Maximum total annual surplus from *chinampas* (6,630 × 3,000 kilos/ha)	19,890,000
Annual rent to Tenochtitlan from landed estates in *chinampa* district (845 ha x 3,000 kilos/ha)	2,535,000
Annual tribute to Tenochtitlan from *chinampa* district (estimated from Codex Mendoza)	800,000
Annual tribute to Tenochtitlan from non-*chinampa* areas (estimated from Codex Mendoza)	15,200,000
Total supplied to Tenochtitlan from *chinampa* area as rent and tribute	3,335,000
Total supplied to Tenochtitlan as rent from landed estates in *chinampa* district and total tribute	18,535,000
Annual rent to Tenochtitlan from landed estates in Central Mexico outside *chinampa* district	?
Total annually required by Tenochtitlan over and above rent from landed estates in *chinampa* district and total tribute	
150,000 people	11,465,000
200,000 people	21,465,000
Maximum potential surplus annually available through market from *chinampa* district, over and above rent and tribute	16,555,000
Capacity of *chinampa* district to supply Tenochtitlan's annual subsistence requirements	
a. 150,000 people; excess	5,090,000
b. 200,000 people; deficit	4,910,000
Foodstuffs required by state to underwrite non-subsistence activities	?

Note: Parsons converted all crops to equivalent amounts of corn.

Source: Parsons (1976, 250, Table 12.5).

tribute but also to extend Tenochtitlan's area of influence (Rojas 1987b). Toluca is at a manageable distance for transporting grain to the city for sale.

We must also consider the fact that people ate other food besides corn. When calculations are made by converting all crops to corn equivalents, as is usually the case, other products that should be added to arrive at the total quantity of available food tend to disappear. The descriptions of the market make it clear that meat was an important part of the diet, for example. The tribute lists also include items such as honey and cacao and the *Información de 1554* mentions "hens of the land," or turkeys.

We are still far from being able to estimate accurately how much food the *chinampas* produced for Tenochtitlan. However, Parsons' model is a good start because he provides a variety of calculations for each food item: production rates, the costs of production, the size of the plots, the amount of work required to grow the food, and so forth.

Accurate calculations of the number of people that could be fed must also include the amount of seed that had to be saved for the next year and take into consideration what percentage of food loss might be incurred during the handling, storage, and transportation of food.

Commerce

Some of the products that came into Tenochtitlan formed part of the tribute paid to the lord. Another part consisted of the rents that other lords obtained in their dominions. Yet another portion—surely the largest part—came from the management of small- and large-scale retailers. The latter included the *pochtecas*, or long-distance traders. A portion of these goods was destined for private consumption, while another portion was used as remuneration for the various services *huey tlahtoani* paid people for the services they provided (jobs that fall in the category of what we might call administration of the state). Another portion was used in the market in exchange for goods and services.

The primary sources describe different types of merchants. Some were artisans who went from market to market to sell their surplus goods. Others, called retailers, sold merchandise they had purchased. There were also large-scale merchants. For all of these sellers, the market was the center of activity.

The Market

The first description of the Tenochtitlan market is in Hernán Cortés's Second Letter, which is dated 1520. Although the context suggests that Cortés was describing the Tlatelolco market, this document provides the first testimony about the operation of a Mexica market, and it is a unique account that was written before colonialism changed things. The other accounts differ according to the interests of each author, mainly in terms of the detail provided about the types of goods sold. The authors of these documents include Bernal Díaz del Castillo, Francisco López de Gómara, Friar Bernardino de Sahagún, and Francisco Cervantes de Salazar. Of this group, López de Gómara was the only one who was never in New Spain. The others saw the colonial market in operation and stated that it was very similar to the one of "Pagan times." Cortés's focus on the great market, at which "daily there were more than fifty or sixty thousand people buying and selling" (Cortés [1519–1526] 1979, 70), has obscured the existence of other, smaller markets or those that were held every five or twenty days. For example, Cervantes de Salazar (1971, 1:280) says that the food markets were open every day and that the more general markets were held every five days. Although Friar Diego Durán (1570; 1967, 1:179) states that nothing could be sold outside the great market, Torquemada (1969, 2:558) says that *atole* and cacao were sold on street corners. The Conquistador Anónimo (1971, 394) mentions markets where only food was sold, and Hernández (1946, 80) states that such markets were found in all districts. So in a city as large as Tenochtitlan it seems likely that there were markets in all of the districts. Cervantes de Salazar (1971, 1:329–30) also says that prepared food was sold on the streets, as occurs in modern-day Mexico City.

The lists of things sold in the market is a good sample of the diversity of the products that were exchanged. They also tell us about the activities people dedicated themselves to, because what was sold included both raw materials and food. Grouping market products by type instead of following the order of items as they appeared in Cortés's letter provides a clearer idea of what the market had to offer. Text Box 6.1 lists the broad categories followed by more detailed lists of goods. These included construction supplies and raw materials such as wood, stone, or metal such as gold and silver for making tools. Others raw materials included wax, feathers, resin, and unworked wood or stone. Some

materials, mainly those used for building, required some processing before they could be sold, such as boards, bricks, lime, and paper. Animal skins are another example of materials that had to be processed before sale, although they are rarely mentioned in the sources. They were particularly important for the operation of the city, and we know that the human ordure collected in the canoes was used for tanning leather. Another category of items sold is tools. These include different types of knives and axes, farming implements such as hoes, and tools used for construction, carpentry, and textile production. Utensils for carrying loads were also sold. Next are the domestic household items, which include many objects commonly used in the houses, such as *petates* (reed mats) and mats to cover the ground, walls, and doors; different types of baskets for storing and transporting things; boxes or cases; pottery for cooking, eating, or drinking; and some very specific items such as *comals* (griddles) and cups for drinking chocolate. The bowls (*molcajetes*) for grinding ingredients for sauces also fall into this category. Mirrors and brooms were also sold. In Text Box 6.1, I have listed clothing items separately from household goods and furnishings. Articles for men and women were sold, as were coarse cloth, cotton cloth, and footwear. Decorative elements cited in the texts include jewelry made of various materials that sometimes were combined in a single piece. The materials used include gold, silver, copper, shell, bone, snail shells, feathers, turquoise, and different types of "precious stones," among which were *chalchihuites* (green stones). To complete the adornments there were different types of ointments and scents, as well as *copal* (incense), tobacco, and cochineal dye.

A large portion of the market was dedicated to selling food. Large quantities of live birds and mammals were sold there. Meat was also sold, as were different types of serpents, some insects, and eggs. Some texts mention "insects that they eat," and among the dishes offered in Mexican restaurants today we still find maguey worms and toasted grasshoppers. Fresh and salted fish were also sold. The large quantity of vegetables sold included various types of corn, beans, chili peppers, tomatoes, cacao, and various fruits. Salt was also sold, as were prepared drinks such as cacao and pulque. We know of the existence of very strict laws about drunkenness, but the presence of pulque salesmen in the market and the great number of celebrations at which the participants imbibed offers a somewhat different view (see Rojas 1998a).

6.1. Products Sold in the Market

Raw Materials

Gold, silver, precious stones, feathers, cotton, twisted thread, paper, wax, colored paints, seed, wood (boards, wedges, beams, edges, benches), firewood, *ocote* (pine), resin, coal, worked stone, unworked stone, adobes, bricks, lime, clay, plaster, paste, saltpeter, canoes of human waste, *otates* (hard wood), animal hides (tigers, lions, otters, deer, badgers, wildcats, rabbits, birds of prey), animals, and birds

Tools

Stone knives, brass axes, copper axes, tin axes, *coas*, levers, shovels, oars, ropes, cords, striker pins, chisels, woodworking tools, looms, *malacates* (spindles), harnesses

Household Furnishings/Equipment

Bedrolls, wood mats, *petacas* (boxes), baskets, stoneware, braziers, *comals*, cups for drinking chocolate, jars, mirrors, brooms, pots, *molcajetes* (grinding bowls)

Clothing

Worked cotton cloth, coarse clothes, maguey cloth, *maxtlatls*, *huipiles*, skirts, fringes for skirts, fringe for cotton cloth, *cotares* (sandals)

Adornment

Brass jewelry, copper jewelry, tin jewelry, stone jewelry, bone jewelry, shell jewelry, snail jewelry, gold jewelry, silver jewelry, precious stone jewelry, feather work, necklaces, bells

Cosmetics and Other Items

Incense sticks, smoke tubes, tobacco, cigars, tobacco pipes, ointments, cochineal dye, *axin*, tar, rubber, gum

Food

Live animals: hens, ducklings, ducks, partridges, quails, turtledoves, doves, parrots, eagles, hawks, sparrow hawks, kestrels, rabbits, hares, deer, small dogs

Dead animals: birds, fierce beasts, hens, eggs, frogs, snakes, moles, dormice, mice, worms, toasted ants, deer, fresh and salted fish

Vegetables: cacao, kidney beans, chía, corn, amaranth, chili peppers,

continued

Text box 6.1—*continued*

tomatoes, pumpkins, squash, roots, seeds, leaves, grass, vegetables, onions, leeks, garlic, common cress, watercress, borage, cherries, plums, avocados, sweet potatoes, *sapodillas*, sweet turnips, pineapples, *mameyes*, guavas

Drinks: cacao and pulque

Prepared food: cane honey, bee honey, maguey honey, sweets, pastes of flour, honey, and nuts; chía nougat, pumpkin seeds cooked *xilotes* (green corn), cooked corn on the cob, hot and cold *atole*, *pinole*, chili pepper sauce, cooked meat, roasted meat, bird pies, corn tamales, tortillas, tortillas with ground red pepper, meat or chili pepper sauce,[1] fish stew, fish pastries, omelets, *ahuauhtli*, *tecuitlatl*

Service Providers

Herbalists, druggists, barbers, stove makers, waterfall attendants, slaves, day laborers, potters, woodworkers, carpenters, canoeists, porters

1. Likely origin of tacos.

Rojas 1986.

The existence of prepared food and what Cortés called "houses where they serve food and drink for a price" reminds us of modern-day Mexican markets. Other prepared foods included many types of sweets and drinks, cooked corn on the cob, prepared meat, tortillas, tamales, tacos, and two rare products: *ahuauhtli*, fly eggs recovered from the lagoon; and *tecuitlatl*, cakes made from spirulina algae from the lagoon.

The final category of things available at the market is services, which were provided by herbalists, pharmacists, barbers, potters, woodcutters, carpenters, canoe operators, porters, and "odd jobbers," a category that included various types of craftsmen and workers.

All this variety raises two fundamental questions: How were markets organized? And who needed the products markets provided?

The Organization of Markets

In order to answer the first question, it is necessary to focus on the several levels of the internal operation of the market.

The first level is the physical organization and norms of operation of the market. The salesmen were organized according to streets, and

the merchandise was concentrated in certain areas to facilitate supervision. This also helped the customers, because they could easily compare the quality and prices of similar products. Friar Bernardino de Sahagún (1975, 475) states that the lord of the city was in charge of making sure the market worked smoothly. Judges and bailiffs presided over the markets. The latter surveyed the market to prevent fraud and arguments (Díaz del Castillo 1975, 190–92; Cortés, Second Letter, [1519–1526] 1979, 70–71). A permanent court existed to provide rulings when crimes occurred. According to Bernal Díaz del Castillo (1975, 190–92), this court had three judges. But Cortés ([1519–1526] 1979, 71) claims that there were between ten and twelve judges. Other authors also mention twelve (Clavijero [1780] 1976, 237, 527; Vetancurt 1971, 93), while Zuazo (1971, 361) mentions only four. These differences could be resolved if those who mention twelve refer to the total number of judges and those who mention four refer to the judges who presided at the same time on a particular case. We know that there were several shifts a day in the Mexica courts. The penalties imposed were severe; the punishment was based on the fact that the individual had violated a norm rather than the amount he or she stole. Zuazo (1971, 361) indicates that the penalty for stealing an ear of corn might be death, and Vetancurt (1971, 93) says that those who falsified measurements were punished as thieves.

The second level of the market is that of the vendors, who were identified according to the products they sold. Craftsmen who sold their own products are identified in the Nahuatl descriptions with the suffix *-chiuhqui* ("the one who makes"). Some salesmen were agriculturalists who were selling their own surplus production; these were occasional vendors.

But the most important group in this category was the full-time vendors. Some were part of familial production networks and others bought the products they would sell, either in their home town or in the city itself. They were known as retailers (*tlanecuiloque*, or "those who contract things"), who acquired products from outside the city or from the entrance ports to resell. It is probable that many of these participated in networks that we have not yet studied well. Although it is clear in many cases that the producers and the sellers were not one and the same, this does not mean they were not related. For example, some texts mention craftsmen selling goods they made on site.

However, other sources mention only the merchandise, and we have assumed that the process of transforming the raw materials into finished products must have occurred elsewhere. The salesmen could be dealers or members of a group of craftsmen who shared the goal of selling the same final product. Many of the sources mention saleswomen, such as those who sold fish. Thus, it is likely that men focused on fishing and the women sold what they caught.

The great amount and variety of products sold in the market suggest the existence of an elaborate supply network. The market offered products that would have come into the city every day, such as fruits and vegetables, and others that would have arrived only at certain times and would be sold off gradually. This suggests warehouses—large and small, public and private. The subject of supply relates directly to area of influence of the city. Heavier and less expensive items, such as wood for construction and grain, could come from nearby areas. But the precious quetzal feathers had to come from distant regions, such as Soconusco.

Markets were also located in other places. We know of some specialized markets near Tenochtitlan, like the one at Azcapotzalco where slaves were sold. Each city and town had its own market that might have been large or small and that might have been held each day or every five or twenty days. Some, like the one at Xicalanco, have received special attention from researchers. This market was likely located on the Gulf coast in present-day Tabasco and served as a port of trade.

The *Pochteca*

Traditionally, the activities of the *pochteca* and the workings of the market have been considered separately in studies of the Mexica Empire. However, they overlap considerably (Rojas 1986, 229), because the former often used the Tenochtitlan market to sell part of the products they imported and to supply themselves with the products they would take to distant lands. Friar Bernardino de Sahagún (1975, 563) made this connection quite clear: "The merchant is a dealer and to do business he has an account in the markets." The larger retailers who sold luxury goods from distant lands often served as spies for the lord and reached high ranks in the political hierarchy (Erdheim 1978, 218–19).

The descriptions of the *pochteca* tell of individuals who had long professional careers that began when the merchants were boys. They would begin as apprentices to a well-known merchant, who may or may

not have been related to them. After several successful expeditions they could move up in rank, perhaps by sponsoring a celebration. After several ascents they could sponsor a great celebration that was called the "foot washing," after which they received the name *pochteca* or *oztomeca* (long-distance trader). The distinction between the two is not as clear as we would like. In his now-classic study, Zantwijk (1970) places them in different districts and states that the *oztomeca* acted only as merchants, dealing in submissive regions of the empire, to which they traveled in disguise so as to not raise suspicion. These merchants were not spies, Zantwijk argues. *Oztomeca* lived in the districts of Acxotlan, Tepetitlan, and Itzulco, and their leader was called the *acxoteca*. The *pochteca* lived in the districts of Pochtlan, Auachtlan, and Atlauhco; they were under the jurisdiction of the *pochteca tlailotlac* (head of the *pochteca*). Both groups lived in a seventh district, called Tzonmolco, where the temple and the *calmecac* were located. The religious leader of the long-distance traders, or *pochtlan teohua*, lived in the Pochtlan neighborhood. He was in charge of the cult to the god Yacatecuhtli, patron saint of merchants.

The goal of these merchants was to accumulate wealth. This is quite clear in the documentation, but the issue has generated many discussions among researchers because of what that means in terms of how we evaluate Mesoamerican society. León Portilla quotes part of Friar Bernardino de Sahagún's 1565 Madrid Codex:

> The *pochteca*: dealer, salesman,
> He provides loans, he makes contracts,
> He accumulates riches, he multiplies them.
> The good retailer:
> He is a traveler, hiker,
> He makes a profit,
> He finds what he is looking for,
> He is honored. (León Portilla 1962, 40, translated by Kristin Sullivan)

The entire career track of the merchants focused on the accumulation of profit. This was their motivation for risky trips to distant lands that could last years. A successful merchant could rise to the highest ranks of the hierarchy. From that position he could provide merchandise to other retailers on a commission basis and no longer had to risk his

own life. It is clear that not all *pochteca* reached that level, and many had to be satisfied with more modest results. Each would try to earn a living within his rank. Many researchers have resolved this apparent conflict between warrior ideals and commercial ideals in Mexica society by considering their activities to be parallel. In each case, ascent was quite costly. In the case of the soldiers, ascent depended on their ability to offer sacrifices of prisoners, especially the sacrifice of slaves. This was necessary to reach the rank of *tealtiani* ("bather," a name that alluded to the one who bathed the slaves before sacrificing them). This was the highest level an individual could obtain outside the ranks of *pochteca* lords. The life of the retailers is often described as an alternative process of accumulation and spending, the latter with the goal of being accepted by the soldiers (Erdheim 1978, 215).

This procedure does not seem so clear cut to me. The *huey tlahtoani* participated in the retailers' expeditions by providing merchandise for them to sell on commission (Sahagún 1975, 492–93). Thus, he obtained considerable income. In addition, the entire tribute system was designed to produce economic benefits for the emperor. The soldiers also were also interested in profit, because in almost all of the sources they are described as individuals who were eager to do everything possible to ascend the military and social ladder. However, in Friar Diego Durán's Historia de las Indias de Nueva España e islas de Tierra Firme (1581, 2002), there are descriptions of how lords remunerated soldiers by permitting them to sack subordinated cities and the tremendous complaints soldiers made when they were not allowed to exercise this "right." The Mexica lords' search for economic benefits was clearly in evidence during the colonial period. Many profited from their role as intermediaries between the indigenous world and the Spanish world. The documents also repeatedly mention wealth in pre-Hispanic times. Torquemada (1975–83, 3:393) and Cervantes de Salazar (1971, 1:129) state that merchants were the richest individuals. This does not exclude the existence of sumptuary laws or the fact that the exhibition of wealth was limitless and caused resentment. Sahagún (1975, 503) tells us how the merchants tried to bring their products to the city at night, and says that if anyone asked them, they would say the goods were not theirs. This clearly hints at the existence of some type of tax whose exact characteristics are unknown to us, because it is quite common that the authorities would demand their share. Land was one of the possessions a

person could own. Land was distributed among the warrior nobility in a process similar to that in Europe, where aristocrats were allied with rich retailers.

Everyone valued the participation of the retailers in rituals. Celebrations marked the movement of a merchant from one rank to another. Merchants also participated in the great celebrations of the year. These took place in the months of Toxcatl (sixth month), Miccailhuitontli (tenth month), Huey Miccailhuitl (eleventh month), Panquetzaliztli (sixteenth month), Tititl (eighteenth month), and Tlacaxipehualiztli (third month) (Broda 1976, 55–64). In addition, every four years victims were sacrificed to the god Xiuhtecuhtli in the month of Izcalli (first month). The merchants' main god was Yacatecuhtli, one of the many names of Quetzalcoatl, god of the retailers of the important city of Cholula (López Austin 1973, 31). Each district had its own god to whom ceremonies were dedicated. Yacatecuhtli presided over Pochtlan; Chiconquiahuitl and his feminine counterpart, Chalmecacihuatl, ruled Auachtlan; Acxomucuil was associated with Atlauhco; Nacxitl, one of the names of Quetzalcoatl, with Acxotlan; Cochimetl with Tepetitlan; and Yacapitzahuac with Itztulco (Zantwijk 1970, 6).

Use of Currency

I have used the term currency when speaking of the wealth of the retailers. Whether or not some form of currency was used in pre-Hispanic times is a subject of controversy (see Rojas 1987c, 1988, 1998b), although it has been accepted that cacao served as a type of currency. The descriptions of the markets in the primary sources mention cacao and other items as a means of exchange (Cortés [1519–1526] 1979, 63; Díaz del Castillo 1975, 192). Of the other mediums of exchange (cotton cloth, copper axes, and feather quills filled with gold), cotton cloth has the greatest presence. Cacao and cotton cloth continued to be used as currency after the arrival of the Spaniards (Rojas 1998b). Cacao had a very important role as small change in the context of the shortage of metal coins. What we know of the items that were used for currency in early colonial times allows us to infer that in the pre-Hispanic world these items were valued in a similar way. Cacao was the smaller denomination, while cotton cloth was considerably more valuable, as we can glean from the little information we have about prices in pre-Hispanic times.

The information on these prices is only fragmentary, but I will use it to make a few calculations in order to assess the spending power of the Mexica currencies. In Friar Bernardino de Sahagún's (1975, 507) description of the merchant celebrations, he says that a slave who could dance was worth forty cotton cloths and one who could not was worth only thirty. Let us assume that each cotton cloth was worth 100 cacao beans (although there are some instances in the sources where they are valued at only 65 or 80 beans). In that case, each slave was worth 3,000 to 4,000 cacao beans. For the relative value of slaves to goods, we have Motolinía's (1971, 367) statement that twenty cotton cloths was enough to maintain a person for a year, and presumably his or her family as well. If a cotton cloth is valued at 100 cacao beans, that yields an availability of 5.48 cacao beans per day. This is not that far from Thomas Gage's (1982, 161) statement in the seventeenth century that an indigenous person could buy all he or she needed with five cacao beans a day and that twenty-five cacao beans a day was considered low pay for compulsory labor. (Of course, people did not work every day.)

Another type of colonial measurement is the price of corn, which varied considerably from one year to another. With little more than 5 cacao beans, an individual could purchase 311 grams of corn in 1525 (almost 11 ounces), 837 grams in 1526 (29.5 ounces), 1,258 grams in 1532 (44.3 ounces), and 2.5 kilograms in 1540 (5.5 pounds) (Rojas 1986, 83–84). These variations in the price of corn are due to the fact that in some years the harvest was abundant, while other years were famine years. We know little more than this. However, Cervantes de Salazar (1971, 1:119) provides an example from the other end of the wealth spectrum; he says that the *tlauquechol*, a highly prized bird, was worth forty slaves. This was a very high value: at forty cotton cloths per slave it was worth 1,600 cloths, or what was required to maintain eighty families for an entire year.

The simple fact of the great diversity of items sold in the market and the volume and price of some of those items means that a system of exchange was necessary for the operation of the system. That does not mean that currency was necessarily used on every occasion. Something similar occurred in Europe, particularly with the *maravedíes*, which served as measurements of equivalence. However, Cortés's statements about what was bought and sold and the presence of different types of money in the market (and the statements of other chroniclers who

follow his description) lead us to believe there was a fluid use of currency as a way of buying, selling, and acquiring goods and services.

We have very little information about how this money was produced and controlled, but it was certainly an area of concern for the Mexica leaders (see Rojas 1998b). It was also a concern in colonial times, a period for which we have more information. If we relate the cotton cloths to money, we can also approximate the extent of Motecuhzoma's wealth: several million cloths were paid to him annually as tribute.

Transportation

Porters

I have already considered the problems of transportation in several publications (Rojas 1986, 1987a, 2001, in press a; Rojas and Batalla 2008). Many variables are involved: the quantity of the products to be moved and the distances traveled, the time involved, and the carrying capacity of men and canoes. Given the technological conditions of pre-Hispanic Mesoamerica, water was the only alternative to human transportation, and it was not possible for most trips. We must also consider that the infrastructure enabled porters (*tlameme*) to take shifts, provided rest stops, and offered provisions during the trip. If the porters also had to carry their own food, we must add those who transported the food the porters would consume on the journey to our equation. We would then have to add the porters who carried the food those porters would eat, and so on, ad infinitum. Hassig (1985, 28–40) is one of the few authors who has made some proposals about the operation of the networks of porters. His work focuses on the factors of what roads might have existed and how they were maintained, where the porters came from, and what types of control over the porter system the authorities exercised. Since *tlameme* continued to transport goods after the Spanish conquest, we have enough information from the colonial period to extrapolate information about the size of the loads that were carried, the distances covered each day, and, in some cases, the amount of payment the porters received.

We know that people offered their services as porters in the Tenochtitlan markets. That must also have occurred in other markets. According to the primary sources, porters were considered to be relatively

lower class in Mexica society. They started their careers by carrying small loads, increasing them as they grew older (Sahagún 1975, 496). The Codex Mendoza (see Figure 6.2) provides several images of these porters. From this we know that they carried a frame made of canes or twigs known as a *cacaxtli* on their backs, which they secured around their foreheads with a leather harness, or *mecapalli*. Thus, they were able to carry bulky and even heavy loads for considerable distances (80 to 100 leagues, divided into 5 leagues per day, or 15 miles a day for a total of 300 miles) (Clavijero [1780] 1976, 238). Since some subject areas within the empire were far away from Tenochtitlan, such as Soconusco, other porters must have relieved those who started the journey. The colonial documents tell us that porters from the cooler regions never passed into the warmer areas or vice versa because they would become ill.

This data, of course, is debatable. Some authors argue for eight-hour days with average speeds of two miles per hour. It is unclear how terrain conditions are factored into these calculations. Mesoamerica is very mountainous, and of course there is a considerable difference in how far one can travel in a given time period when walking uphill and how far one can travel going downhill. Climate is another factor, since the distance one can travel in a given time period through wet and dry land varies considerably. We should also consider how much time was required for loading and unloading, especially for the large caravans. At any rate, the assumption of eight-hour days is arbitrary, and the reality is that we do not know if porters walked for more or less time each day or if they took breaks at certain time intervals or after traveling certain distances.

Burdens

How much weight porters carried is also a point of discussion. Moreno (1962, 68) mentioned loads that were "truly overwhelming for men who were not accustomed to the work," and that statement has sparked speculation. The colonial documents agree that the loads were two *arrobas*, or about 23 kilograms (approximately 50 pounds), which seems rather light. The weight each porter carried would have varied. However, someone who is physically fit can carry a well-packed 50-pound load on his or her back for several days without any problem.

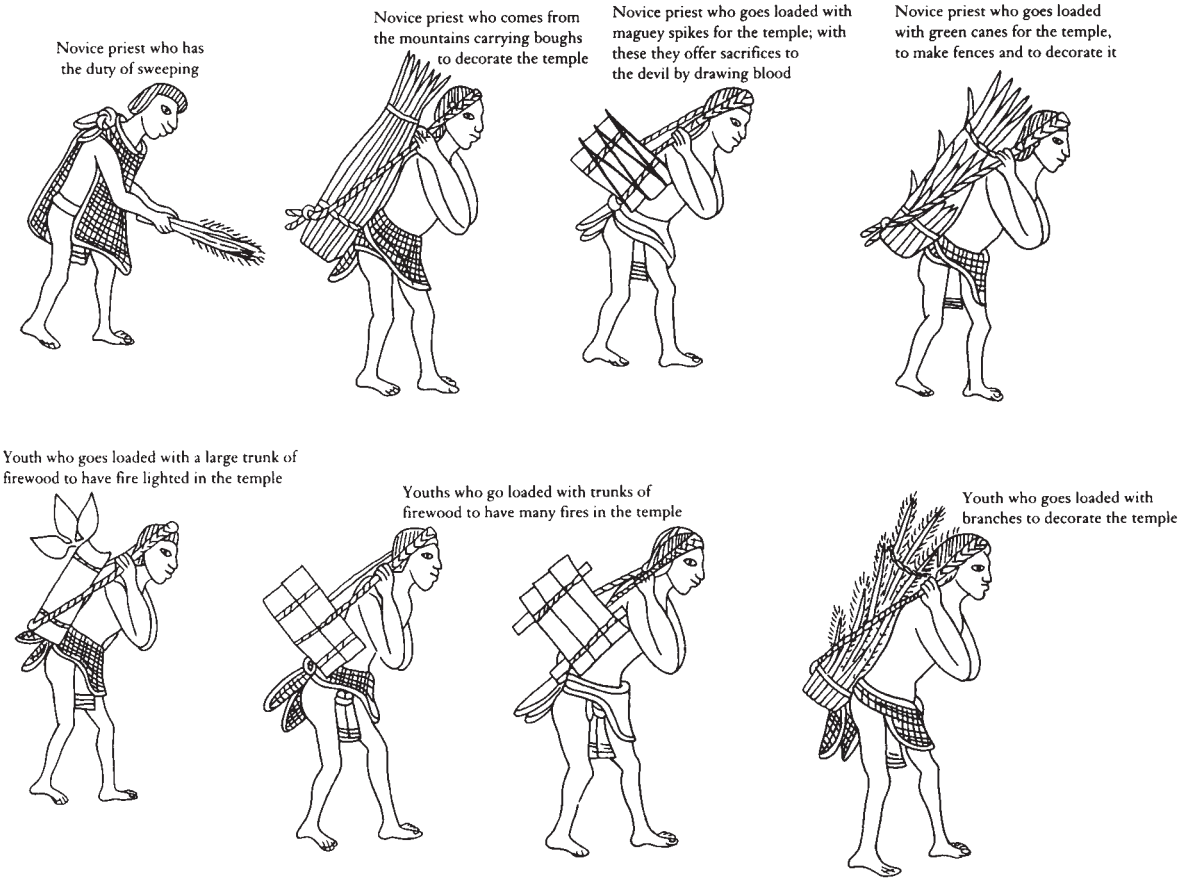

Fig. 6.2. Bearers (*tlameme*), Codex Mendoza, f. 62r. From Berdan and Anawalt (1992, 4:123). Courtesy of Frances F. Berdan.

Any assumptions about the size of the load have implications for various calculations we might make. First is the calculation of the cost of transporting goods; the cost would have increased as the weight of the load each *tlameme* carried decreased. For an estimate of what it cost to supply goods for Tenochtitlan, I have used the number of people-days necessary to transport the products. Using the quantities of grain that appear in the tribute records, the calculations are quite simple, since the capacities are expressed in fanegas, and the two *arrobas* each porter carried are equivalent to half a fanega. Therefore, if we accept Sahagún's numbers, 4,000 porters would have been needed to carry the grain of one bin. If we use the numbers in the *Información de 1554*, we get 8,200 porters. If we accept those cited in the Mendoza Codex, the result is from 8,000 to 10,000 porters. When we multiply by 42, the number of bins I accepted above, the numbers increase to from 168,000 to 420,000 porters.

We have not yet finished the calculations: it is necessary to multiply the number of porters by the number of days required for transport: at 25 kilometers (15 miles) per day, it would take seven days to travel from Taxco to Tenochtitlan, for example. (We know that grain was sent from Taxco to the capital.) Elsewhere (Rojas and Batalla 2008) I have presented a calculation of the cost of transporting the tribute this province paid using trips of 30 kilometers per day. Using this data, the number of people-days required to carry tribute was from 110,400 to 120,000.

Since the porters had to return to their place of origin, the cost would be doubled if there was no system for taking advantage of the return trips with other loads. In the case of the province of Huaxyacac (present-day Oaxaca), which is farther away than Taxco, the number of person-days required to transport the annual tribute to Tenochtitlan was almost 800,000. If porters were used every day, 2,180 would have had to have been available each day.

In Tenochtitlan, an average of 4,764 porters was needed every day to move the 40,000,000 kilos of corn required to feed the city's 200,000 inhabitants, or 7,146 to supply the grain needs of 300,000 inhabitants, using the consumption averages Parsons presented. And that is just one commodity. These numbers corroborate the extensive use of porters reflected in the documentation. Bernal Díaz del Castillo (1975, 99) states that local political leaders everywhere were obliged to provide

porters. The market appears to have been the place where a ready supply of porters was available, as Hernán Cortés ([1519–1526] 2001, 108) tells us in his Second Letter: "Every day, in all the markets and public places there are many workmen and craftsmen of every sort, waiting to be employed by the day."

In the descriptions of the retailers' organizations, one sees the complexity of the journeys porters made and the meticulous way the expeditions were prepared, particularly those who went to remote places with valuable loads. I don't think that these wealthy long-distance traders were recruiting porters along the way, because that would have meant entrusting their valuable loads to strangers. Rather, they must have had a network of trusted workers available and ready both at the place of origin and at the relay points so that they could cope with the potential lack of porters at any given point along the way. The men who offered themselves in the market must have been separate from the large networks that existed and were likely offering their services for occasional work or were recruited by retailers who were beginning their careers. Offering to work as a porter in the market is an example of how a newly arrived immigrant could have become integrated into the urban system.

Only a few materials were necessary to construct the frames for carrying loads. However, with several thousand porters in service, the demand for *cacaxtli* and *mecapalli* had to have been great. Countless individuals must have been involved in their production.

But transport does not end with the porters. The situation and the structure of Tenochtitlan itself, with its waterways and mixed streets, dry land and canals, meant that a considerable amount of transport occurred by water. Again it is Hernán Cortés who demonstrates the importance of the lake in transporting goods. When he began the siege of Tenochtitlan, he constructed thirteen brigantines to patrol the lakes, cutting off communication channels and cutting the city off from its food supply. The colonial sources illustrate the intensity of the movement of goods by water:

> Through the streets of water entered and exited canoes and small boats with the provisions and service items necessary for the city, and thus there was no person who did not have a canoe for

> this office, and they used canoes not just in the city but rather all around the lake, with which everyone in the district served the city, and they were countless. (Torquemada 1975–83, 1:400; translated by Kristin Sullivan)

Other authors provided their best guess of the number of canoes in the city. Cervantes de Salazar (1971, 1:326) mentions more than 50,000 canoes. Hassig (1985, 62) cites between 50,000 and 200,000. We do not know much about who constructed and repaired all these canoes. It appears that the task of operating the canoes was learned from an early age (Berdan and Anawalt 1992, f. 60r) and that those who did so paid homage to Chalchiuhtlicue, the goddess of water, during the month of Etzalqualiztli.

All this transportation required the construction and maintenance of canals, earthworks, roads, and bridges. Considerable space is needed to store so many canoes and make it possible for them to move freely, and some organization was needed to prevent traffic jams. In addition, it was necessary to prepare and regulate areas for loading and unloading. The interesting piece of information that we have is that the lord of Mexico gave the regulators of these areas the power to collect taxes (Cortés, Second Letter, [1519–1526] 1979, 74).

Containers

There were many things to move, of different sizes and forms, and many of them required containers during transport. In addition to the *cacaxtli* and *mecapalli*, we should also consider the baskets, boxes, and vessels, each of which had its own production and distribution system. These containers were heavy, and many would have been needed for the amounts of grain they were handling; this weight would have increased the number of porters needed for transporting goods. We must also consider that the design of the containers would have been very significant in terms of the tasks of loading and unloading and in terms of storage, either overnight or permanently. For example, containers with flat bases could be stacked. The stored load not only had to be organized, but it also had to be accessible, as is suggested by the design of the bins.

Storage System

The movement of merchandise required a network of temporary and permanent warehouses. We know very little about them. We do have some information here and there about the presence of warehouses in Tenochtitlan, mainly for the tribute Moctezuma received. For example, we are told that corn could be preserved in the grain warehouses for more than twenty years and that during the famine of 1451–54 these provisions initially made up for lost harvests. This gives us some idea of the dimensions of these warehouses. Díaz del Castillo (1975, 187–88) speaks of warehouses for all types of things, and Sahagún calls the warehouses *petlacalco* and places the *petlacalcatl* at the head. It is interesting to note that one of the tribute provinces that appears in the Codex Mendoza is named *Petlacalco*.

> *Petlacalco*: there was stored all the food. Dried maize grains thus were kept in wooden grain bins; more than two thousand [measures of] grains of dried maize—a store of twenty years for the city. And in wooden storage bins were dried beans, chía, amaranth seeds, wrinkled chía, salt jars, coarse salt, baskets of chili peppers, baskets of squash seeds, and large squash seeds (Sahagún 1577, Bk. 8, chap. 14; [1577] 1954, 44; 1975, 46).

A significant proportion of these goods must have needed to have been stored for some time and replaced periodically. We must assume that products for commerce and goods for tribute would have entered the city in small amounts on a daily basis and that a significant proportion of them would have been consumed almost immediately. However, there must have been warehouses everywhere. Farmers had to store their harvests, retailers had to store the products they were going to sell, and merchants need storage facilities in the ports of trade. The local lords and tribute collectors must also have had warehouses, although this subject has not been discussed much among researchers until recently (see Michelet and Bortot n.d.).

The notion of warehouses supposes that areas were set aside for storage and for loading, unloading, and preserving goods. The social organization to which each warehouse belonged would have determined the characteristics and complexity of the administration and management of the relevant storage system:

> The state, the *tlahtoque* and *teteuhctin* lords, the temples and the *pochteca* had bins or warehouses to store grains and other nutritional products, in addition to manifold and colorful consumer and prestige goods. There would be differences, surely, in the size, capacity, materials, and construction techniques, equipment for receiving different types of containers and packing, in the predominance of goods of different value according to the rank and wealth of the owner, the area of his territorial dominion, the resources contained in it and the productive specialization of its inhabitants. Accounting for the entrances and exits and inventories and their pictographic registry was carried out more or less scrupulously. The standards of the accounting groups and the measurements would be applied with less resistance in some regions than in others through tributary appraisals even in the daily spheres of exchange. The differences would be determined by the climate, culture, and duration most convenient to what was stored, but there would be determinants of the possibility of accumulating and acquiring advantages or of maintaining and reproducing situations of dependency and subordination (Böhm 1987, 42; translated by Kristin Sullivan).

We lack archaeological or documentary evidence of warehouses and they have not been found in the colonial plans, except for bins in some houses. However, if we accept that a great city existed in which a great quantity of products moved every day, beginning with the products necessary for daily subsistence, we must suppose that an adequate network of storage existed at different levels that made the operation of the system possible.

Supply System

Production, storage, transport, distribution, and consumption are all part of the same economic system. We know some parts of the Mesoamerican system better than others, but the lack of data need not force us to lose sight of what is important. There are items about which we do not have information because they seemed so common to the narrators that they didn't merit comment. Some were not mentioned out of a sense of discretion, as still happens regarding the elimination

of waste, or simply because no one talked about them. However, in a distribution system, every part must work. We don't know how the Aztecs resolved all the problems of their system, but we do know that their system worked.

Many people were involved in the economy of Tenochtitlan, and surely they were integrated into networks whose magnitude and characteristics we do not know. It is very possible that the *pochteca* retailers protected their interests in the production centers, participated in harvesting and storage, and controlled the transport of goods to points of sale, access to points of sale, and prices. If that is the case, the interests of the long-distance traders would have gone far beyond completing expeditions to distant lands. We can also suppose that there would have been agricultural producers with interests in distributing their products and selling them in the markets, likely through networks of kinship relations. Similar networks could have affected artisans who sold what they produced, since they needed raw materials and tools for their work, many of which were sold in the same market where they sold their goods. Artisans who produced their wares at other locations besides the market would have needed a distribution network as well. Some artisans worked on commission. Durán (1967) tell us of the orders the Mexica lords made and how much they paid for them, but we must suppose that these were exceptional. We also do not know if those who ordered goods on commission provided the materials or if the craftsmen did that. We do know that the craftsmen who worked in the palace were provided with the materials they needed, especially for luxury objects. For other artisanal goods, some raw materials were found in the market and some likely were provided by the network of artisans.

We do not know how many people were involved in artisanal production. Everything depends upon the population we assume for Tenochtitlan. As with transport, more people means more needs, but we do not have enough information to quantify how many people were crafts producers or were participants in the networks such craftspeople must have required.

However, what we do know suggests the existence of specialists. In fact, the variety of things that were sold in the market suggests full-time craft specialists who needed to buy finished or prepared goods that they did not produce. The great abundance of food sold in the market,

both raw and cooked, suggests that a substantial part of the population of Tenochtitlan depended on the markets for their daily diet. This, in fact, is a situation common in cities. There also may have been people who had a small parcel of land on which they grew food for personal consumption and even a small surplus to sell. However, most depended on others to maintain themselves, and Tenochtitlan was not a city of cultivators. In fact, the activities that are described for the *macehuales* (commoners) in Mexica society are not found in the primary sources to describe the activities of the residents of the city. It is necessary to create another model (see Rojas 1983, 1986) that takes into consideration, for example, the people who were the customers in the market.

There is one more issue to consider in this chapter. The markets and the city's households had to have generated considerable waste. The only information we have about waste management is the existence of places where people could relieve themselves. We know that the canoes associated with these places were changed periodically and the human waste they transported was used both as fertilizer and for tanning skins. Once again, the fact that we don't know the specifics of this waste management system does not mean it was not organized. If we are to believe the numerous chroniclers who praised how the city was cleaned, this system was quite well organized.

We have little or no information about how other Mesoamerican cities organized their supply systems, although they must have functioned in ways similar to that of Tenochtitlan. Moreover, contemporary cities such as Texcoco and Tlacopan formed part of a single web. The main difference among sixteenth-century cities in what is now Mexico was possibly the size of the various urban centers.

7

Activities of the Tenochca

Fortunately, we have much information about the activities of people at Tenochtitlan. This is most important to the study of ancient American cities because we lack such information for other places. So the knowledge of the activities of the people of Tenochtitlan is useful for inferring or comparing details about similar activities in Teotihuacan, the Maya cities, in Mesoamerica, and even in the Andean cities such as Tiahuanaco or Cuzco.

The existence of a city supposes numerous activities, particularly construction and maintenance. These activities have traditionally been divided into three sectors: primary, secondary, and tertiary. The first concerns productive tasks; the second, the transformation of raw materials; and the third, services such as health care, education, administration, and distribution of goods. The tertiary sector also includes religious and leisure-time activities.

The Primary Sector

The primary sector is generally not a strong component of the economy in most cities, and Tenochtitlan is no exception. We can assume that the city controlled a considerable tract of land for growing food for its residents. I have argued elsewhere (Rojas 1987b) that some conquests were made in order to guarantee Tenochtitlan's food supply after a serious crisis. However, one of the characteristics used in definitions of cities is the relatively small proportion of people employed in the primary sector.

Agriculture

Agriculture is an important component of the primary sector. Cortés's Fourth Letter ([1519–1526] 1979, 218) mentions the presence of kitchen gardens in the city. However, agriculture must have been a supplemental activity within Tenochtitlan that provided city residents with fresh vegetables, some fruit, or a few chili pepper bushes. There were also raised fields along the borders of the lakes and canals, but their importance in terms of the nutritional needs of the city has not yet been evaluated. They seem to have been small kitchen gardens or gardens where flowers were planted. Calnek (1972a, 1974, 1976) concludes that the size of the parcels was not sufficient to provide their owners with most of their food requirements. Thus, agriculture was not the main occupation of the owners. It is possible that some of the city's inhabitants left the city each day to work as farmers. However, given the distance to the agricultural fields located outside the city, very few people must have done so.

Hunting

Hunting and fishing are also part of the primary sector. The primary sources distinguish between those who practiced wild hunting and those who did so in the water and discuss the particular patron gods of each group (Durán 1967, 2:347). These gods were very active in the lagoon. However, many of the aquatic birds that appear in the descriptions of the market were raised in captivity, and raising such birds forms yet another activity in this sector. The Mexicas' ability to raise animals is attested to by the description of Motecuhzoma's animal cages. However, we have not paid much attention to this activity except to mention that turkeys and dogs were raised for human consumption. The hunting of wild animals would have taken place on the mainland, and we do not know if the hunters lived in Tenochtitlan or in the towns along the river bank.

Fishing

Fishing would have occupied city residents who had canoes. Residents of the coastal towns likely also dedicated themselves to this task. Each lagoon had different physical characteristics, and particular species of

fish were found in each one. The activity of fishermen was referred to as the "harvest of the water," and this harvest included numerous "insects" that were sold in the market along with the fish. I have already mentioned the importance of *tecuitlatl* (microalgae) and *ahuauhtli* (fly eggs), but fishermen also brought the following to market: frogs, shrimp, water flies, different types of worms, and *ajolotes* (*Amblystoma mexicanus*), an amphibian whose physiology was not fully understood until the transition from the larval to the adult stage was seen in captivity. Aquatic hunters and fishermen are mentioned together in the sources, praising the goddess Chalchiuhtlicue and the god Opochtli. They are identified as inhabitants of the Huitznahuac district (López Austin 1973, 67).

Salt Making

The salt makers also conducted most of their activity in the water (see Parsons 1994). Two methods of obtaining salt are described: accumulating salty earth on a surface to evaporate the water and accumulating such earth in earthenware jars. The salt from Mexico was highly prized for its quality and was sold in several markets. The goddess of the salt makers was Uixtocihuatl. Her celebration took place during the month of Tecuilhuitontli, when slaves and a woman who personified the goddess were sacrificed. Considering the price of slaves, we must suppose that the salt makers were part of an economically powerful corporation. The celebration was completed with the consumption of pulque over the course of several days (Sahagún 1975, 119–21).

Wood Cutting

Wood cutting was obviously not done within the city, but it was vital for its operation. Firewood was burned in household hearths, in the temple braziers, and in the *temazcalli*, or steam baths. One of the tasks of schoolboys was chopping wood. However, we also know that retailers bought wood from wood cutters to resell it in the city (Serna 1892, 444). The fact that the retailers' organizations took part in this type of commerce does not exclude the presence of occasional woodcutter/salesmen who took their own loads to the markets. Also related to firewood is the production of *ocotes*, or torches for illuminating houses and temples.

Other Activities

The extraction of many other products sold in the market also belongs to the primary sector: cutting stone, manufacturing lime, harvesting cypress for bedrolls and mats, and so forth. It is very possible that this activity occurred outside the city. The influence exerted by the city on its surroundings is clear in this sector, and that influence increased as the city grew. Tenochtitlan competed for these resources with the other cities along the lake shore, principally Texcoco.

The Secondary Sector

Two main groups of activities in Tenochtitlan were part of the secondary sector: jobs related to building and maintaining the city; and craft production, including all the processes necessary to transform raw materials into finished products.

Construction

The bigger the city was, the more people were needed to plan streets and canals and build houses, palaces, and temples. All of the buildings and causeways needed to be repaired and maintained. Masons are mentioned in many sources (Cortés, Fourth Letter, [1519–1526] 1979, 218; Díaz del Castillo 1975, 189; Durán 1967, 2:324, 347; Sahagún 1975, 554), and construction materials and tools were sold in the market. The masons had different positions that were analogous to the different types of stonecutters (Díaz del Castillo 1975, 89; Durán 1967, 2:347; Mendieta 1945, 3:54; Sahagún 1975, 554). They worked stone with abrasives and stone tools to give them the desired form, and their ability has been praised:

> There were in that land good and masterful stonecutters or stoneworkers, and although they did not know geometry they made a house of hewn stone like those of the lords and high-ranking officials, very large and good, and the rest are very poor. They constructed many buildings of lime and stone, and after the stonecutters from Spain left, the Indians built all of the things they saw constructed (Zorita 1909, 295; translated by Kristin Sullivan)

Carpenters, who did both woodcarving and construction, are usually mentioned alongside bricklayers. They had different names in Nahuatl according to the tasks they performed.

We have little information about the lime burners. Among the well-known chroniclers, only Friar Diego Durán (1581 [1967, 2:324, 347]) mentions them. However, archaeological evidence attests to the extensive use of the plaster decoration. Serna (1892, 445) argues that the lime makers made their product for sale, and lime appears in most of the descriptions of the market as one of the products sold there. We also have information about tile makers, although tile seems to have been a colonial-era product. We also know of those who converted mud to adobes, part of which were sold in the market. But we have very little information about the planning and organization of the work of constructing the buildings that were made with these materials. Many people must have been involved in planning the work to be done: searching for workers, transporting construction equipment, and directing the work. The ornamentation of the buildings, particularly the temples and palaces, would have required engravers, sculptors, and painters. Although we have little information about these skilled workers, the items that have survived offer us excellent examples of the quality of their work.

Odd-job workers offered a variety of services in the market. Zorita (1963b, 87) says that they typically transported loads but that this category also included workers and teachers of all positions who hired themselves out as day laborers (ibid., 91). Carrasco (1978, 32) argues that "the fact that they offered their services in the market could indicate that they were hired for occasional work." However, they also may have participated in longer-term work and the market may simply have been where the workers contracted themselves out.

Utilitarian Crafts

We should consider the craftsmen whom Cortés (Fourth Letter, [1519–1526] 1979, 218) called "mechanical officials" separately. Most of them were *macehuales* (commoners), and their participation in ceremonial life depended on the level they achieved in society. Some were rich craftsmen who could sponsor a single celebration, and others were less wealthy who would sponsor a celebration as a group (Broda 1976, 50).

During colonial times, artisan craftsmen continued to practice their trades and learn new ones. This they did despite the opposition of Spaniards who did not want competition, which illustrates great organization and initiative (Rojas 1990). The craftsmen worked independently, either for an individual or for the *tlahtoani*. In the former case, they received remuneration through the sale of their goods, and in the latter case they seem to have been on a salary and rations.

I distinguish between artisans who produced utilitarian objects and those who made luxury objects because they were involved in different economic sectors and had different roles in the social life of Tenochtitlan.

Some craftsmen specialized in the manufacture of obsidian knives. According to Torquemada (1975–83, 4:257, 5:314–15), they could make twenty knives in a very short time. These were used to cut and shave hair and to scrape and cut. Obsidian is not mentioned among the products sold in the market, and these craftsmen must have had to provide themselves with the material by other means. Other sources surely existed for many years; excavations have demonstrated that obsidian exchange was practiced in Mesoamerica from very early times (Isaac 1986; Clark 1986; Santley, Kerley and Kneebone 1986). In other markets, such as the one at Huexotla, obsidian does appear among the products sold (Brumfiel 1980, 460).

Petates and baskets use the same raw material. There was a great variety of *petates*, which were used primarily as doors or carpets or were transformed into different types of seats or boxes. They appear in one of the refrains that the Nahuatl were so fond of, "*in petlapan in icpalpan*" ("in the mat, in the chair"), which was used to refer to the government. The artisans who produced these goods had their own god, Nappatecuhtli (Broda 1976, 55–64), and they occupied one of the districts of Tenochtitlan (López Austin 1973, 67). Nappatecuhtli was one of the four *tlaloque*, and the Nahua attributed to him the invention of the art of making cypress mats. A slave was sacrificed during the celebration for him (Sahagún 1975, 48).

Pottery Making

Potters were another group that must have had many members, including those who made containers from gourds, such as the cups for drinking chocolate and *tecomates* (gourd cups). In the documents they

are usually called potters, and they are described next to the potters unless they didn't work with clay. Perhaps we must consider the extraction and preparation of clay as part of this trade. The manufacture of pots, plates, braziers, and so forth, are mentioned at a later point in the sources. However, some authors mention *comal* (griddle) manufacturers separately, for example in the description of the Coyoacán market (Anderson, Berdan, and Lockhart 1976, 148). Likewise, those who sold *molcajetes* (the small bowls, generally of stone, used for grinding) are also mentioned separately. Related to clay working we also find the manufacturers of spindle whorls (*malacatl*) and craftsmen who made clay bells for timbrels (ibid., 149). Archaeologists have recovered many types of containers, and this has allowed us to see the quality of the workmanship and the decorative motifs on these items.

Tanning Leather

Leather tanners deserve separate mention. Animal skins were sold in the market. Deerskin was also used to make pages of books. This category includes those who worked hides to make *cotares* (sandals) and various garments:

> There were also officials who tanned the hides of deer, tigers, and lions among other animals, which they tanned wonderfully with and without hair, in all colors and, were so soft, that today they make gloves out of them. In addition to common footwear (which were hemp or maguey sandals, which is the source of their wine); they also made very polished and delicate canvas shoes of the same hemp and cotton for the lords and princes; and some very peculiar, highly painted and gilded, and for this there were very outstanding and first-rate officials (Torquemada 1975–83, 4:256, translated by Kristin Sullivan).

Textile Production

Textile products occupied a very important place in the economy of Tenochtitlan. Each year, many types of blankets were sent as tribute. These were made of maguey or cotton, and they were both decorated and plain. *Maxtlatl*, or men's loincloths, and women's skirts and *huipiles* were also sent. Tribute also included warriors' uniforms, richly adorned with skins and feathers. Spinning and weaving seem to have

been exclusively female activities (Bernal Díaz 1975, 189; Brumfiel 1991; Burkhart 1997). Sahagún (1975, 556) distinguishes between spinners, weavers, and seamstresses. However, Gibson (1978, 345) argues that male specialists did some weaving.

Carrasco gives us a description of this activity:

> There were also specialized weavers who produced for the market, and some of them were hired to weave in the house of whoever contracted them. The highest quality textile production and the congregation of groups of workers occurred in the palaces' ladies, surely related to the fact that they were free of the more onerous domestic occupations, like milling, and in which the lords could have several women and a good number of servants. Sahagún provides a list of women's occupations in high-quality textile production. From the economic point of view, this women's textile production is comparable to that of the palace craftsmen: like them, they worked raw material that arrival as tribute, and they were also fed from the palace kitchen. (Carrasco 1977, 226; translated by Kristin Sullivan)

These activities appear in the description of daily activities in the sources. For instance, the Codex Mendoza (Berdan and Anawalt 1992, ff. 58r, 59r, 60r) depicts women teaching their daughters to spin and weave (Figure 7.1). It is not clear whether weaving was done in locations outside households. However, the great demand for cloth suggests that such places must have existed. We also have information about the existence of luxury woven goods that were likely made by specialists because of the expense of the materials and the skills required to make them.

Back-strap looms appear in the Florentine Codex (Sahagún [1577] 1961, illustrations 3, 21, 58, 104, and 190) and in the Codex Mendoza (Berdan and Anawalt 1992, f. 60r; see Figure 7.1). We know that at least one specialist in loom manufacture sold his goods in the market in Coyoacan (Anderson, Berdan, and Lockhart 1976, 138, 142, 144, 148).

Besides the blankets that were used as currency, the primary function of textiles was to serve as clothing. The quality and decoration of clothing was based on the rank and wealth of the person wearing it. Weavers often adorned the clothing they made with items that were made by other specialists. Torquemada (1975–83, 4:255) provides a

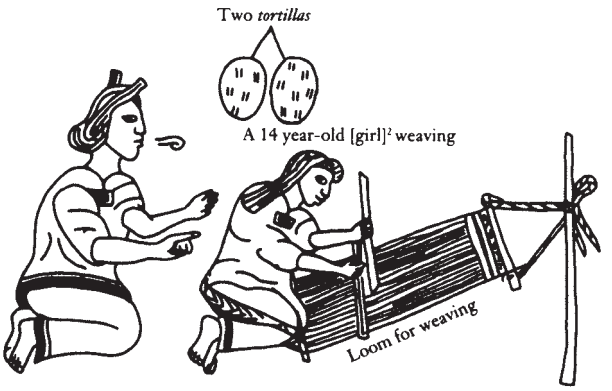

Fig. 7.1. A girl learning the art of weaving, Codex Mendoza, f. 60r. From Berdan and Anawalt (1992, 4:125). Courtesy of Frances F. Berdan.

good description of the range of clothing that was available (see Text Box 7.1).

López Austin (1973, 67) places the seamstresses, dyers, feather workers, painters, and other *toltecatl* (artisan) craftsmen in the Amantla district. Cipactonal and Oxomoco appear among the gods of those who concerned themselves with textiles. This primordial couple are said to have invented spinning and weaving. The goddess Xochiquetzal was the patron god of fabric-working and weaving. Textile artisans sponsored the celebration for this goddess with the painters on the day 7 Xochitl. The weavers made offerings to Xochiquetzal during the month of Tepeilhuitl and to the goddess Ilamatecuhtli during the month of Tititl, when they sacrificed a woman who represented the goddess. Sahagún (1975, 148) states that the woman to be sacrificed was purchased by the *calpixque* (majordomo), not by the weavers.

Other craftsmen are mentioned sporadically in the primary sources. Those who made *otates* (hard canes, walking sticks) and those who made *mecapales* for carrying loads were mentioned as being at Coyoacán (Anderson, Berdan, and Lockhart 1976, 140, 146, 148). Those who made paper, soap and chía oil and those who polished paper, blankets, or other similar items appear in the list of trades Feldman compiled (1976, 22).

Production of Luxury Items

Those who produced luxury crafts form a separate group. These products were destined to be used in the great celebrations or by the elite,

7.1. Torquemada Describes the Weavers

There were and are weavers who wove clothes and dresses, in the way they used them, especially the kings and lords and also the ministers of the temples and for the adornment of the idols and things of its service. These clothes were made of cotton, some white, others black and painted in diverse colors. Some were heavy, like canvas or coarse linen cloth; others were thin and close woven, like Rouen linen and others still thinner, like a wimple and many like Moorish veils; they were, after all, just how they wanted them. Others were made of rabbit fur, interwoven with cotton thread, and very peculiar; they were used by the elite class as cloaks to shelter them from the cold, since they were very warm, smooth, and soft, and so skillfully made that it seemed a marvel to be able to place rabbit fur in them.

Torquemada (1975–83, 4:255), translated by Kristin Sullivan.

and the craftsmen who produced them enjoyed a better socioeconomic position than many other types of artisans.

Three types of artisans belonged to this group: jewelry makers, feather workers, and lapidaries. Sometimes the products of all three groups were used for a single object. These specialists also produced other items destined for elite consumers.

Tobacco consumption is mentioned in several sources, including as part of ritual celebrations. Some sources describe "smoke tubes," tobacco pipes and cigarettes. Durán (1581 [1967, 2:323, 347]) mentions officials who "made clouds of smoke."

Another group related to the elite is the florists, or *xochimanque*. Sometimes florists made floral arrangements in conjunction with the feather workers: one group would make designs with flower petals and the other with feathers. Durán (1581 [1967, 2:323]), Mendieta (1945, 3:57), and Vetancurt (1971, 59–61) mention their work. Although López Austin (1973, 67) identifies florists as living in the Yopico district, Friar Bernardino de Sahagún (1975, 104) states that they held their celebration there but lived in Coatlan. Their goddess was Coatlicue, to whom they made offerings during the month of Tozoztontli (ibid., 79, 104). The main offering consisted of the season's first flowers.

Painters were also part of a well-developed trade. The Nahuatl term used to designate them is *tlacuilo*, which also refers to those who used hieroglyphic writing and those who painted buildings, sculptures, *petates*, and so forth. I will consider the former group when I discuss state administration. Torquemada described the latter group:

> There were painters who portrayed natural things, particularly birds, animal, trees, flowers and vegetables, and other similar things who used to paint in the rooms of the kings and lords; but human forms, as well as faces and bodies of men and women, were not painted naturally, but rather some were made so ugly that they seemed monsters. . . . Some of them are so skillful and first rate that the image painted with a brush is an exact likeness of the flesh, which gives the Castilians the advantage. (Toroquemada 1975–83, 4:254, 5:313; translated by Kristin Sullivan)

The ability of the Mexica painters is mentioned in several sources. When Cortés and the Mexica received word of the arrival of Pánfilo de Narváez in Pánuco, Cortés was able to recognize him in the paintings Motecuhzoma's spies brought with them.

We know that paint could be purchased in the market (Díaz del Castillo 1975, 189) and that offerings were made to the goddess Xochiquetzal during the month of Tepeilhuitl (Broda 1976, 55–64). On day 7 Xochitl, the men held a celebration for the god Chicomexochitli, the god of painters, and the women held one for the goddess Xochiquetzal, the patron of weavers and seamstresses. The painters and the seamstresses offered quails and *copal* so that they could paint well and weave high-quality items (Sahagún 1975, 94). We have only a few documents that mention the work of these craftsmen, but archaeological evidence demonstrates that mural painting was quite extensive in Mesoamerica, as seen at Bonampak, Teotihuacan, and Cacaxtla. The remains of mural paintings have been identified in the Templo Mayor, suggesting that Mesoamericans decorated stone and stucco in their buildings with many colors. We must suppose that when painters selected their designs and executed their artwork, they worked closely with the sculptors and with those who directed the building process. It is very likely that the interior of the temples and the palaces of the lords and other nobility were also decorated with paintings, though they do not survive today.

Jewelry Making

Numerous pieces of jewelry made of precious metals such as gold and silver, as well as nonprecious metals such as copper, bronze, and tin, were sold in the market. The work of goldsmiths was diversified, and those who performed each task were given specific names related to their work. The first distinction refers to the raw material the artisan used: those who worked gold were called *coztic tecuitlatl*, those who worked in silver were known as *iztac tecuitlatl*, and those who worked in other metals were referred to as *tepoztli*. Alongside these terms appear the suffixes *-teca* (to place, to arrange) or *-pitza* (to make red hot, and when used in conjunction with references to metals, to fuse). We also find *tlatzotzonqui*, which can be translated as "those who strike"; Sahagún (1975, 515) calls these artisans "hammerers." The stone cutters or setters who were the masters who finished the pieces were called *tlatlalianime* (see Figure 7.2). Parents taught the trade of jewelry making to their children (Berdan and Anawalt 1992, f. 70r; see Figure 7.3). Some retailers specialized in this jewelry (Sahagún 1975, 520), and it is possible that craftsmen and salesmen worked together as part of the same organization.

I have selected a text from the sources that emphasize the work of these masters that illustrates their abilities well (see Text Box 7.2).

Azcapotzalco was well known as "the town of silversmiths" (Díaz del Castillo 1975, 319). In Tenochtitlan, the silversmiths lived in the Yopico (López Austin 1973, 67) and Coyonacazco districts (Rendón 1952, 31, 33).

Gold came into the city through trade and tribute. The Tochtepec province paid tribute in jewelry and the provinces of Tlapan, Tlachquiauhco, Coayxtlahuacan, and Coyolapan provided gold dust or sheets (see Berdan and Anawalt 1992, ffs. 46r, 39r, 45r, 43r, and 44r, respectively). The rituals of these craftsmen illustrated their importance. They made offerings to some of the oldest and most important gods, such as Xipe Totec, the Red Tezcatlipoca (Sahagún 1975, 520). Jewelers held a solemn celebration, one of the most important, during the month of Tlacaxipehualiztli. Otontecutli was the patron god of gold workers (López Austin 1973, 73–74).

On many occasions goldsmiths had to work with the lapidaries. Those who worked with precious stones often appear in the texts (Díaz

Fig. 7.2. Metalworkers, Florentine Codex, Book 9, chap. 16, f. 53v (Sahagún 1577 [1954]). Drawing by the author.

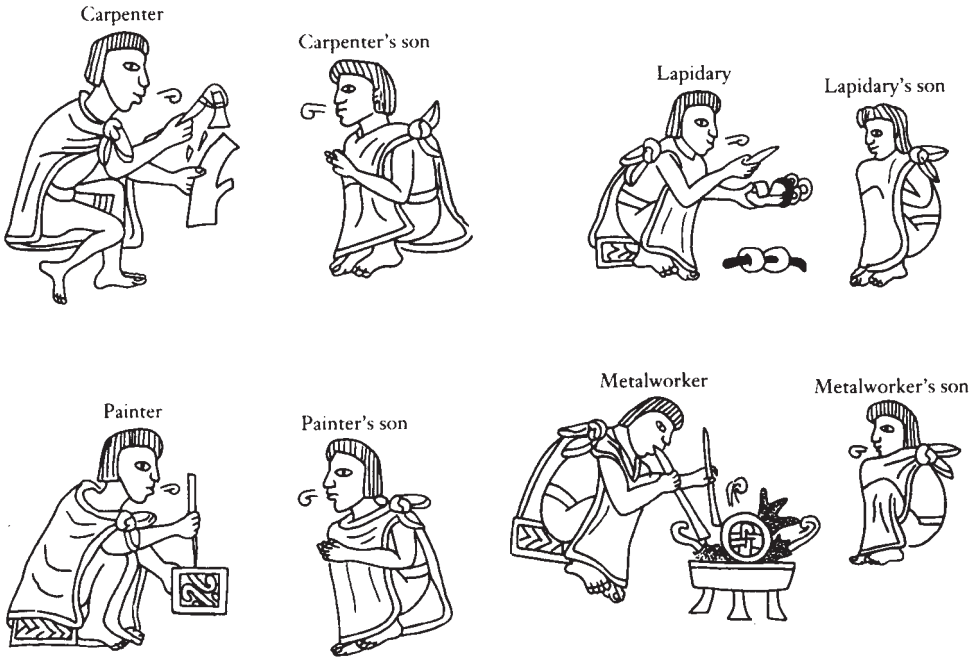

Fig. 7.3. Boys learning crafts, Codex Mendoza, f. 70r. From Berdan and Anawalt (1992, 4:145). Courtesy of Frances F. Berdan.

7.2. The Skill of Metalworkers

The richest items brought to market were the gold and silver works, some fused and others of worked stone, with such great beauty and subtlety that many of them have become the admiration of Spain's skilled silversmiths, although they could never understand how they had been made because they neither saw hammer marks nor signs of chiseling nor of another instrument, which the Indians lacked. . . . The next most important trade is that of the silversmith. The practitioners of this art took from the market octagonal plates, one quarter gold and another silver, not welded, but fused plates and fused together in smelting, something which is difficult to understand. They removed a small caldron of excellently worked silver and attached the handle in a single smelting, and what was astonishing is that the handle was loose, and thus a single piece could be fused with a silver flake and another of gold, although it would have many. They also cast a parrot whose tongue, head, and wings moved. They smelted a nun whose hands and feet moved and who had in her hands a bobbin that she appeared to spin, or an apple that she appeared to eat.

Cervantes de Salazar (1971, 1:328); translated by Kristin Sullivan.

del Castillo 1975, 189; Durán 1581, 1967, 2:323, 347; Mendieta 1945, 3, 54; Sahagún 1975, 553–54). Their prestige was based on their skill and wealth (Berdan 1982, 29). There were also distinctions among them according to the type of work they completed: some were cutters (Sahagún 1975, 520), some were polishers (Cervantes de Salazar 1971, 1:328), and some were stone setters. Generally the stone setters used emeralds; turquoise; *chalchihuites*, a term that refers to a great variety of green stones; and carneolite, or *tecalli* (alabaster). The stone setters did enameling, mounted precious stones, and made mosaics with precious stones.

The importance of this activity sector may be sensed by considering Motecuhzoma Xocoyotzin's motives for the conquest of Quetzaltepec and Tototepec:

> At this time the lapidaries of the city of Tenochtitlan, of Tlatelolco, and other cities heard that in the province of Tototepec and Quetzaltepec there existed a type of sand that was good for

> working stones, together with emery to clean them and polish them until they became bright and shining. The stone workers told King Motecuhzoma about this and explained the difficulties in obtaining the sand and emery from that province and the high prices that were asked. (Durán 1581, chap. 61 [1994, 417]).

The *huey tlahtoani* sent an ambassador with gifts for the lords of those towns to stimulate commerce, but the ambassadors were assassinated and a ferocious predatory war was triggered. The war ended with the incorporation of both places into the empire.

Several provinces appear in the tribute records as having paid tribute in strings of *chalchihuites*. These include Tepequacuilco, Coayxtlahuacan, Tochtepec, Xoconochco, and Tuchpan (Berdan and Anawalt 1992, ff. 37r, 43r, 46r, 47r, 52r). Others such as Tochtepec or Cuetlaxtlan sent lip plugs (ibid., ff. 46r, f. 49r), and Quiahuiteopan and Yoaltepec sent uncut stones (ibid., ff. 40r). Almost every province paid tribute in the precious stones that adorned most shields.

The lapidaries had four gods: Cinteotl, Nahuapilli, Chiconnahui Itzcuintli, and Macuil Calli (Sahagún 1975, 516; Torquemada 1975–83, 3:97–98). However, we know very little of their participation in celebrations.

Feather Working

Feather working was what most attracted the attention of the Spaniards when they arrived in Mexico. It was practiced by the *amanteca*, which means inhabitants of Amantla, and indeed they are described as residents of that district of Tenochtitlan (López Austin 1973, 67). Cervantes de Salazar (1971, 1:326–30), Clavijero ([1780] 1976, 253), Díaz del Castillo (1975, 189), Durán ([1581] 1967, 2:323, 347]), Mendieta (1945, 3:56), Sahagún (1975, 520, 553), and Vetancurt (1971, 59–61) all mention these artisans. However, I have chosen to rely on Torquemada's description:

> But what appears most astonishing is the trade and art of feather working, with its own natural colors, set, as the best and most talented painters portray them, with delicate and thin brushes. . . . There is something of remarkable beauty in this art of feather working, that if twenty experts are required to form an image they all work together; and they divide amongst themselves,

> in parts, the image, and each person takes to their house the part that he had the luck to draw and makes it beautiful; and once it is finished they come together and put the pieces together and once everything has been pieced together, the figure or picture, so set and equal, in its proportion, that it does not seem to have been made by different hands, but rather the work of a single artisan with the colors carefully selected. (Torquemada 1975–83, 4:256–57; 5:314–15, translated by Kristin Sullivan)

The *amanteca* were considered to be among the richest craftsmen and were comparable to the *pochteca* in terms of wealth and status. The *pochteca* brought precious feathers to Tenochtitlan from faraway regions, and the *amanteca* worked them in fans, helmets, shirts, shields, and so forth for the lords' use (Sahagún 1975, 519).

Some craftsmen worked independently and others worked for the palace, where Motecuhzoma had separate quarters for them. The latter worked for the *huey tlahtoani*, who used their products themselves or gave them as gifts to high-ranking foreign dignitaries (Sahagún 1975, 530). A portion of the feathers these artisans used came from the palace's house of birds.

The craftsmen who worked independently could acquire feathers in the market or receive them from their clients when they took their orders. In the descriptions of the market we see both the feathers and the objects made of them.

The principal god of the feather workers was Coyotl Inahual (Sahagún 1975, 519), who was very closely related to the god of the merchants, Yacatecuhtli. Both gods were celebrated in the month Miccailhuitontli, when the feather workers offered to enroll their children in the *calmecac* (ibid., 518–19). They also participated in the celebrations during the month of Panquetzaliztli, when the Mexica celebrated the birth of their tutelary god, Huitzilopochtli (Broda 1976, 55–64). In this celebration, one or more victims who had been purchased in the market were sacrificed, depending on the economic means of the patrons. Sahagún (1975, 518) says that the very rich were able to sacrifice "two or three slaves or more."

As far as we know, most of these trades were passed on within families. Parents would teach their children, who would then be incorporated into the activity. It might take a considerable amount of time to

learn a craft if it was complex. However, the payoff was the possibility of reaching an outstanding level of skill and thus economic prosperity.

We do not know much about how the craftsmen were grouped. Some authors maintain that the term *calpulli* can be related to the artisanal trades, but I do not think this is true for the city. In fact, the craftsmen were more or less concentrated in a single district while a few other specialists were spread throughout the city. Some artisan groups appear to have been associated with certain rituals. Some artisan groups were given the authority to regulate ascent through the hierarchy of the craft, as occurred in the guilds of Europe. This occurred, for example, with the *amanteca*, whose organizational structure was so similar to that of the long-distance retailers. However, it is not clear to what extent this type of organization applied to other trades.

The Tertiary Sector

The tertiary sector involves all of the activities that were not directly productive but that made the operation of the city possible. Administration and services are important components of this sector. Elsewhere I have established three large groups within this category, and I will loosely follow those divisions here (Rojas 1986, 136).

The first group includes all of the positions related to supplying the city, most of which appeared in Chapter 6. These are principally the transportation specialists, such as shippers or canoeists, and those responsible for water storage, commerce, and markets. These were the main groups who made sure that enough goods reached the city.

The second group is composed of what we would call administrators. It includes religious professionals, notary publics, justice system officials, and those in charge of the administration of tribute, palace operation, and education.

The third group includes those who provided urban services. Some members of the group were responsible for the maintenance of the city. Also included are domestic servants, doctors, and others who are more difficult to classify, such as fortune tellers, thieves, and prostitutes.

Supplies

This sector of activity is responsible for supplying food, water, clothing, adornment, and raw materials. As we have seen in the previous chapter,

Tenochtitlan's supply system was complex. Many details remain unknown to us. We can conjecture that each part of the system required a considerable number of workers. In addition to the vast number of porters necessary to transport food, the number of salespersons in the markets must also have been high, although we have not been able to approximate the number of specialists in each of the eighty-seven types of products identified in the primary sources. We do know that the system of organization of those who sold the products of specialists or the goods produced by their close relatives was different from the system of organization of retailers who dedicated themselves to buying and selling. However, they all must have formed part of the production and distribution system that extended outside the city, sometimes to outlying regions that were tied to the system. The study of the operation and evolution of Tenochtitlan is firmly tied to the empire it was the capital of. In fact, some imperial activities were linked to the needs of the city, as occurred after the great famine.

The networks for producing, transporting, storing, and distributing different products, either from tribute or commerce, involved many people. Certainly there must have been some system for managing these networks. Each member of a family could have different occupations in the system. We might perhaps be able to better understand this world by studying the operation of colonial Mexico City, which took advantage of pre-Hispanic systems during the early years.

Administration

This section explores the administration of the empire, which was located in Tenochtitlan to a large extent, and the administration of the city. The descriptions in the sources of what we could call the administrative apparatus are tied to the palace of the *huey tlahtoani*. The relationships among those who were in charge of different aspects of administration, even those who helped keep the city clean (Durán 1581 [1967, 2:313]), were complex but illustrate very well the type of activities in this sector (see Text Box 7.3 for a description).

Sahagún (1975, 465) provides us with a good approximation of the number of people who worked in the palace when he describes who ate there. In addition to the *tlahtoani* and his family, there were butlers, pages, servants, guards, troops, ambassadors, school teachers, priests, craftsmen, and singers.

7.3. The Structure of Mexica Administration

There were stewards with names that corresponded to their positions; and these were lords and important officials of the kingdom. They had their guards and their captain, known as Achcauhtli; and the soldiers they had, for show and as true guards, to be noble men whose abilities had been proven in war, to whom they gave generous rations. They had a principal hunter known as Hueyaminqui, and he had to be a titled lord, or vassal. There were jewelers and who took care of the items they produced. Another cared for the feather works and other peculiar things made in the service of the kings and lords. Another gentleman was in charge of everything written as part of the histories and took care of much of the chroniclers who in their own way and in paintings told history, indicating the day, month and year. This was done as in all the nations of the world that have been concerned with their history. In these records they included facts and battles of the kingdoms, the genealogies of the kings and remarkable things of the republic, and it all progressed with great detail and order, although by burning these books, at the beginning of the conquest (because the ministers who burned them knew they were superstitious and idolatrous things) they have not survived, but we now know what they did, and their history in this land . . .

Instead of councilors they put in each district or section *tecuhtli*, who took care in executing what our councilors execute and do; and everyday they met in the palace to see what they would be ordained and commanded to do; and, in a great room known as the *Calpulli*, they met and took care of the business that corresponded to their position; and if they were in the same court that the king attended, they waited for the *Huey Calpixqui*, who was the greater majordomo, spoke and told them what the great lord or king ordained and ordered, so that they sent their own ministers and officials and these *tetecuhtin* held elections among themselves every year to see who would serve as leader for that year, as occurs among our regular mayors, rather than the merino, those who were called *tlayacanque* and *tequitlatoque*, whose job it was (and also still is) to solicit what his *tecuhtles* commanded and ordered in the palace or at the hearing. Another position represented the executors, whom we call bailiffs, which are known as *topileque*, because they carry twigs in their hands; they met with the *tecuhtles* for the items of capture or other manuals that were offered.

Torquemada (1975–83, 4:331–32); translated by Kristin Sullivan.

The primary source documents tell us that each day 600 gentlemen and knights guarded the palace (Torquemada 1975–83, 1:316; Hernández 1946, 99), each one of whom was accompanied by at least three or four servants and some by twenty or thirty—more than 3,000 people. These lords had other responsibilities in addition to guarding the palace. Cortés (Second Letter, [1519–1526] 1979, 76) provides us with an example of these multiple duties in the context of a discussion of the protocol for feeding Motecuhzoma (see Text Box 5.5).

Feeding so many people must have required a great number of people, to whom we must add the pages who served food. Cervantes de Salazar (1971, 1:316) says that there were from 1,000 to 3,000 women in the palace. The cooks and their assistants may have been included in these numbers. However, there must have been some sort of hierarchy, since feeding an emperor requires daily decisions about which dishes to prepare. After such abundant meals, a crew was needed to clean up. We must also consider that the *huey tlahtoani* had more than one residence and in each of them there must had been personnel in charge of their operation.

The sources also mention gardeners, mainly in the recreational houses (Vetancurt 1971, 50). I have already mentioned the *totocalli*, which also included the house of the wild animals, where a great many people were in charge of cleaning, feeding, and caring for the animals. Craftsmen such as silversmiths, feather workers, painters, lapidaries, and engravers are also mentioned as being in that part of the palace (Sahagún 1975, 468).

There were also people who filled what we could call governmental positions who met in different rooms of the palace. Among them were the great gentlemen with the ranks of *tlacatecatl* and *tlacochcalcatl* and many subordinate lords who went to the palace to receive orders, such as captains and teachers. In addition, the courts of justice had full staffs of people.

Although some authors maintain that an active army did not exist and that soldiers were conscripted in times of war (Berdan 1982, 103), the information available to us demonstrates that there were soldiers whose main activity was to train young men and lead troops into battle. Since the young men received military training in the *telpochcalli* and there was at least one *telpochcalli* in each district, hundreds of men must have filled the role of trainer, to which we should add the other

teachers in the *telpochcallis*. In addition, we have the eagle knights, the jaguar knights, and the "shaven ones" (*quachictin*), who dedicated themselves solely to fighting and pledged to never back down in combat. In exchange, the *quachictin* received special privileges, including the ability to live with a woman without being married to her. Keeping this oath almost certainly shortened the lives of the *quachictin*.

The *calpixque* were appointed to receive tribute, store it in warehouses, and prepare it for redistribution. This was another important occupation in which an unknown number of people participated. They were directed by important lords, the head of whom was known as the *petlacalcatl*. There must have been many warehouses in Tenochtitlan.

Priests

The priests also formed a large occupational group. In addition to the seventy-eight buildings in the Templo Mayor, each district had temples. Cervantes de Salazar (1971, 1:333) says that more than 5,000 personnel lived in the Templo Mayor. The priests underwent a professional course of training which they began as apprentices. The priesthood had two top positions: Quetzalcoatl Totec Tlamacazqui and Quetzalcoatl Tlaloc Tlamacazqui. Both Torquemada (1975–83, 3:264–65) and Sahagún (1975, 168–71) discuss in detail the different categories of priests and their functions. Some were in charge of songs and even composed them; some were in charge of organizing the calendar celebrations; some were dedicated to the education and guidance of the young men in tasks such as carrying firewood for the temples; and some were the sacrificers. We do not know whether the fact that there were different types of sacrifices meant that these practitioners were specialized. We do know that one priest was in charge of holding the victim while another stabbed him with a knife and removed the heart to make the offering.

An important role was played by the *tonalpouhque* (readers of destinies), whom today we would call astrologers. They were the ones who handled the ritual texts and established whether different days were favorable, unfavorable, or neutral. People consulted them when they needed to choose a date for starting an expedition related to war or commerce or for naming ceremonies, marriages, or various commemorations. Part of each person's destiny was determined by the day of his or her birth, but there was the possibility of resisting negative forces

by carefully selecting when to take on a given activity. To make their prognoses, the *tonalpouhque* consulted texts known as the *tonalamatl*, the contents of which are largely unknown to us.

Also there were priestesses. Torquemada (1975–83, 3:278) and Sahagún (1975, 183) mention the existence of women who devoted themselves to the temples. This seems to refer to a type of vow, because the women left the temple to marry when they reached the appropriate age. Other women in the temples took care of daily tasks like preparing tortillas and other food; they were paid with the products of their labor (Torquemada 1975–83, 3:243). Alberti (1994, 181) states that priestesses were assigned to the temples of Quetzalcoatl, Huitzilopochtli, and Tezcatlipoca, and Burkhart (1997, 38–40) says that women were in charge of domestic rituals.

Justice System

Sahagún (1975, 465) discusses two courts: the "civilian room" and the "criminal court." We also know that the market had a court. Judges were required to conduct themselves according to the law, and the punishment for judges who strayed was quite severe; it was often death (Torquemada 1975–83, 4:114). One assumes that the highest positions were reserved for the nobility and that they received land and people to cultivate land as remuneration. The sources also mention attorneys, solicitors, and lawyers. There was also a speaker who proclaimed the sentences to the people. He was also a nobleman since the information he transmitted was the will of his lord (Vetancurt 1971, 53). Other occupations connected to the courts included summoners and messengers (Mendieta 1945, 1:148; Zorita 1963a, 55) and the executors (or bailiffs), known in Nahuatl as *achacacauhtin*, who ordered sentences to be carried out.

Writing is associated with all of these activities. Notes were made about everything related to the justice system and to property matters, and archives were kept. However, few documents have survived. The use of books for all activities was common in pre-Hispanic Mexico. This does not mean, however, that most of the people knew how to read and write. The *tlacuiloque* (scribes) were specialists in charge of documents related to the justice system, economy, religion, education, divination, and so forth. Apparently they learned the office in the *calmecac* schools

or their parents taught them as children. Motecuhzoma received reliable information about how many Spaniards there were and what they were like. Scribes also described the arrival of Pánfilo de Narváez and his men in detail (Cortés, Second Letter, [1519–1526] 1979, 78). This accuracy enabled the conqueror to leave at the critical moment.

Communication System

Although we know that the empire had a sophisticated communication system, we have little information about it. Díaz del Castillo (1975, 353) mentions a warning system in the Valley of Mexico that used bonfires, and Torquemada (1975–83, 5:321) describes a mail system for delivering written notes. The *pain*, as the mail carriers were known, used towers known as *techialoyan* to await the beginning of their shift or rest after a shift was completed. They ran "four or five leagues in an hour" (between 20 and 25 kilometers, using five-kilometer leagues; if the calculation is based on four-kilometer leagues, the hourly total is 16 to 20 kilometers). This considerable speed is difficult to take seriously considering the condition of the roads, the geography of Mexico, and the records set by modern athletes. For example, the world record for a marathon runner is around 20 kilometers per hour, and only a very few have achieved such speeds. Of course, the probability that these figures are accurate increases if the *pain* ran shorter distances. But the distances would have had to be long enough to be useful, and with more relays, more messengers would have been required to deliver messages.

Further proof of the extent of the use of writing is the speed with which the Spanish system was understood. The indigenous people's use of the alphabet to write in Castilian, Latin, or their own language and the continuity of the use of the indigenous writing system alongside the Spanish writing system during the colonial period are perfect examples of precolonial literacy.

City Maintenance

Maintenance is one of the fundamental activities in any large city. Some of the people who were directly involved in this field also held other posts. For example, the *tiacahuan*, or captains who were in charge of guarding the city (Sahagún 1975, 472), also took care of the military

training of the young men in schools. The bailiffs also performed duties that today we would identify with the responsibilities of a police force.

Public Works

The primary sources identify the *petlacalco* as the administration in charge of supervising the operation of the city. The *petlacalcatl* was responsible for supervising public works (Berdan and Anawalt 1992, f. 70r; see Figure 7.4). He had access to unspecialized manpower from the *telpochcalli*. Such work was one of the obligations of the young men, but specialized laborers were also necessary. One such position was that of the diver. The drainage outlet for the lake of Mexico was in Pantitlán. It had an underwater floodgate that had to be opened from time to time, a job that required an experienced diver. Divers are also mentioned in the context of the time when the city flooded under the rule of Ahuitzotl; divers experienced "in entering the water" (Durán 1581 [1967 2:380]) were needed to close the Acuecuexco spring. Fifteen divers responded (Tezozomoc 1944, 175). Ahuitzotl compensated each one generously with slaves, jewels, and ten cotton blankets (ibid., 176). The complexity of the hydraulic system of the river basin, which included roads, earthworks, docks, bridges, and canals, must have required specialists in underwater construction.

The cleaning of the city, including the maintenance of the canals, also must have occupied a significant number of people. Cervantes de Salazar (1971, 1:349) estimates that more than 1,000 people were in charge of these tasks every day.

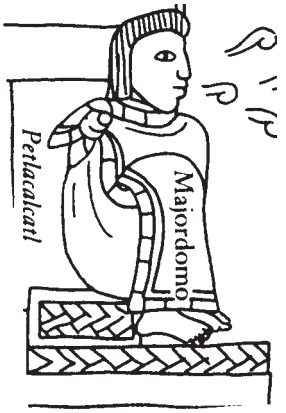

Fig. 7.4. The *petlacalcatl,* Codex Mendoza, f. 70r. From Berdan and Anawalt (1992, 4:145). Courtesy of Frances F. Berdan.

Medical Care

We have enough information to evaluate the medical knowledge of the Mesoamericans. Those that practiced medicine were called *ticitl*:

> The physician [is] a curer of people, a restorer, a provider of health.
>
> The good physician [is] a diagnostician, experienced—a knower of herbs, of stones, of trees, of roots. He has [results of] examinations, experience, prudence. [He is] moderate in his acts. He provides health, restores people, provides them splints, sets bones for them, purges them, gives emetics, gives them potions; he lances, he makes incisions in them, stitches them, revives them, envelops them in ashes (Sahagún 1577, Bk. 10, chap. 8 [1577] 1961, 30; 1975, 555).

This activity was closely tied to the activities of priests, astrologers, and sorcerers, and the treatments were related to various ritual practices. The treatments physicians used with the Mexicas are listed in Sahagún's Book 10, chapter 28, which also mentions the types of diseases physicians encountered, organized according to the body part they affected, and the medicines they prescribed. Their knowledge of how to treat cut wounds and bruise wounds and how to repair fractures is most impressive. These injuries must have been frequent in battle. The practice of human sacrifice also required knowledge of anatomy. López Austin (1980) has detailed the ritual and religious aspects of humanity.

The social rank of the doctors was associated with the diseases and patients they treated:

> Specialization must have diversified the social position of different doctors. The range may have extended from those considered herbalists to the delinquent *tetlaxiliqui*, who provided unauthorized abortions for women; from the practical healer believed capable of casting effective spells, to the mystic inspired by a bolt of lightning to dedicate his life to the medicine of Tlaloc; from the midwives who danced publicly in the great religious celebrations, to those who humbly contracted out their technique and whose calloused feet, warmed directly in the fire, were used to ease the tired muscles of the overworked client (López Austin 1975, 37–38, translated by Kristin Sullivan).

Among the physicians I would emphasize the significance of herbalists, who had a strong presence in the market, and midwives, whose assistance in childbirth was very important.

Several gods presided over medicine. Cipactonal and Oxomoco were the gods of treatment and grain divination. Teteo Innan, the mother of the gods, was the goddess of medicine and treatment in the *temazcalli*, and Tlaliyollo was the god of medicine. The celebration of Teteo Innan included the sacrifice of a woman. The god Tzapotlatenan presided over the sale of medicine (López Austin 1973, 73–74).

Dentists are not mentioned in the documents, but archaeological evidence attests to the extent of dental mutilation and engraved adornments that would have required specialists if they were to be performed properly. Molina's (1944, f. 129r) dictionary includes terms such as "sawing one tooth to another" and "he who saws teeth," which suggests that such specialists existed. The remains recovered demonstrate the skill of those who performed such work, since we know that the patients survived. Thus we know that dental specialists existed, even if we do not find explicit references to them in the sources. We must also consider that some form of narcotic may have been used to alleviate the patient's pain.

We know that good sanitation was important in Tenochtitlan; the cleaning of the city is mentioned repeatedly in the sources. Domestic animals were rarely seen, which made it easier to keep the city clean. Bathing in steam baths called *temazcalli* was habitual (Mendieta 1945, 1:140). Workers were needed to maintain these baths:

> Certain persons were appointed to heat these bathhouses; they performed special rites and spoke certain words on heating them. And so that the bath would be beneficial to those who took it, all who bathed contributed to those who heated [the bath] a certain number of ears of corn, chocolate or seeds. (Durán 1570 [1971:271])

Another necessary position, which we usually ignore, is that of the undertaker. Numerous rites took place after a person died to facilitate his or her passage to the afterworld. (see Text Box 7.4).

Cremation was the most widely used technique, which is why very few human remains have survived (Mendieta 1945, 1:178–80). The rites would last several days. Given the size of the population attributed to

7.4. Funerary Ceremonies

Certain customs are upheld when a person dies. After death, certain men and women who are public servants are called to do the following: They take the naked body on their knees wrapping their arms around its back, and others come to perform the final cleansing and wash it very well; and a man with a bobbin or stick arrives and they place it in the hair of the deceased following certain rituals, with which the hair is parted in certain places; and the deceased is thus washed with certain *endines*[1] in his hair, they dress him nicely in all white, and with the face toward the outside, they place him in a chair placing on his head and over his entire body large plumes and feathers of various colors and types; and this occurs over the course of an hour or two; after that time other women and men come as did those prior and undress the deceased of his white clothes and feathers, and return to wash him a second time and dress him in red clothes and different feathers of the same color, and place him in his chair for one or two hours before, and there they make a particular prayer or lamentation, larger or smaller depending on the status of the deceased. Other women return a third time to undress him of all his red clothing, wash him again, and dress him in black with black feathers, and all three outfits are taken to the temple to be buried with the deceased; and these clothes are not used by the living unless they are left for the priests for the service of the temple.

1. García Icazbalceta says that he does not know the word but that it could refer to "ointments or perfumes."

Zuazo (1971, 364–65); translated by Kristin Sullivan.

Tenochtitlan, the demand for such specialists must have been great enough to provide full-time work for a number of people.[1]

Also related to hygiene are the barbers, since short hair reduced the spread of parasites.

Care of Visitors

Tenochtitlan was a city that welcomed numerous visitors. They came for various reasons, including work related to supplying the city, celebrations, politics, or the business of the empire. Many of the lords

from other parts of the empire passed part of the year in court, and they did not do so alone. The *tlahtoani* had houses in the city to accommodate those who came with tribute and other requested goods (Torquemada 1975–83, 1:284). People from other towns sometimes had particular houses in Tenochtitlan, as was the case for those from Cuitlatenamic, who always stayed in the same house in the city (Calnek 1972b, 349). Díaz del Castillo (1975, 175) says that near Tenochtitlan there were "small houses that were a type of lodging or inn where Indian merchants stayed." These lodgings must have provided employment for numerous residents of the city, although such workers are not mentioned in the sources.

Visitors needed more than just a place to sleep. Their daily food needs could be met in the market, as we have seen. Drinks could also be found in the market, whether it was water from the water carriers or more nutritious options such as cacao or *atole*.

Domestic Service

Domestic service provides employment for many people in cities. We have already seen the great number of servants in the palace who tended to Motecuhzoma and his family and to visiting lords. Women servants tended to the priests in the temples. Domestic service in the city seems to have been the main occupation of the so-called slaves. (In Tenochtitlan, slaves do not seem to have been similar to the slaves of the Old World; instead, they seem to have been people who sold themselves to work for a determined amount of time, sometimes for their entire lives.) Different Nahuatl verbs express the work done by a free man (*nitetlayecoltia*), a slave (*nitlacoti*), or tribute service (*nitequiti*) (see Simeón 1977, 511, 587). In sixteenth-century European cities, the percentage of the population dedicated to domestic service was around 10 percent (Rojas 1986, 215). Although most of the population of Tenochtitlan would not have had any servants, the large numbers nobles employed likely increased the percentage to a similar level.

Marginal Jobs

We now turn to the inhabitants of the cities who usually do not appear in studies.

We begin with the *ahuianime* ("women who produced merriment"), whom Friar Bernardino de Sahagún mentioned. The women have been

identified as prostitutes. Young men were instructed to practice sexual self-restraint and to not frequent "bad women." Girls were instilled with modesty and taught that they should wait for a man to approach them. They were also advised to not wear too much makeup. Elite mothers advised their daughters as follows:

> And never long for, never desire the color, the cosmetics, the darkening of the teeth, the coloring of the mouth; for they denote perverseness, they mean drunkenness. That is the property of the restless ones, the dissolute ones, the evil women; that is the domain of those who have wasted the earth; that is the work of those who go drinking, who go eating jimson weed; that is the way of life of those who go drinking pulque. These are the ones called harlots (Sahagún 1577, Bk. 6, chap. 19; [1577] 1969, 101; 1975, 350).

The term "harlots" leaves no room for doubt. The Nahuatl text says that they are "flesh sellers" (*nacanamacac*). Molina (1944, f. 152v) records the reflexive verb *tzinnamaca* (*nino-*) which he translates it as "for a woman to sell her body," and the transitive verb *tzinnamaca* (*nite-*), which he translates as "to pander." The description Sahagún gives of these women demonstrates that they comported themselves in ways that were very different from ways mothers wanted their daughters to behave:

> The carnal woman is an evil woman who finds pleasure in her body; who sells her body—repeatedly sells her body; an evil young woman [or an evil old besotted woman], drunk—very drunk, much besotted; dejected, perverse; [like] a sacrificial victim, a bathed slave, a captive; full of affliction, mortal (Sahagún 1577, Bk. 10, chap. 15; [1577] 1961, 96; 1975, 562).

Sahagún (1975, 557) also says that these women walked the streets and plazas looking for the best possible price. Pimps and madams also appear in the descriptions of celebrations of *huey tecuilhuitl* and *tlaxochimaco*, in which prostitutes are described as dancing with soldiers. Sahagún's (1975, 124) Spanish text states they later left the celebration, whereas the Nahuatl text (in Sahagún[1577] 1951, chap. 27) says that the nobles asked the women's guides to leave some of them behind, and that that was when they were paid. The next paragraph seems to make clear that a young man who was seen with the *ahuianime* was looked

down upon but that it did happen. The problems occurred when they were discovered:

> And the young warriors, the young warriors who had distinguished themselves, who were worthy of honors, made their plea for the women only in secret, not before others; perchance in his home [such a one] awaited her, perchance elsewhere he called her. Just so, they ate privately.
>
> And the women came forth only at night and spent only the night [with him]; she departed when it was well into the night.
>
> And if one was noted living in concubinage, thus he aroused anger; thus he gave offense. For this all assembled and held council in the song-house.
>
> Here, before everyone, they punished him. (Sahagún 1577, Bk. 2, chap. 27; [1577] 1951, 96; 1975, 124)

The Mexica double standard is very clear. Sahagún mentions that young people could not live together, but his text also says that when the young men went to dance at the *cuicacalli* (music conservatory), "those who lived together went to sleep with their female friends" because they could have more than one (Sahagún 1577, Bk. 3, Appendix, chap. 5; 1975, 211). Again, this behavior contrasts with accounts of punishments for similar behaviors. Sahagún (1577, Bk. 8, chap. 14; 1975, 467) says that if the lord found out that a young man lived with a woman who was not his wife or committed adultery, he was condemned to death. Finally, Sahagún also mentions that unmarried young men who lived with women were limited in the ranks they could achieve (Sahagún 1577, Bk. 3, chap. 1; 1975, 211).

Sahagún lists a few other "professions" that he groups in Book 10 as filled by those who lived the "bad life." These included ruffians, thieves, minstrels, tricksters, sodomites, and traitors. In his descriptions of the different trades, he also provides examples of good and bad practices. For example when discussing thieves, he says:

> One who dances with a dead woman's forearm is advised. [He is] a guardian [of secret rituals]; a master of the spoken word, of song. [He is] one who robs by casting a spell, who puts people to sleep; [he is] a thief. He dances with a dead woman's forearm; he robs by casting a spell, causing people to faint, to swoon. He

> heaps together. He carries away all the goods. He bears the maize bin on his back; he carries it in his arms. [While the victims sleep] he dances, beats the two-toned drum, sings, leap about (Sahagún 1577, Bk. 10, chap. 11, [1577] 1961, 38–39; 1975, 557–58).

The existence of different courts and the severity of the punishments meted out tell us that crimes did in fact exist.

Some Statistics

In order to better understand the structure of the workforce of Tenochtitlan, we must be able to determine how many people worked in each occupation. We must also consider the results of such calculations in terms of the size of the total population and the proportion of the population that was economically active. The latter is quite difficult to determine. The numbers offered most frequently for the total population are from 200,000 to 300,000 inhabitants, although this estimate is not based on reliable data. Calculations about what percentage of the population were active are even more arbitrary but I consider 31 percent to be reasonable (see Rojas 1987a). This means that for a total population of 200,000 inhabitants, about 60,200 were working members of society; for a total population of 300,000, the number increases to 90,300.

We can use these calculations to make conjectures that connect the population size to the activities of Tenochca and thus provide some sense of the number of people involved in particular occupations. Sometimes sources provide figures, sometimes we have only the names of the occupations, and a few times we have both.

The documents provide very few numbers and some do not talk at all about Tenochtitlan. Thus we must consider these statistics with caution. The *Huexotzinco Matrícula* says that craftsmen and retailers accounted for 20 percent of the total population (Dyckerhhoff and Prem 1976, 160). However, Huexotzinco was a largely agricultural community, and that was not the case in Tenochtitlan. As a point of comparison, craftsmen comprised approximately 50 percent of the active populace in Mexico City at the end of the eighteenth century (González Angulo 1983, 15).

I have mentioned that Cervantes de Salazar (1971, 1:349) stated that 1,000 people cleaned the city every day. This number seems high, yet

the only comparison we can make is with Seville in 1404. Although this city was much smaller that Tenochtitlan, 983 people were required to keep it clean (Collantes de Terán 1977, 103). However, the cleaning of Seville seems to have been for an exceptional occasion, while the reference to Tenochtitlan concerns an everyday activity.

Some numbers appear in the descriptions of Motecuhzoma's palace. The main source seems to be Hernán Cortés's *Cartas de Relación*, which other authors follow more or less freely: 600 lords who performed multiple duties around the city each day with retinues of 3 to 30 escorts, up to a total of about 3,000 (Cortés [1519–1526] 1979, 76; Torquemada 1975–83, 1:316; Hernández 1946, 99; Cervantes de Salazar 1971, 1:320). Between 300 and 400 pages served the lords their food (Cortés [1519–1526] 1979, 76), and 1,000 to 3,000 women lived in the palace as ladies, maids, and female slaves (Cervantes de Salazar 1971, 1:316). In the *cuicacalli* there were twelve gentlemen who reported to the heads of the districts (Hernández 1946, 59). There were also twelve judges of the *tlacxitlan* (one of the courts of justice) (Mendieta 1945, 1:148), and they were assisted by a multitude of bailiffs, notary publics, and other officials. Another twelve judges worked in the market court. Some 600 people were in charge of taking care of the house of the birds (Cortés, Second Letter, [1519–1526] 1979, 76). Finally, there were 5,000 people in the enclosure of the Templo Mayor, including the priests and those who attended them (Cervantes de Salazar 1971, 1:333)

Other numbers can be deduced. Assuming that there was a temple and a priest in each of the 108 districts, we would have to add at least another 108 priests. As there is also mention of a *telpochcalli* in each district, we must add at least 108 teachers. A *calpixqui* for each of the tributary towns lived in Tenochtitlan (Tezozomoc 1944, 130–31). The Codex Mendoza lists almost 400 towns that had some representative in Tenochtitlan (Berdan and Anawalt 1992). The number of tributary towns was always increasing. In the 1548 Suma de Visitas de Pueblo, for example, there are 912 towns, although some were never subjugated by the Mexica (Biblioteca Nacional de España, Madrid, MS. 2800). In any case, we will have to add hundreds of *calpixque* who represented places that had submitted to the empire to the number of *calpixque* from each district.

We have little data about the market. We have identified eighty-seven different classes of salesmen, but we do not know details about

Table 7.1. Estimates of workers in Tenochtitlan by occupation

Inhabitants	N 200,000	% of Working Population	N 300,000	% of Working Population
Active population	60,200	100	90,300	100
City maintenance	1,000	1.66	1,000	1.1
Judges and court workers	36	0.05	36	0.03
Templo Mayor	5,000	8.3	5,000	5.33
Priests	108	0.17	108	0.11
Educators	216	0.35	216	0.23
Calpixque (stewards)	1,128	1.87	1,128	1.24
Totocalli workers	600	0.99	600	0.66
Porters	4,764	7.91	7,147	7.91
Lords	3,030	5.03	3,030	3.35
Male servants	12,120	20.13	12,120	13.42
Female servants and slaves in palace	3,000	4.98	3,000	3.32
Totals	**31,002**	**51.49**	**33,385**	**36.97**

Source: Rojas 1987a.

each group. Some products would have been sold at only a few stands, and others must have been sold by many people. In addition we have the porters. It seems that the supply in the market was ample:

> And if in the market of this city a person wanted 200 or 300 indigenous men to carry loads even more present themselves so that the client can select whoever he wishes since they make their living and sustain themselves this way (Audiencia de México 1939, 53; translated by Kristin Sullivan).

As we have already seen, 4,764 porters would have been needed each day to take food to the city with 200,000 inhabitants; 7,147 would have been needed each day for a population of 300,000. This does not include the porters who were needed to carry all of the other products.

Each lord had domestic servants. An average of four servants served each lord in the palace, although these are the ones who accompanied him. There must have been still more in the houses. If we multiply this number by the 3,030 lords who were said to have a house in Tenochtitlan (Hernández 1946, 99), we get 12,120 domestic servants.

We do not have more data. There are great sectors of the population whose weight in the economically active populace is not known to us.

However, the numbers I have presented would represent more than 50 percent of the economically active group for a population of 200,000 and almost 37.5 percent for a population of 300,000. These seem like reasonable estimates. The data are summarized in Table 7.1 (from Rojas 1987a, 26).

Many of these occupations must have existed in other cities such as Texcoco and Teotihuacan. We can extrapolate what we know about Tenochtitlan to arrive at estimates about the workforces of other cities of Mesoamerica for which we do not have documentation.

Note

1. With a mortality rate of 30 to 35 percent, which is typical in preindustrial cities, and a population of 300,000 people, the annual death rate would have been 9,000 to 10,500, people, or about thirty per day.

8

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The Life of the Tenochca

The daily activities of the Tenochca had much to do with social status, gender, age, and occupation (see Bray 1968; Soustelle 1970; and Carrasco and Sessions 1998).

The cycle of celebrations also influenced daily life. A particular celebration corresponded to each significant change in the life of an individual. The calendars indicated when festivals would be celebrated. These included general celebrations in which everyone participated (although not always equally) and others that were particular to certain offices or districts. Therefore, it is important to distinguish between daily activities and special events. This chapter is divided into three sections: daily life, personal celebrations, and great rites.

Daily Life

Descriptions of the daily activities of common people that are found in many sources are not valid for most city dwellers. The lives of city residents were different from the lives of people who lived in the countryside. Outside the city the fundamental activity was agriculture, there was little occupational specialization, and most activities were dictated by the change of seasons. In the city, many workers were specialists, the yearly rhythm was more uniform, and the seasons had less influence over daily tasks.

The daily life of an inhabitant of Tenochtitlan who was not a member of the nobility and was not a specialist was determined by his or her occupation, age, and gender. Unfortunately, we know very little about such individuals. For this reason, most of what follows is based more on speculation than on data, although some information from the colonial period is useful here.

Before moving into discussions of each sector of the workforce, it is necessary to make general clarifications. We begin with the day. We do not yet know when the new day began in the Mesoamerican calendar. It seems probable that it was at dawn, although it may have begun at noon, a time that is easy to determine in the tropical latitudes. If either of these was the case, the change of date on the European calendar would not have coincided with the change of date on the Aztec calendar, and each date of our calendar would correspond to two dates on the Aztec calendar (and vice versa). Thus, if the Aztec day did not begin at midnight, this has consequences for establishing the correlation between the two calendars. I am inclined to believe that dawn or sunset marked the change from one day to the next on the Aztec calendar.

Another factor to consider is that the differences in the length of daylight and nighttime in the tropics are fairly consistent year-round and thus have little impact on the rate of daily activities. This contrasts with what happens in the United States and Europe, where the difference between the number of daylight hours in summer and winter varies considerably. For this reason, the beginning of daily activities at first light and their conclusion at sunset should be constant throughout the year, with the rainy season likely causing more changes than anything else. Because most urban people did not participate in agricultural tasks, the rhythm of the seasons likely did not influence daily life for most people.

The primary sources tell us that the hours were indicated by drumbeats and conch shells:

> According to Sahagún, the temple drums and conchs marked the divisions in the twenty-four hours: four during the day—at sunrise, the middle of the morning, noon and sunset—and five during the night—the beginning of night (end of twilight), the hour for going to bed, the hour when the priests were to get up to pray, "a little after midnight," and "a little before dawn." Some of these divisions were therefore quite long, the equivalent of three or four hours; and others were very short (Soustelle 1970, 161).

Not all of the hours that were thus marked were significant for everyone. The nighttime chime was reserved for the priests and for *calmecac* students, who were assigned different activities during those hours, while most of the population must have been sleeping.

Soustelle (1970, 162) comments that the night was illuminated by numerous bonfires, which suggests that activity continued into the night. However, I imagine a fairly dark city with little movement at night. In contrast, the daytime must have involved considerable activity as people went about their tasks, went to the market to buy and sell, or simply took a walk. The descriptions of the city's market speak of how far the noise reached—more than a league. With the exception of Escalante (2004a, 205–6), nobody mentions the sounds of the market. The sound of running water must have always been in the background, as well as the constant banging of canoes against docks and houses and the sound of oars in the water. Drumbeats, the sounds of celebrations, the sounds of sellers hawking their merchandise, and the constant murmur of conversations flooded the day and disappeared at night, creating the type of contrast so revered by the Mesoamericans. Escalante (2004a, 208–10) also mentions the scents. Given the high levels of hygiene of city residents, the existence of many places where people could relieve themselves, and the absence of domestic animals, the odor of Tenochtitlan was probably nothing like the stench of contemporary European cities. One can imagine how they were affected by the smells of the arrival of the Spaniards, who were accompanied by dogs and horses. In fact, when the Mexica perfumed the Spaniards with *copal*, it wasn't just because they thought they were gods; they also wanted to do something about the strong odor they emitted.

Escalante mentions the strong smells associated with human sacrifices and the skull racks, citing Durán. If the number of sacrificed victims was smaller than some of the numbers that have been suggested and the bodies were not exhibited, a bad odor would not have been generated. However, a bad smell came from another source—the house of the wild animals. Escalante notes that flowers were cultivated to compensate for that odor and says that the nobles had a habit of carrying a bouquet of flowers.

The food for sale in the market and at the various stands on the streets would have generated many smells. The strong smell of *nixtamal* and tortillas being cooked; the aroma of fruits, particularly guava; and the smell of tamales and *mole* all encouraged consumption. A visit to any modern market demonstrates that those scents are tied to colors, and in the market in Tenochtitlan fruits, vegetables, feathers, and birds must have presented a gamut of colors that contrasted with the

color of the clothing worn by most of the people. We have already seen that architecture was colorfully painted (see López Luján et al. 2005). Therefore, the daily life of most of people was punctuated by a mosaic of colors, scents, and sounds that we can now only evoke and imagine to give life to the ancient city.

Men

If we heed the chroniclers, Aztec men were destined to become soldiers. In this view, all of the other occupations were accessories to that main occupation. But the reality was that men participated in war only during certain periods and then far away from the city. The numbers the sources provide for the size of the Aztec armies are very high: it is difficult to accept that armies of thousands of combatants were able to maneuver on land, with the possible exception of the sort of "total war" that led to the Spanish conquest.

So if soldiers went to war outside the city limits and hardly anyone in the city was involved in agriculture, what did men in the city do? Although the daily tasks of men had much to do with their social rank, primary activity, and age, men shared some aspects of daily life. They all awoke at dawn and ate breakfast. Those who worked away from home took an *itacate* (lunch) to work. At dusk, they returned home, ate dinner with their families, and rested up for the next day. The fundamental role of men was giving their families what they needed for daily sustenance.

Clearly the means of carrying out these tasks differed considerably from one man to another. The obligations of the great lords had little in common with those of the craftsmen. It is also necessary to emphasize the relations that were fostered: some, like the salesmen, dealt with all types of people of different backgrounds, whereas most of the craftsmen, hunters, and fishermen only dealt with those who worked at similar tasks. Those who were forced to spend long periods of time away from home, such as retailers and soldiers, deserve separate mention.

On special days, such as celebrations and the days of the step rites, of course, men departed from their daily routine.

Women

Non-elite Mexica women lived in a *calli*, a house consisting of one or more windowless, four-sided rooms constructed of adobe

> or stone with a smoke hole in the center of the thatched roof. Doorways opened onto a rectangular courtyard or patio (*ithualli*); arranged around this patio were other *calli* occupied by her relatives. If the woman was unmarried, an assortment of grandparents, aunts, uncles, and cousins might occupy these other houses. If she was married, these were likely to be her husband's kin, However, in crowded Mexico City, household composition was very fluid and people could determine their living arrangements according to available space and personal choice. (Burkhart 1997, 29)

Thus, the first circumstance that determined where a woman lived was whether or not she was married. Her position in the household compound also depended on her age. It is also necessary to establish differences among married women that usually do not appear in other studies. Descriptions of the lives of Aztec women seem to fit that of married *macehual* women who did not develop tasks outside the home. We know practically nothing of the lives of the saleswomen in the market, for example.

In addition, the primary sources do not distinguish between women in monogamous and polygamous marriages. In Aztec society, noblemen could have several wives, and some of the *huey tlahtoques* had hundreds or even thousands of wives. We know nothing of the lives of these women, such as their position in the palace, their obligations to the *huey tlahtoque*, or the circumstances of their daily lives. These characteristics must have varied depending on whether the woman was the daughter of a great lord who was the primary wife or a woman of lower rank who was a secondary wife. (We do not have to accept the term "concubine" that appears in the sources, since the concept did not exist in Aztec society.) We must assume that there were hierarchies among the wives of each lord and that these hierarchies were subject to change. For example, if a wife bore male children who could succeed their father or the maternal grandfather or if the role of a wife's lineage evolved, her place in the hierarchy might change. In the marriages of Mesoamerican elites, it was common for the couple to establish asymmetrical relationships that helped the families of both spouses, as occurred between Texcoco and Teotihuacan (see Carrasco 1984). The system involved the exchange of wives between the dynasties so that

the one who went from Texcoco to Teotihuacan was the daughter of a Teotihuacan mother and vice versa. This system ensured strong ties between dynasties and must have been used in many other places. In fact, we know that Motecuhzoma II had a wife from Tula who bore him a son, D. Pedro Moctezuma, who became lord of Tula in the sixteenth century and that the dynastic alliance between both places was already well established by then.

The other way a woman's position within the hierarchy of wives could change is related to the ascent or descent of their families within the imperial hierarchy. The most important change took place after the defeat of Azcapotzalco, when the Tepanec wives lost their prevailing role to the Mexica and Texcocan wives. However, we know nothing of life within the Mexica palaces. Information from other places where polygamy existed among elites suggests that intrigue and fighting were common, and the greatest aspiration of the wives of the *huey tlahtoani* was to become the mother of the next *huey tlahtoani*. This suggests that factions within the palaces had ramifications outside palace life, because entire families rather than just individuals were involved.

For many common women, daily life involved caring for the home, preparing meals, and looking after the children (Brumfiel 1991; Burkhart 1997). We know very little about the activities of saleswomen in the market or women who were weavers. Weaving was a common occupation for women. Another daily activity, one of the most tedious, was the preparation of tortillas. This task forced many housewives to rise before dawn to prepare breakfast for their husbands and their older unmarried sons before they left for work. Brumfiel (1991, 238) suggests that because preparing meals took many hours, Mexica women made thick and large tortillas to save time. The men often would not return until evening, when the main meal was served to the extended family that lived in the house. The men would speak among themselves while the women served them their meals (Escalante 2004b, 237).

As I have mentioned, another task of Mexica women was to perform domestic rituals (Burkhart 1997, 38–40).

It is necessary to also reflect on the possible hierarchy of the women in extended families and the distribution of the workload. It is quite possible that women did not care for just their husbands and children; some may have been responsible for other relatives as well. We also need to know more about the lives of the wives of the retailers, soldiers,

and porters, as these men were absent during long periods. Extended family life may have been guaranteed the well-being of the families of the travelers while they were away. It may also be the case that the wives of these traveling men worked for income outside the home.

Children

As far as we know, the education of the young children was quite rigid. The sources are full of information about the strict norms children had to follow during their upbringing. If we can trust the Codex Mendoza (ff. 58r–60r; Berdan and Anawalt 1992), there was little food for children and punishments were harsh (Figure 8.1). Boys learned the occupations of their fathers (Figure 8.2). Girls learned domestic tasks, including spinning and weaving, from their mothers (Figure 8.3). We

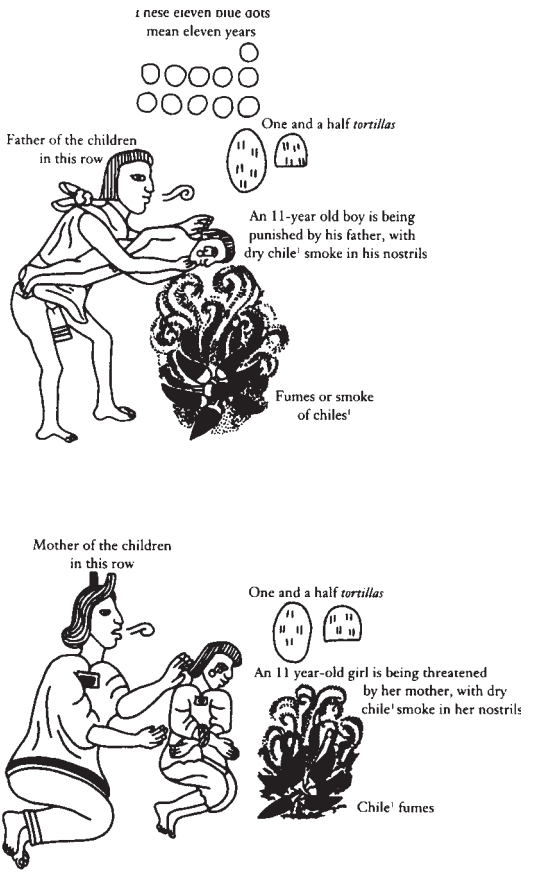


Fig. 8.1. Punishment of boys and girls, Codex Mendoza, 60r. From Berdan and Anawalt (1992, 4:125). Courtesy of Frances F. Berdan.

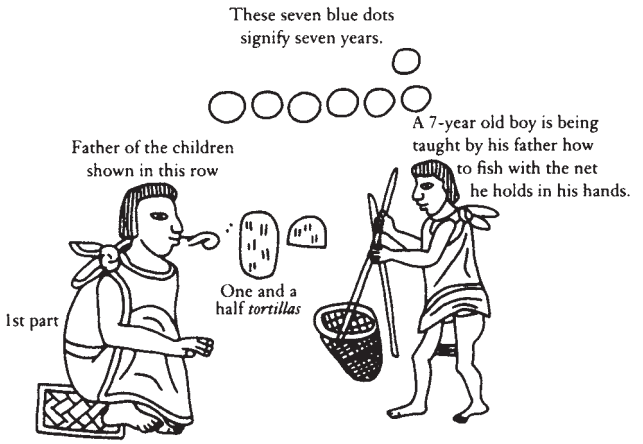


Fig. 8.2. A boy learning an office, Codex Mendoza, f. 59r. From Berdan and Anawalt (1992, 4:123). Courtesy of Frances F. Berdan.

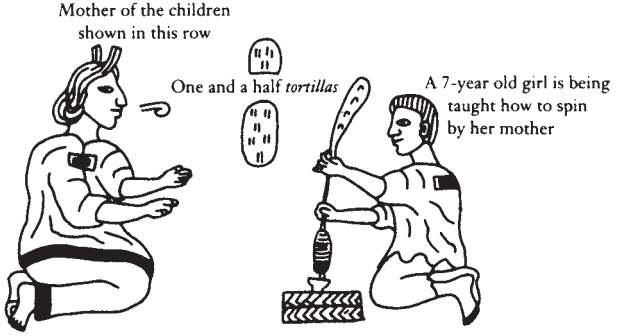


Fig. 8.3. A girl learning her duty, Codex Mendoza, f. 59r. From Berdan and Anawalt (1992, 4:123). Courtesy of Frances F. Berdan.

do not have information about how occupations that don't appear in the Codex Mendoza were learned (Figures 8.2 and 8.3).

When they were older, boys would go to the *telpochcalli* to learn how to be soldiers and become Aztec citizens. These sons did not leave home until they married. Other boys, generally but not exclusively the children of nobility, went to the *calmecac*, where the education was more complete and they could learn to read and write codices. A

fundamental difference between these two types of education is that the boys who went to the *telpochcalli* returned to their homes every night to sleep, whereas the *calmecac* was a type of boarding school where the boys lived while studying, exercising, and doing penance. Apparently the *calmecac* was associated with the temples and the *telpochcalli* with the districts.

Sahagún summarized the virtues of boys: "One's good son [is] obedient, humble, gracious, grateful, reverent. [He is] one who shows reverence, who obeys, humbles himself, is thankful, shows appreciation" (1577, Bk. 10, chap. 1; [1577] 1961, 2; 1975, 346).

We know very little about the games children played or how groups of friends formed in the house, in the neighborhood, or at school. The most likely scenario is that children developed relationships with their superiors and colleagues that lasted all their lives.

Rites of Passage

The Tenochca celebrated great moments in a person's life with rites, dances, and banquets that were attended by the individual's family, friends, and professional and social colleagues. The confirmation of a pregnancy, the birth of a child, the naming of a child, starting and finishing school, an engagement, a wedding, and military funeral honors were reasons for gathering and celebrating.

The length of the celebrations and the opulence of the banquets and gifts were commensurate with the type of celebration and the social position of the main participants.

Conception and Birth

Giving birth was the "warrior" work of women. For that reason, the women who died in childbirth accompanied the sun on its evening route, complementing the men who were killed in battle or died as sacrificial victims, who followed the sun from dawn to noon.

When a woman verified that she was pregnant, she held a celebration for her relatives where expert midwives gave ritual speeches to the future parents and grandparents, advising them of their responsibilities and reminding them to be grateful to the gods for the gift given to them. She also reminded the mother-to-be of the precautions she should take,

such as not lifting heavy things or eating tamales. When the time came to give birth, the mother was helped by a midwife, who decided what measures to take. If the woman died in childbirth, she would become a type of goddess. When that happened, the relatives had to take great care of the body because the young soldiers would try to take her ring finger and a tuft of her hair to put on their shields in order to ensure courage and protection in combat. The soldiers would also try to steal the left forearm because they believed that it gave them strength.

When a child was born, the umbilical cord was cut and the placenta was buried in a corner of the house. If the child was a girl, the umbilical cord would be buried near the home to symbolize the connection that existed between women and their house. If the child was a boy, the cord was dried and then buried in a battlefield, signifying the dedication of males to war. The family would immediately try to learn the fortune of the day the child was born and call a *tonalpouhqui*, who would first ask the hour of the birth. He would later check his books to see which signs corresponded to that hour. Given the great number of forces that were concentrated in each day, very few days were completely ill fated; favorable circumstances always coincided with adverse ones. In addition, the priest would determine the date for naming the child and would try to select the most favorable day possible. For his work, the *tonalpouhqui* received food, drink, turkeys, and cloaks, according to the parents' socioeconomic status. When the time arrived to name the child, the parents would take out the items they had prepared. If it was a boy, there was a small bow and four arrows, symbolizing the four cardinal directions, and a small shield. They also made replicas of these items using amaranth dough. They prepared food for the banquet consisting of *mole*, beans, and toasted corn if they were well off and tamales and corn if they were not. If the child was a girl, they prepared items used by women, like spinning kits, a *huipil*, a *naguas* (skirt), and the meals previously mentioned. All of the items were collected before the sun rose, when the midwife would ask for a bowl of water. The items were placed on the patio of the house, and the midwife, facing west, would begin her orations. She would put water in the child's mouth and say:

> Take it, receive it. Here is wherewith thou wilt endure, wherewith thou wilt live on earth, wherewith thou wilt grow, wherewith thou wilt develop. Behold, we have completely merited our sustenance

> on earth. Take it! (Sahagún 1577, Bk. 6, chap. 37; [1577] 1969, 202; 1975, 398).

She would then put water on the child's chest with her fingers while saying the following words:

> Here is the blue water, the yellow water, which cleanseth our hearts, so that they be purified; which washeth away your filthiness. Take it! May it cleanse, may it purify thy hearth; may it cleanse it. (Sahagún 1577, Bk. 6, chap. 37; [1577] 1969, 202; 1975, 399).

Next, she would touch the top of the child's head, mentioning the goddess Chalchiuhtlicue. She would wash the child, finally offering it to Tonatiuh while lifting the child toward the sky. She would lift the child four times. The second time, the child was offered to Citlalatonac and Citlalicue, the third to the gods of the sky, and the fourth to Tlaltecuhtli. Later she would make an offering of the toys previously prepared. Finally, she would name the child. The ceremony ended with the entrance of the young men and children of the neighborhood, who brought the food and left shouting the child's name. If the child was a girl, the midwife, parents, and relatives would take shelter in the house to eat and drink.

Enrollment in School

Tenochca parents could choose to send their sons to two types of schools. The *telpochcalli* was associated with common people and was where sons learned to be soldiers and prepare for adult life. The other type of school, the *calmecac*, was considered to be superior. At these schools, boys learned to read and write and trained to become priests. If the parents decided to send their son to the *telpochcalli*, they would call the school's leaders and invite them to eat and drink, offering cloaks, flowers, and clothes to them. After dinner, the teacher would take the boy in his arms and state that he accepted him into his care until he was of marrying age. Then a hole was made in the child's lower lip and a stone called a *bezote* (lip plug) was inserted. Something similar happened if the son or daughter was to attend the *calmecac*. What differed was the dedication of a girl who would become a *cihuatlamacazqui* (female priest). The elder priestesses would go to the house to take the

girl and inform the head priest. Once he was informed, they would take the girl to the *calmecac* and offer her to Quetzalcoatl, reciting the corresponding orations (see Alberti 1994).

If the girl was old enough, they then cut her at her ribs and chest to signify that she was religious. Then she would remain in her home until she was old enough to move to the religious facility. If she was younger, she was not marked but she stayed with her parents until the time came for her integration into the *calmecac*.

When the time arrived for a boy to enter the educational centers, the teachers would meet with his parents and relatives. A ceremony would be held at which different speeches were given for the occasion that reiterated the promise that had been made and described to the boy or girl the life that awaited them in the training centers, which was one of austerity, work, and sacrifice. An excerpt from one of the speeches for a boy offers a glimpse of the ideal behavior that was sought:

> Here is what thou art to perform, here is what thou art to do: thou art to sweep, to clean, to place things in order, to arrange things; thou art to hold vigil, to pass the night [in vigil. Do] that which thou art told to do, [take] that which thou art required to take, [do] that which thou art required to do. In places not easy for running, thou art to run, thou art to proceed with agility. Be not lazy, be not slothful. Hearing it only once thou art to do [what is commanded]. When once thou art to be summoned, thou art to depart light-footed, thou art to depart running; thou art not be summoned twice. And although not summoned, rise up, rise running, take quickly that which thou art told to take, do quickly that which thou art told to do.
>
> Listen, O my son, as thou goest thou goest not to be honored, to be obeyed, to be respected. Thou art only to be sad, to be humble, to live austerely. But when thou art already a little strong, perhaps thy body becometh perverted, perverse. Punish thyself, humble thyself thoroughly; do not think of vice and filth." (Sahagún 1577, Bk. 6, chap. 40; [1577] 1969, 215–15; 1975, 404).

Next came more advice on asceticism, control of physical desires, and the necessity for study. Once the speeches were finished, the children would leave with their teachers and the meeting ended.

Marriage

When a boy approached the age of marriage, the parents would meet with other relatives and decide which girl best suited him. Once a decision was made, the parents would speak with the boy and tell him to ask permission from his teacher to finish his studies so that he could marry. They would then prepare the necessary food for the customary banquet, which consisted of tamales, *mole*, and cacao, and gather firewood. Later they would invite the teachers to eat, and everyone would smoke. Once the meal was over, the relatives would gather and begin the speeches about why the young man should complete his studies and about the teacher's approval of these plans. Then the parents would make a decision about which girl was suitable, although the elders of the neighborhood participated in this process. Once a decision had been made, the parents would call the women who were responsible for mediating marriage agreements to ask them to relay the boy's intentions to the relatives of the young woman. It was practically obligatory for the girl's parents to excuse themselves and play hard to get, which is why the ceremony was repeated again on the following day, with identical results, and again the next day. On the fourth day an answer was given, but the boy's parents would say that the young man had been deceived because the girl did not have the requisite qualities, and they would request time to consult with their relatives. This consultation would take place the following day, and if there was agreement, they would speak with the parents of the future bride.

It was then time for the elder relatives to visit the *tonalpouhque* to see what day would be suitable. People considered several days to be lucky: cane, monkey, eagle, house, and crocodile. Once the date had been determined, preparations for the ceremony would begin. Corn, cacao, flowers, "smoke tubes" (tobacco), and pots and plates of food would be prepared. Two or three days before the wedding, tamales would be prepared day and night. Sahagún has described the wedding day (see Text Box 8.1).

Next would be the speeches exhorting the bride to be diligent about completing her tasks, and then came the woman's response. At sunset, the bride's relatives would come to escort her in a procession to the groom's house and a matron would put her over her shoulders and

8.1. A Wedding Day

And when it had dawned, when the groom was to marry the bride, and the bride was to marry the groom, thereupon the invited guests entered. First the rulers of the youths, the masters of the youths entered. When they were fed, they drank only chocolate, for they drank no pulque. And at midday all the old men, the old women entered. To each one it was undertaken to give food, to give drink, to give flowers, to give tubes of tobacco. And the women came bearing, some of them, maguey fiber capes; some of them, coarse maguey fiber capes; some of them, small capes; and the poor people only grains of maize. They placed all the gifts before the hearth. And they caused the old men, the old women to become besotted. And the drinking bowl with which they become besotted was very small: the little black bowl. Some drank three bowls, some four bowls, some five bowls. This was sufficient to drink in order for the old men, the old women to become besotted. And that which they drank was yellow pulque, honeyed pulque.

And when the sun went hanging low, they bathed the woman; they washed her hair with soap; they pasted her, arm and leg, with red feathers, and bedizened her face with pyrites. But if one was still somewhat a girl, they bedizened her face with yellow. And when preparations had been completed, then they placed her before the hearth upon a reed mat. Thereupon the [youth's] old men addressed her, greeted her, animated her.

Sahagún ([1577] 1979, Bk. 6, chap. 23; [1577] 1969, 129–30; 1975, 364).

carry her there. There the couple would sit next to the fire with the woman to the left. The groom's mother would give her daughter-in-law clothes and the bride's mother would give the groom a *maxtlatl* and cotton cloth. Here is Sahagún's account:

> And the elderly matchmakers then tied them together. They took the corner of the man's cape; also they drew up the woman's shift; then they tied these together. And the man's mother then went to wash her daughter-in-law's mouth. Then she set out tamales in a wooden bowl, and sauce, [called] *tlatonilli*, which went in a polished sauce bowl. Then she fed her mouthfuls. The woman took

> the lead in eating four mouthfuls. Then the elderly female matchmakers stood them up, introduced them into a chamber, put them to bed. When they had gone to put them in bed, then they shut them in, they came out, and [these] old women remained there; they remained guarding them, remained becoming besotted. They went not to their respective homes; they just awaited the dawn here.
>
> And when four days had passed, then the straw mat was raised; they shook it out in the middle of the courtyard. Later they placed the straw mat where there were to sleep. At this time there was also eating; it was called *uexiuhtlauana*. There the in-laws took counsel with one another. Then they went their ways, they dispersed, they each went to their homes. They went already content; they went feeling good in their hearts. (Sahagún 1577, Bk. 6, chap. 23; [1577] 1969, 131–32; 1975, 365)

Next, the matchmakers would make a speech directed toward the bride that praised her for fulfilling domestic tasks such as going to market. Finally, the mother-in-law would exhort her son-in-law to make an effort to fulfill his duties, and with that the ceremony would end.

It is obvious that the entire ceremony is described from the point of view of the groom, as if the bride could only wait for someone to choose her. We are not told of the polygamous marriages, which is why we should not take the accounts in the sources as the whole truth. It is very possible that practices like those described existed in colonial times.

Marriages between leaders had to be agreed upon by the parents because of the implications for political alliances. These were often predetermined by tradition.

Funerals

Since there were different fates in the afterlife, it should come as no surprise that there were different types of ceremonies based on where the deceased was headed.

Mictlan

We begin with the most common destiny, Mictlan (Place of Death), to which most of the people went. On the day of death, they delivered the following speech to the deceased:

> O my son, thou hast found thy breath; thou hast suffered; our lord hath been merciful to thee. Truly our common bode is not here on earth. It is only for a little time, only for a moment that we have been warm. Only through the grace of our lord have we come to know ourselves.
>
> By now Mictlan tecutl hath presented thee—Acolnauacatl, Tzontemoc; as well as Micteca ciuatl. He hath provided thee a base; he hath provided thee a seat. For there is our common home, there is our common place of perishing; there, there is an enlarging of the earth [where] forever it hath ended.
>
> Thou has brought thyself to the place of mystery, the place of the unfleshed, the place where is arriving, the place with no smoking hole, the place with no fireplace. No longer wilt thou make thy way back, the return. No more wilt thou bethink thyself of thy [life] here, of thy past. For some time thou hast gone leaving orphans, thou hast gone leaving people, thy children, thy grandchildren. No more wilt thou bethink thyself how they will each perish. We shall go to reach thee, we shall go to approach thee after some time" (Sahagún 1577, Bk. 3, Appendix, chap. 1; [1577] 1978, 41–42; 1975, 205).

In these words we perceive something about the conditions in the Place of Death. We also learn of beliefs about the fleeting nature of life, which appears in many of Nezahualcoyotl's poems. For example, this poem names the most precious things and emphasizes how transient they are:

> Does anyone really live while on earth?
> Not forever on earth,
> only a little while here.
> Though it be jade it falls apart,
> though it be a quetzal feather it can be torn,
> though it be gold it wears away.
> Not forever on earth,
> only a little while here.
>
> (León-Portilla, 1978b, 49; translated by Kristin Sullivan)

Next would come speeches by relatives, who praised the life of the deceased and explained that one cannot go against the will of the gods. Then it would be the specialists' turn. They would put the mortuary

bundle and paper on the body, throw water on the head of the deceased, and give him or her a small jar. Then they would continue to give the deceased more papers, explaining that they were to help the deceased pass each of the tests that awaited him or her on the way to Mictlan. If the deceased was male, they would burn his *petacas*, weapons, and clothes so that he would be warm enough to pass the test of wind that cuts obsidian. If the deceased was a woman, they would burn her jewelry, weaving tools, and clothes. They would also place a jade stone in the mouth of the wealthy and a stone of lesser value in the mouth of poorer individuals. These were meant to act as the heart. Next they would place a small dog next to the deceased to help them cross the river. The dog would have a cotton thread around its neck for the deceased to hold on to. It was said that dogs with red fur were best, and they were raised especially for this purpose.

The mortuary bundle would be burned by two elders, who would take care to burn it completely. When they finished, they would gather the ashes and charcoal, wash them, and bury them in a pot in a corner of the house so that offerings could be made to the deceased. Slaves would sometimes be sacrificed to honor important men who had died. They would be sacrificed using arrows, but they would not be buried next to their master. Friar Diego Durán says that if the person who died was a lord, his chaplain was also sacrificed so that he could conduct ceremonies for him in the afterlife. The head waiter, the cupbearer, minstrels, and dwarves would also be sacrificed so that they could attend to him in the afterlife as well. Millers would be sacrificed so that he would have fresh tortillas. Precious jewels and ornaments were also buried with the lord so that he would not be poor in the afterlife. Everything was burned together.

After eighty days, any belongings that remained would be burned. This would also occur after one year and for each year afterward for four years, when the deceased was considered to have reached his final destiny.

This custom of cremating the bodies explains why so few human remains have been recovered. This makes the study of osteology, diseases, and DNA difficult. We know very little about the physical characteristics of the Aztecs.

Tlalocan

Tlalocan (the home of Tlaloc) is described as a joyous place where there was never a lack of food. Everything is green: corn, amaranth, chili peppers, kidney beans, and squash. The *Tlaloque*, the aspects of Tlaloc who control the rain, lived there. Only those chosen by the god went to this place. Their bodies were not burned but were buried, and amaranth seeds were placed in their mouths. Their foreheads were painted blue and their bodies were accompanied by paper offerings. A twig was placed in the hand of the deceased. It was considered a good omen when children cried when they were being sacrificed because it meant that the rains would be adequate, neither too much nor too little.

Heaven of the Sun

Another destination was the heaven where the sun resides. Some people were buried, such as the women who had died in childbirth. Others were eaten or burned alive, as occurred with those who were sacrificed. This is why we do not have descriptions of exact ceremonies and we must go to the description of the sacrifices in order to see the different ceremonies.

Promotions

We know about the different levels of the professional careers of the retailers and some of the crafts workers who were closely tied to the retailers, such as the *amanteca*, or feather workers, from the primary sources. Each promotion was sanctioned by a celebration. The level of the promotion dictated the expense of the festival. The magnificence of the festival also affected the individual's ability to continue reaching the desired level, especially among the retailers. Thus, the retailer had to accumulate goods through his work and use them to sponsor great banquets for the head retailers and the relatives of the person who wished to be promoted. If one skimped on the party, he could not hope to surpass his level. At the last level of promotion, the offering had to include the sacrifice of slaves.

Major Public Rituals

Mesoamerican calendars determined a great number of ritual activities, many of which were accompanied by celebrations that included dancing, eating, and drinking. The great rites were spectacles that people did not want to miss, and different categories of people participated in them at different levels. In addition to the priests whose ranks corresponded to the level of the activities carried out, the others who attended included assistants who helped with the expenses of the celebration (which included providing slaves to be sacrificed), relatives and close friends, and the general public.

Some of these were great events that thousands of people attended, like the great rites in honor of Huitzilopochtli that were celebrated in the Templo Mayor. Others were private celebrations that involved only a small group of people.

Every month of the 365-day calendar was associated with a celebration to honor a patron god on the last day of the month. In some cases, the preparations took place for several days before the celebration. In other cases, preparations could take several months (up to four), which is why the ritual activities associated with several days could overlap. When this happened, the participants would have to choose which ritual to attend. In addition, we have the celebrations that the chroniclers called "movable." These pertain to the 260-day calendar, which did not always coincide with the 365-day calendar. So the feast days from the 260-day calendar took place on different dates on the 365-day calendar from year to year. We must assume that in the search for suitable days to celebrate particular events, *tonalpouhque* would consider these festivals to avoid multiple celebrations on the same day, or to favor multiple festivals on the same day if that was considered beneficial.

Text Box 8.2 lists the different months, the meaning of their names, and the main deities that governed them. The rites associated with these deities included fasting; nighttime bathing; self-sacrifice, generally with maguey thorns that were used to draw blood from the arms, legs, tongue, ears, or penis; passing cords through the perforations made with the thorns (the more cords, the better); and presenting offerings. The latter could be flowers, birds (mainly quails), or different images made of paper, wood, or amaranth dough. Food also might be offered that later would be distributed among the participants.

8.2. The Months of the Xiuhpohualli (the Calendar of 365 Days)

Name	Meaning	God of the Month
Izcalli	Growth	Xiuhtecuhtli; Tlaloc
Atlacahualo	Stopping of the waters	Tlaloque
Tlacaxipehualiztli	Abandonment of man	Xipe Totec; Tlaloque
Tozoztontli	Small vigil	Coatlicue; Tlaloque
Huey Tozoztli	Large vigil	Chicomecoatl; Tlaloc
Toxcatl	Drought	Tezcatlipoca; Huitzilopochtli
Etzalcualiztli	Bean and corn meals	Tlaloc; Chalchiuhtlicue
Tecuilhuitontli	Small festival of lords	Xochipilli; Huixtocihuatl
Huey tecuilhuitl	Large festival of lords	Xilonen; Cihuacoatl
Tlaxochimaco	Offering of flowers	Mictlantecuhtli; Huitzilopochtli
(Miccailhuitontli)	(Small festival of the dead)	Mictlantecuhtli; Huitzilopochtli
Xocotlhuetzi	Fall of Xocotl	Otontecuhtli; Yacatecuhtli
(Huey Miccailhuitl)	(Small festival of the dead)	Otontecuhtli; Yacatecuhtli
Ochpaniztli	Sweeping	Toci; Cinteotl
Pachtontli	Small hay	Tezcatlipoca
(Teotleco)	(Coming of god)	Huitzilopochtli; Xiuhtecuhtli; Yacatecuhtli; Xochiquetzal; gods of pulque
Huey Pachtli	Large hay	Tlaloque; gods of pulque
(Tepeilhuitl)	Festival of mountains	Tlaloque
Quecholli	Precious feather	Mixcoatl; Izquitecatl
Panquetzaliztli	Raising of flags	Huitzilopochtli; Yacatecuhtli
Atemoztli	Fall of the water	Tlaloque; Tepictoton
Tititl	Stretching	Ilamatecuhtli; Mictlantecuhtli; Yacatecuhtli
Nemontemi	Extra days	

Note: The names that appear in parenthesis are variants. The corresponding gods are taken from Broda (1976, 55–64).

Human Sacrifice

The most important sacrifice was that of human beings dedicated to Huitzilopochtli or Tezcatlipoca. Some of these rituals were associated with wartime campaigns and involved soldiers who had been captured in combat. Other involved slaves who had been purchased by retailers or craftsmen who did not participate in war and therefore could not capture prisoners themselves. Sometimes the slaves destined for sacrifice were bought by a group who had the same occupation and sometimes they were bought by a single person who was wealthy enough to afford them. The primary sources occasionally mention the sacrifice of children or women to Tlaloc. The sacrifices were performed in many ways. The most common was opening the chest of the victim with an obsidian or flint knife and removing the heart, which was immediately offered to the god. Sometimes, as in the celebrations dedicated to the god Xipe Totec, the victim's skin was removed and the priest wore it like a dress, as happened in the sacrifice of Achitometl's daughter. These sacrifices must have been events that a great number of people attended. The spectacle increased with the gladiatorial sacrifice. In this event, a distinguished captive was tethered to a stone (*temalacatl*) with a cord so that he could move but not escape. He was given harmless weapons to defend himself against the attacks of four perfectly armed soldiers. If he was able to overcome them he still had to face a fifth soldier who had to be left-handed, in honor of Huitzilopochtli, the "hummingbird of the left." If the captive was victorious, he was rewarded with his freedom. The chronicles tell of the Tlaxcalan general Tlalhuicole, who managed to achieve this feat. He later refused freedom and the benefits offered to him because he did not want to join the Aztec army as a general. According to some sources he died next to the sacrificial stone, while others say he threw himself off a tall temple.

The ritual for sacrificing human victims included delivering the bodies to the "owners," those who had purchased the slave or slaves or the person who had captured the sacrificed soldier. The body was then divided among the "owners," after setting aside what would be given to the lords. According to the sources, the rest was prepared in a stew, which would be eaten by a select group of companions. Since the bodies were not allowed to decompose, no strong smell was given off. Some

bones were kept for those who had made the offering as a symbol of their prestige.

Feasting and Dancing

Most of the celebrations included more playful activities. These have generally merited less attention. It was quite common for a celebration to include dances that lasted several days. Special meals were prepared and enjoyed as a group and alcohol was consumed.

There were feasts every month, although not necessarily for all people, and sometimes they included human meat and other times they did not. Friar Diego Durán (1967, 1:243) says that each celebration was associated with particular foods. Pulque was consumed during several celebrations, like the day 20 Tozoztontli, when a soldier who had captured an enemy had to invite his friends, colleagues, and relatives. We read of "great drunkenness" on the celebration associated with day 10 Xocotlhuetzi. During the month of Quecholli, when those who made pulque celebrated, there must have occurred something similar to what happened on the day 2 Rabbit of the 260-day calendar, when the god of pulque, Ome Tochtli, was recognized with a festival:

> In the sign which is called ce maçatl, in the second house, which is called one tochtli, they celebrated a great feast to the god named Izquitecatl, who is the second god of wine; and not alone to him but to all the gods of wine, who were many. On this day they adorned his image very well on his pyramid, and offered him things to eat, and they sang and played [musical instruments] before him. And in the courtyard of his pyramid they set a large open jar of wine, and those who were wine merchants filled it to overflowing, and all who wished went to drink. They had some canes through which they drank. The wine sellers kept feeding the large jar, so it was always full (Sahagún 1577, Bk. 2, chap. 19; [1577] 1951, 36; 1975, 94–95).

Dances are mentioned in connection with nearly every celebration. Some of the dances caused the friars, our main informants, some anxiety:

> Thus these differences in songs and dances existed: some were sung slowly and seriously; these were sung and danced by the

> lords on solemn and important occasions and were intoned, some with moderation and calm, [while] others [were] less sober and more lively. These were dances and songs of pleasure known as "dances of youth," during which they sang songs of love and flirtation, similar to those sung today on joyful occasions. There were also another dance so roguish that it can almost be compared to our own Spanish dance the saraband, with all its wriggling and grimacing and immodest mimicry. It is not difficult to see that it was the dance of immoral women and of fickle men. It was called the *cuecuachcuicatl*, which means "tickling dance" or "dance of the itch." I have seen this performed in some villages, and it is permitted by our friars as a recreation, but I do not consider this wise because it is highly improper. (Durán 1570, chap. 21 [1971, 295])

This dance, which so concerned the friar, was the one performed by the soldiers and young men in the *cuicacalli*. The women they could cohabit with and whom they occasionally treated like prostitutes participated in the dance. This is a good example of the difference between the ideal and reality. Durán offers a clear description (1570, chap. 21 [1971, 298]):

> Everything we have been describing refers to the way in which the youths learned countless dances and diversions. Let us now speak of the ordinary dance which the warriors and soldiers performed daily, during the daytime, in that same building and school of dance. They went there to dance as a pastime, coming to an agreement, betting among themselves that they would find someone who would desire them. For that courtyard became filled to bursting with harlots, for there were many of these, and extremely shameless.
>
> These warriors, known as *tequihuaque*, went there and, dressed in their best, danced in fine style. Since they were fearless men and highly esteemed, they were permitted to keep mistresses, play with women, and woo publicly, all these things being permitted as a reward for their bravery. When one of these men saw a harlot looking at him with a certain amount of interest, he beckoned to her and, taking her by the hand, danced, giving her color for her lips and cheeks, feathers for her head, and jewels for her neck. Each one regaled the woman he had taken a fancy to as best

> he could. This round of pleasure lasted until it was time for the youths and maidens to come [to the school].

The singers were concentrated in the *cuicacalli*, where specialists who composed songs were also found. Most of the songs that were sung in the religious festivals were traditional. Music was provided by two types of drums, one vertical and another horizontal, and by a variety of flutes and conch shells. These instruments were part of the sounds of daily life; they could be heard outside the *cuicacalli* when professionals were practicing or when those with a taste for music were enjoying some leisure time.

Other celebrations did not occur on fixed dates, such as the ascent of a lord to the throne. The selection of a successor was always a delicate moment for the empire and was accompanied by celebrations and speeches. Only the highest authorities and their guests, who included the lords of enemy cities, participated in the ceremony for a new lord. But other parts of this ceremony affected everyone who attended. They included certain ceremonies, dances, sacrifices, and banquets, which could last several days. In addition, there were sumptuous gifts for the lords who were invited and some of gifts were even distributed among the common people:

> And thus finished the celebration, Motecuhzoma ordered that all of the priests, temple guards, and all of the chairmen, butlers, merinos, and centurions of all the districts, and all the officials of the city be clothed, and then all the elder men and women, the orphans and widows, and all the poor of the city, doing great favors to all who honored his coronation (Durán 1581, chap. 54 [1967, 2:416]; translated by Kristin Sullivan).

The Flying Pole

Other activities sporadically appear in the literature about rites that also could take place in other contexts. The "flying pole" is one of the most interesting, and today it is presented in Mexico for tourists. The flying pole is a very tall pole anchored to the ground. At the top, four ropes are secured to the pole and twisted around it thirteen times. Also at the top is a platform large enough to hold four men. The men climb up to the platform and tie an end of the rope to their feet, then they suspend themselves face down. Thus suspended, the men kick off from the

platform, flying through the air in circles that get closer to the ground with each turn, until they nearly touch the ground at the end of the thirteenth turn.

The Ball Game

The primary sources mention the ball game being played in the enclosure of the Templo Mayor. The excavations have confirmed this; the court has been located under the Chapel of the Souls (Capilla de las Ánimas; Matos, Hinojosa, and Barrera 1998, 14–17). We do not know if there were more such courts in the city, but it is quite possible that there were, since it is common to find several enclosures in the archaeological deposits, sometimes of various sizes. However, they generally do not reach the number and variety of those at Cantona (Puebla), where more than twenty have already been excavated, some of which are very small (see Figure 8.4). The different forms and sizes may be important. Generally, we speak of the Mesoamerican ball game as something between a sport and a rite, perhaps partly based on the circumstances in which the game or the rite was performed. These courts contain an I-shaped field, and the sides are delimited by two slopes (at Chichén Itzá they are vertical walls). In the center of the field between these slopes were the hoops through which the players had to pass the ball. Points were scored by striking the massive rubber ball with the elbows, knees, or hips. Whoever was able to get the ball through the hoop won the game and had the right to keep the spectator's possessions. In ritual contexts the winners were said to be the owners of the lives of the opponents, who were then sacrificed. The ritual element of the game is reflected in the images of gods playing ball, as in the Codex Borgia (Figure 8.5). The profane element is supported by Sahagún's statement about bets being made on the outcome of the game (1577, Book 8, chap. 10; [1577] 1975, 459–60). Diego Durán (1570, chap. 23 [1967, 1:205–10]) provides us with a vivid description of the game, the players, and those who bet on the results of the games, an activity that could ruin the gamblers. The bets seem to have been rather frequent. Lopez de Gómara (1987, 169–71) confirms the existence of bets and states that Motecuhzoma enjoyed watching the ball game very much and that he took Spaniards with him to the matches. One episode describes how the lord of Mexico faced his counterpart, Texcoco. The bet was three turkeys from Motecuhzoma against the Acolhua kingdom of

Fig. 8.4. A small ballgame court at Cantona (Puebla). Photo by the author.

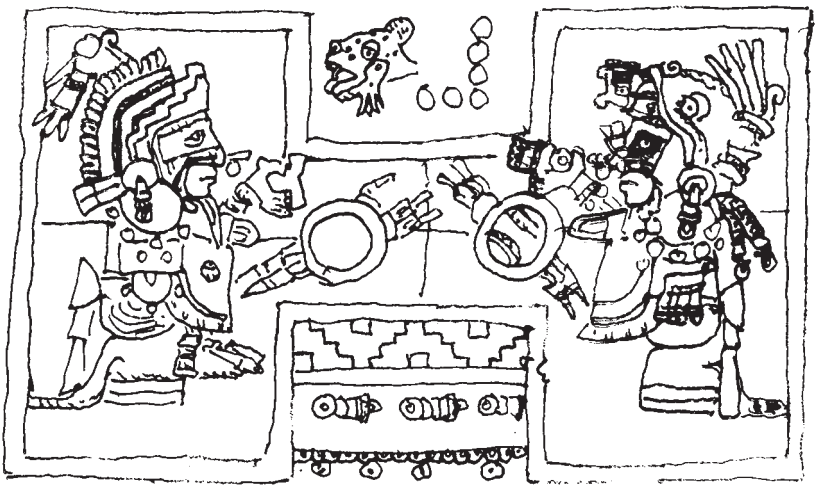


Fig. 8.5. Gods playing the ballgame, Codex Nuttall 80. Drawing by the author.

Nezahualpilli. The Tenochca won the first two games but lost the next three, and with them the game.

The different sizes and forms of the courts can be explained by the facts that there were different ways to play ball and the number of players varied. Regional variants of the game may have existed. There are many ball courts located all over Mesoamerica, and the Tenochtitlan ball game must be explained in its Mesoamerican context.

Playing ball using only the elbows, knees, and hips requires considerable skill. It was considered a great feat to be able to pass the ball through the hoops in the middle of the field. Durán's description shows us that the nobles played this game, but people of all socioeconomic levels did so as well. Attendance at the games must have constituted one of the leisure activities of the inhabitants of the city.

Other Games

Other games required less preparation and likely were played often by many people. *Patolli* was a game similar to Parcheesi in which pieces were moved on a board with fifty-two squares. Kidney beans with dots on them, similar to our dice, determined how many squares a player could advance (Figure 8.6). People bet on such games, sometimes large amounts.

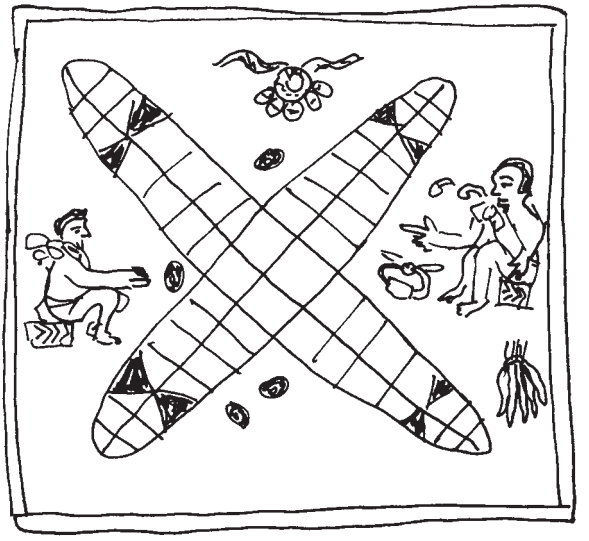


Fig. 8.6. The game of *patolli*, Florentine Codex, Book 8, chap. 10, f. 19r (Sahagún [1577] 1954). Drawing by the author.

We have indirect evidence about activities that we can consider pleasurable. One piece of evidence is the existence of laws to punish behaviors that violated norms, particularly sexual excess, adultery, and drunkenness. The fact that such laws existed demonstrates that the behaviors were fairly common. Another piece of evidence is the destinies that accompanied the days of *tonalpohualli*, which indicated that men and women born on certain days tended to be more promiscuous. For example, it was said that men born on 13 *ocelotl* would be "very given to women" (Sahagún 1577, Bk. 4, chap. 2; 1975, 225) or drunkenness (those born on Ome Tochtli) or would be gamblers who venerated Macuilxochitl, the god of gambling.

Daily Activities

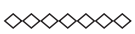
Men and women, children and adults, nobles and commoners organized their daily activities according to their position in society. Their need for movement was varied by profession and situation. For example, merchants could spend years traveling, or they could stay at home for several years. Soldiers would have times of activity and times of leisure, and sometimes noblemen with government positions had to leave the city to fulfill a mission. In addition, many people visited Tenochtitlan to accomplish different tasks. We also must remember that the lords from different parts of the empire spent part of the year in the capital in their own houses.

Daily life in the city was framed by a network of personal relationships. We know little about that network, but we must assume that it involved multiple elements and served as the framework for most of the activities of the Tenochca. The district, the extended family, and professional organizations all must have played a role in the daily lives of people. These helped individuals decide what profession to follow and provided the support to advance in that profession. They also shaped an individual's participation in celebrations, selection of a spouse, choice of where to live, and selection of companions and friends. An individual's inner circle of friends would be there to celebrate joint offerings, talk after dinner, or play a game of *patolli*, not to mention enjoying drinks or visiting the *cuicalli* in the afternoon. These relationships would also determine who to invite when a child was born, a wedding

was celebrated, or a relative was buried. Social protocol determined what should be offered to these friends on each occasion.

These daily interactions were what gave life to the city. People had to speak to each other, haggle over prices in the market, engage a craftsman for a particular project, recount the events of the day, establish alliances, and even plan conspiracies, as could happen with the hundreds of lords who met each day at the palace of the *huey tlahtoani*. These interactions generally occurred in Nahuatl, the language most identified with the Mexica, although they were not the only people who spoke it. In fact, we do not yet know when this language arrived. It is related to the Uto-Aztec language that comes to the Valley of Mexico from the north, although it has been proposed as the language spoken at Teotihuacan. The reality is that it extended throughout Mesoamerica. The Triple Alliance empire and later the Spanish administration used it as a common language. In addition, the city grew with the arrival of immigrants and numerous visitors and subjugated lords, who spoke several different languages. Some were even trilingual. This facility with language meant that Spanish was easily incorporated as another language after the conquest.

9



Tenochtitlan

Capital of an Empire

Because Tenochtitlan was the capital of an empire, the presentation of its history is not complete without taking into consideration the evolution and characteristics of the state it dominated. In fact, changes have occurred in our interpretation of the Mexica Empire during the last few decades, and these have considerably affected our evaluation of the city.

Organization of the Empire

For decades, the predominant map of the Aztec Empire was the one made by Robert H. Barlow (1949). He based his map on the *Matrícula de Tributos* (Berdan and Durand-Forest 1980) and the Tribute List of the Codex Mendoza (Berdan and Anawalt 1992). It was a territorial view that featured provinces with fixed borders (see Figure 9.1). In 1952, Isabel Kelly and Angel Palerm published a book that emphasized the conquest each *tlahtoani* made (see Figures 9.2 and 9.3), thus showing the evolution of the empire. Many years later Berdan et al. (1996) and Carrasco (1996) presented a different point of view.

Berdan et al. argued that there were two types of provinces: tributary and strategic (Berdan et al. 1996). First are the provinces that that appear in the *Matrícula de Tributos* and the Codex Mendoza. Second are the geographic groupings of places that appear in the primary sources as part of the empire, even though we do not have sources that document the tribute these places paid. Combining the data from these sources revealed that the empire was much more extensive and complex than we had assumed. We must still determine if provinces could move from the strategic category to the tributary category, or vice versa. Based on

Fig. 9.1. Extent of the Aztec Empire. After Barlow (1949). Drawing by the author.

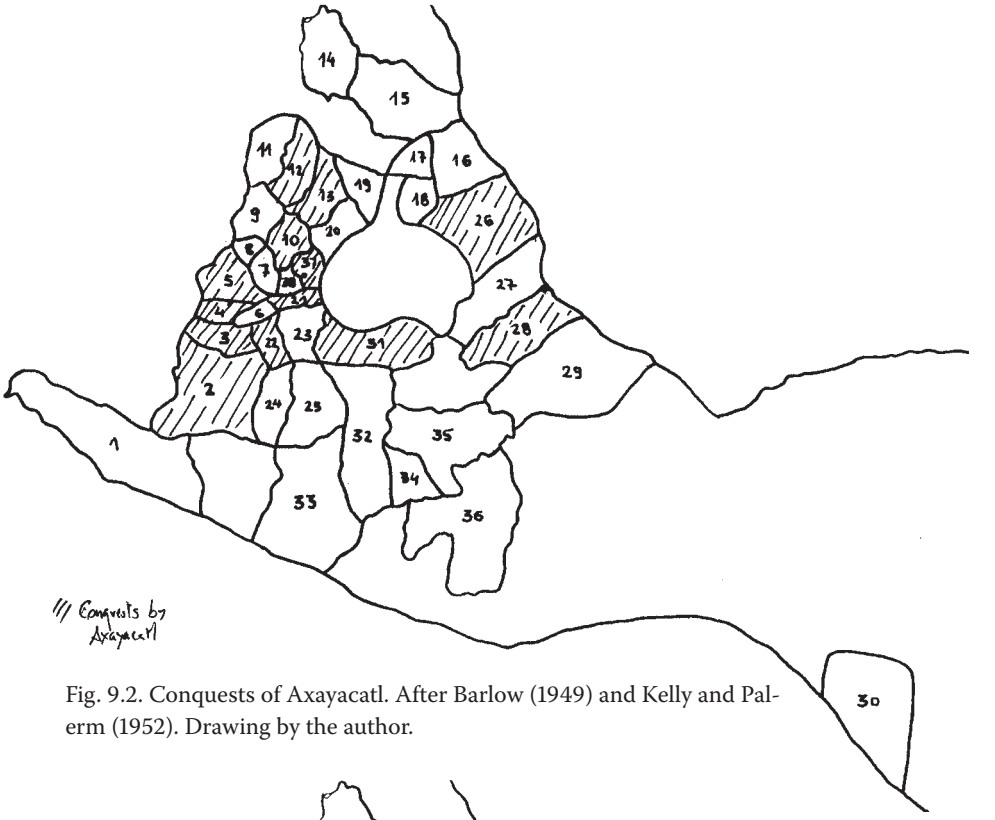


Fig. 9.2. Conquests of Axayacatl. After Barlow (1949) and Kelly and Palerm (1952). Drawing by the author.

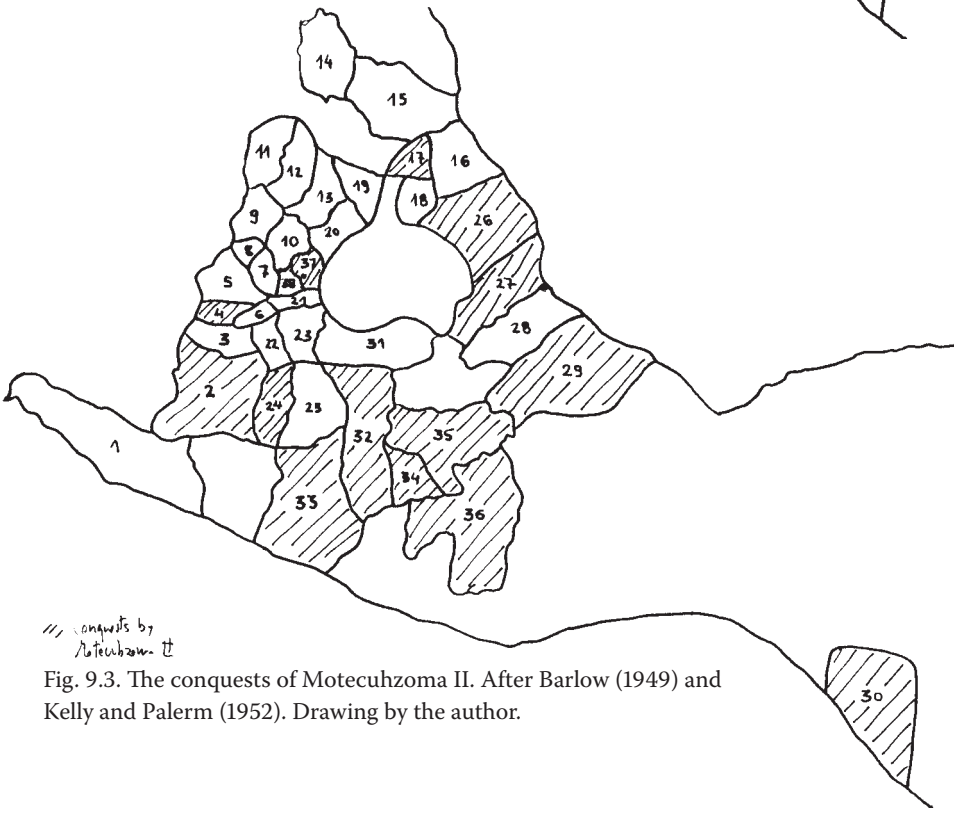


Fig. 9.3. The conquests of Motecuhzoma II. After Barlow (1949) and Kelly and Palerm (1952). Drawing by the author.

what we know of the changes in the status of the Mexicas as subjects of Azcapotzalco, we must assume that this was possible. The situation of the subject areas had to do not only with how they were incorporated into the empire but also with the mechanism by which their relationship to the empire evolved: the possibilities include tribute and gifts, marriage alliances, and exceptional actions that benefited the empire. We are now thinking much more about what happened in the provinces and how being incorporated into the empire affected them. Some work was been done in Berdan's (1980) study of the economic impact of integration of the provinces into the empire. However, recently much more attention has been paid to this issue. Hodge (1984) studied several cities in the Valley of Mexico before and after they were incorporated into the empire, paying particular attention to the consequences of becoming incorporated. I analyzed the changes in the regional role of Tepeaca after it collaborated in creating the tributary province of the same name (Rojas 1994). Hicks (1984, 1991, 1994) analyzed the perseverance of local institutions and the establishment of imperial structures. Recently Berdan (2007a) has done a regional analysis of some of the provinces and Chance and Stark (2007) have provided an excellent framework for local analysis by classifying a series of strategies that the provinces that were dominated by the Aztec and colonial regimes followed. Both Berdan and Chance and Stark take into account the activities of elites and commoners and the actions of groups and individuals. In many strategies, for instance migration, we can find links between the capital of the empire and outlying areas.

Carrasco's (1996) model is somewhat different and more complex. He does not use the concept of strategic provinces, although he does include many subject cities that do not appear in the tributary codices. The fundamental difference between this and the previously cited collaborative work (Berdan et al. 1996) is expressed in his title: *The Tenochca Empire of Ancient Mexico: The Triple Alliance of Tenochtitlan, Tetzcoco, and Tlacopan*. Carrasco used documents from Texcoco and Tlacopan to propose a type of membership in the empire that had not yet been documented for Tenochtitlan. Had the tribute lists from the two other cities been preserved, we could have created maps of the Acolhua and Tepanec empires to compare to maps of the Tenochca empire. Carrasco's research points to another possibility that is of great importance in understanding Mesoamerican political organization:

mixed territories. That is, it is possible that the empires of the Triple Alliance capitals did not occupy bounded territories with specific areas of influence for each city. Instead, perhaps some parts of these regions were mixed. Each capital likely had "vassal" cities, although it seems that Tenochtitlan had more subject cities than Texcoco or Tlacopan. This is possible because the basis of dominion was personal rather than territorial (see Hoekstra 1990). These considerations have caused us to reconsider the concept of the *altepetl* as the physical space where people lived and its relation to the *tlahtocayotl* as political units governed by the *tlahtoani*, particularly in areas where more than one *tlahtocayotl* existed because they could be tied to different lords. Maldonado (1990) mentions that some "cities" had Mexica stewards, others had one steward from Texcoco, and others had one from Tlacopan. Still others had two stewards (for example, one each from Tenochca and Tlacopaneca, one each from Tenochca and Texcocan, or one each from Texcocan and Tlacopaneca), and others had stewards from all three capital cities. These were in addition to the representatives of the local *tlahtoani*. Thus, we do not have to consider these places as shared dominions but rather as places where a variety of relationships existed between the local lords and their superiors. This kind of political complexity is understandable within the framework of mixed territories. This kind of arrangement would also explain the statement made in some sources that each of the great Triple Alliance lords was also the vassal of the other two. This statement refers to the fact that through the inheritance associated with marriage strategies or the division of lands that occurred when an area was conquered, each of the lords could have possessions in the domains of the others and thus be the "vassals" of the lord with the majority power in that particular locality. This concept helps us better understand the existence of two different Mexica political entities, Tenochtitlan and Tlatelolco, whose settlements were similar but whose lords and alliances differed considerably.

Was there an empire with three capitals or the alliance of three empires, in both cases dominated in the later phases by Tenochtitlan? This is the dilemma we must resolve. To do so we need two types of intimately related data: the tributary documents and the structure of the empire(s).

In the mid-1980s, Smith argued that the governmental structure of the empire was composed of local lords (Smith 1986). A game of

alliances and influence was involved in becoming the *tlahtoani* in which marriage alliances, personal merit, and the individual candidate's support network played a part, though not necessarily in that order. Support could be local or foreign and could come from lords situated immediately above the candidate or those who were more powerful. We must study the pre-conquest strategies for ruling, not only in the three capitals of the Triple Alliance but also in places that were likely to become incorporated into the empire. These can be partly studied by considering post-conquest strategies, as is the case with Tepeaca, which went from being a secondary place that was subject to Cuauhtinchan to being the capital of a Mexica province in which its previous superior had become its subordinate. Tepeaca did so by negotiating with the Mexica about the terms by which it would be incorporated into the Mexica empire (Rojas 1994). As a reward, the town became the capital of a tributary province and earned the right to have a market, which was very important.

Perhaps we should not speak of the cities or the towns but rather of the lords, who sometimes shared a location. The complexity of obligations could then be clarified because it would not be so much that a town was subject to different capitals but rather that resident lords in the same place would have allegiance to different superiors. Again this would help solve the problem of the coexistence of Tlatelolco and Tenochtitlan for such a long time: they had independent lords with distinct obligations and situations. Before Tenochtitlan became independent from Azcapotzalco, Tlatelolco seems to have occupied a place of higher rank than Tenochtitlan.

The evolution of the power of the Mexica and the development of the Tenochca, according to their own account, illustrates how the status of a place could change within the empire: the key is not whether a place belonged to the empire or not but what position that place occupied within the empire. The history of the Tenochca is the story of a succession of small victories and ascents in the hierarchy until they faced their ultimate challenge, the Spanish conquest. The Culhua-Mexica *tlahtoque* must have learned from this experience, because from the moment they ascended to the head of the empire, they worked to make sure that no one could defeat them. At one point, Cuauhnahuac thought he had done so, but he learned the hard way that he had erred in his calculations (Smith 1986). We must consider that the possibility

of moving up through the hierarchy was one of the fundamental tools used to ensure the cohesion of the empire: local governors obtained benefits from new areas that were conquered for the empire, such as territories or tribute. Some of the rewards for involving themselves in the concerns of the empire were more personal or benefited their lineage more than the group they led.

A theory that holds that the lords were the backbone of the empire can be reconciled with our knowledge that governors and *calpixque* were appointed in ways that did not break local hierarchies if those who were appointed were both Mexicas and members of the local dynasties. In that situation, appointing a strong local lord as provincial governor would not create a conflict of interest. Such a circumstance could have created an incentive for collaboration; there was more to be gained from allying with a ruler. Nevertheless, where a local candidate could not easily be appointed because of rebellion or internal unrest, a foreign lord might be named to the position for some time with military support. One of the reasons local lords lived in Tenochtitlan for part of the year was so they could participate in the leadership structure of the empire: to receive benefits it is necessary to be near the seat of power.

Kinship networks made possible the existence of familial relations throughout the system, although an individual's place within the system could change. More local studies and analysis of the first stages of Tenochtitlan from another point of view will allow us to advance this line of thinking (see Santamarina 2006).

There is another type of evidence that supports this interpretation: the Maya classic texts. The more we know about what the Maya said about their own history, the more similarities we are likely to find with the system of political organization in Mesoamerica. Like the development of Tenochtitlan, the growth of Maya cities was linked to an increase in political power.

Growth of the Empire and Tenochtitlan

As the empire grew, more lords went to Tenochtitlan and built the residences that their relatives and servants would later inhabit. It is likely that the most important lords, those who were more closely related to the *huey tlahtoani*, had better and more centrally located residences, but we do not have information about this.

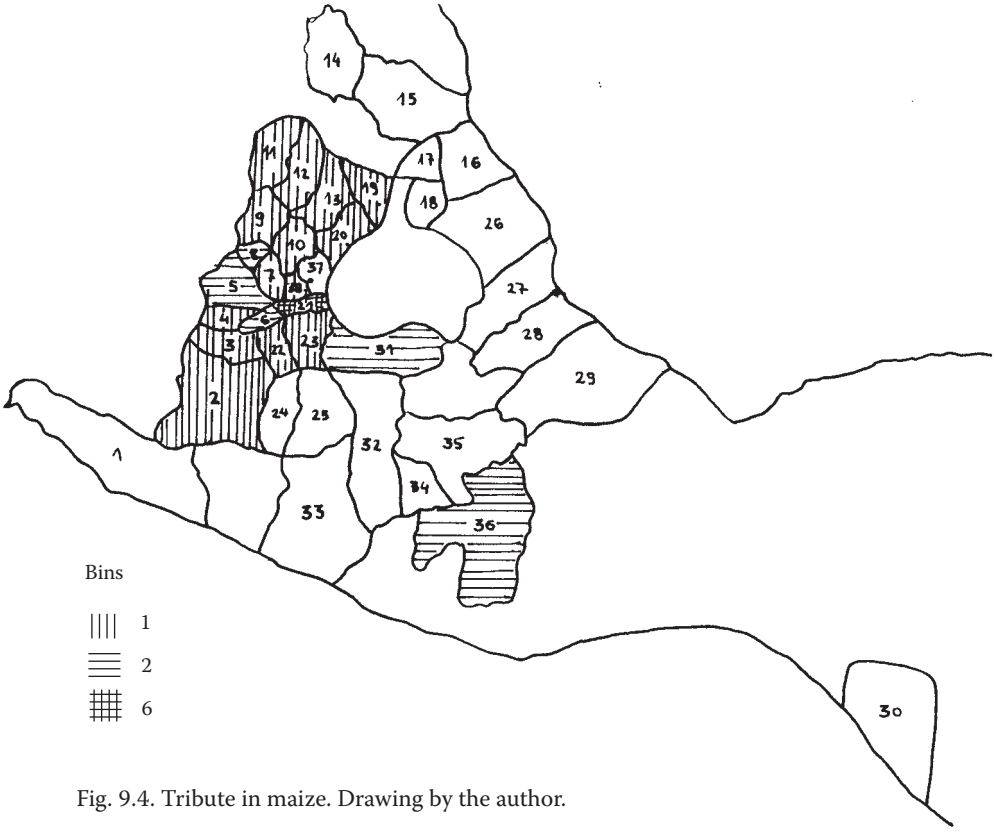


Fig. 9.4. Tribute in maize. Drawing by the author.

What we do know is that as the empire grew the volume of products that arrived in Tenochtitlan also increased. Most came from tribute, but goods also arrived as the rents paid to lords or as profit from commerce.

We can take a closer look at the tribute system using Barlow's map, the tribute lists, and the second part of the Mendoza Codex (see Rojas 1986 for maps). Grain came from the provinces to the north, west, and south of Tenochtitlan in a continuous belt; only Coyolapan, whose capital was Huaxyacac, interrupted the continuity (Figures 9.4 to 9.7). Cacao was paid only by the cacao-producing provinces, which were located on the Gulf and Pacific coasts, including Xoconochco (Rojas 1986, Map 5). Few provinces paid tribute in feathers. In contrast, cotton or maguey cloth was the most common product paid by both large and small provinces (Rojas 1986, Maps 6, 7, and 11 to 14). Raw cotton was

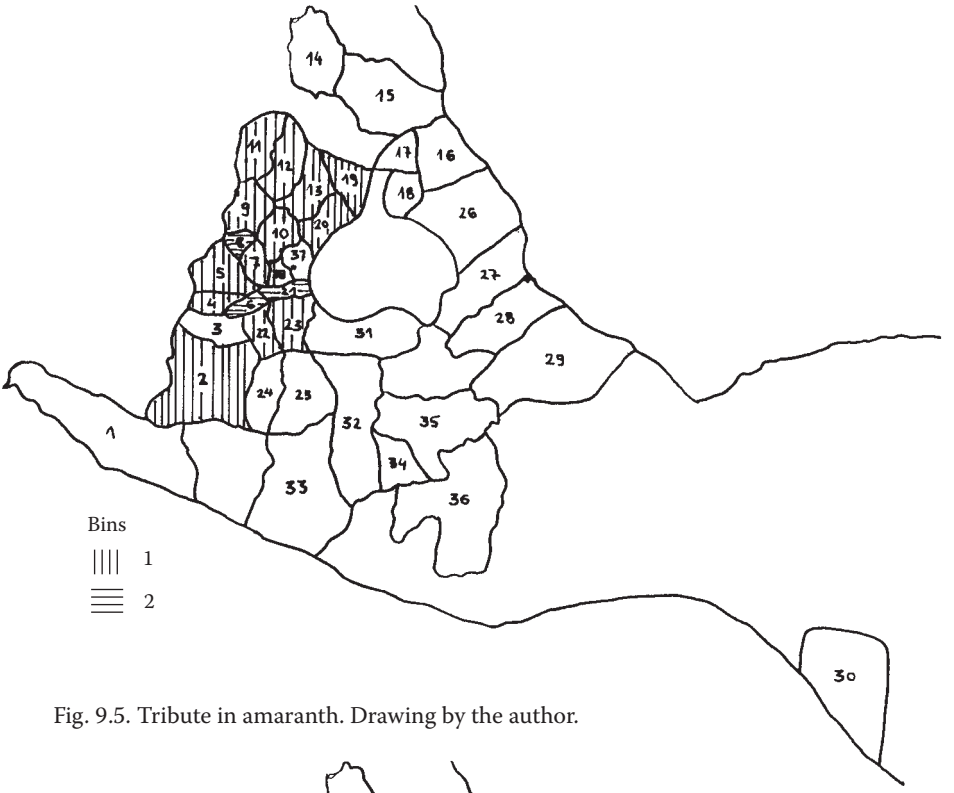


Fig. 9.5. Tribute in amaranth. Drawing by the author.

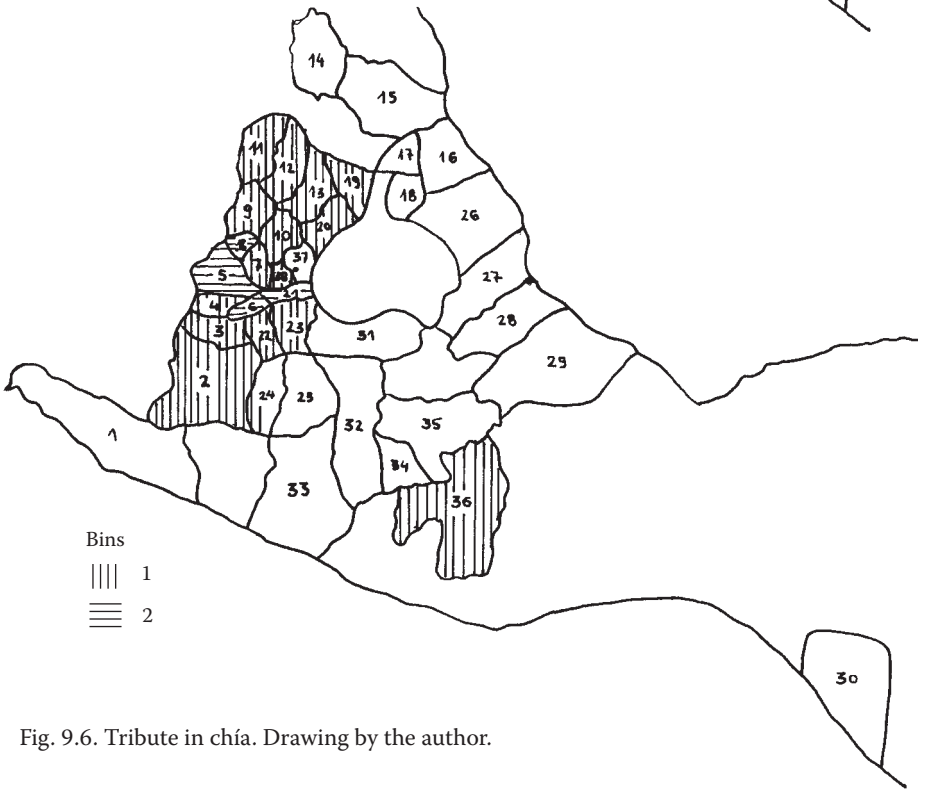


Fig. 9.6. Tribute in chía. Drawing by the author.

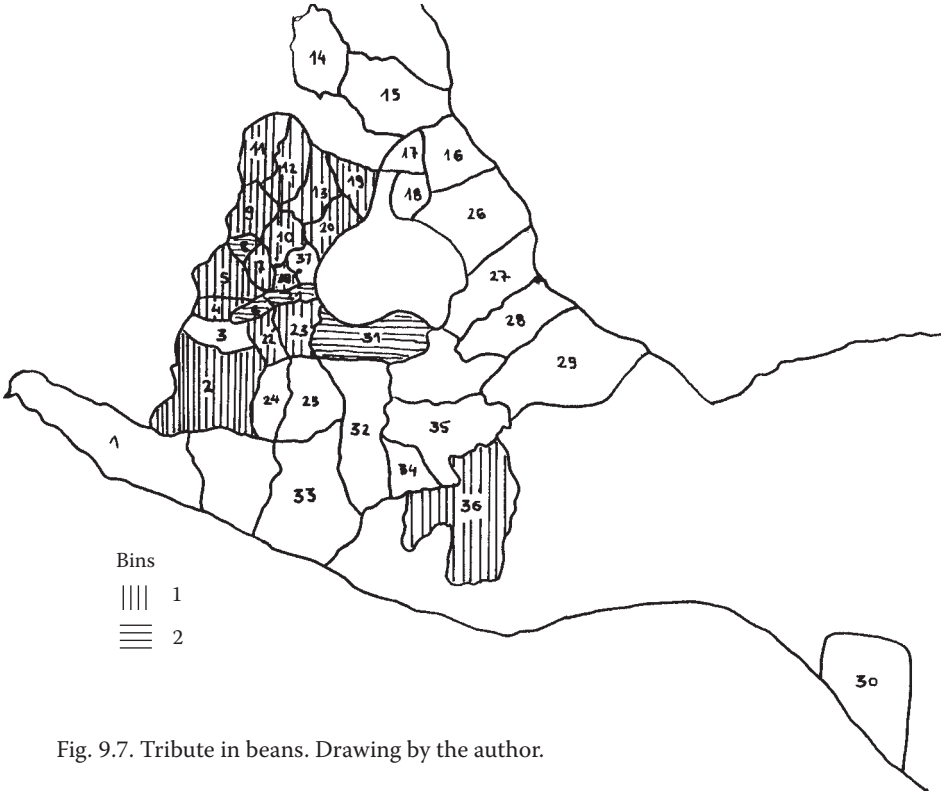


Fig. 9.7. Tribute in beans. Drawing by the author.

given by provinces that could cultivate it (Rojas 1986, Map 10). Fewer provinces paid tribute with articles of clothing, such as *naguas*, *huipiles*, and *maxtlatls* (Rojas 1986, Maps 8 and 9). For the rest of the products, many of which were paid by only one or two provinces, we still do not have maps. For example, wood came only from Quahuacan. What we can deduce from the information we have is that there was a different distribution pattern for raw materials and finished products. Many of the latter were paid by provinces that did not produce the raw materials for the goods they produced. Thus we must consider the existence of supply networks among the different regions and the need to study the economic impact of being part of the empire beyond the payment of tribute. We must look at regional developments, commercial centers, and local tribute networks to complete our understanding of the economic organization of the empire and to increase our knowledge of the production systems that made it possible for so many products to

9.1. Tribute from the Provinces

Name	Value 1	Value 2
1. Cihuatlan[2]	81,600	
2. Tepequacuilco	130,620	
3. Tlachco[3]	72,270	92,000
4. Ocuillan	57,270	
5. Tollocan	24,090	
Malinalco[4]		
Quahuacan	28,800	
Xocotitlan[4]		
Atotonilco de Pedraza	10,620	18,620
Quauhtitlan	11,600	13,900
Xilotepec	153,070	
Axocopan	10,790	18,790
Huey Pochtlan	20,140	
Oxitipan	45,000	
Tzicoac	62,250	
Tochpan	52,980	
Atlan	40,000	
Tlapacoyan	30,330	
Atotonilco el Grande	31,000	
Acolhuacan	50,250	
Chalco	17,350	
Cuauhnahuac	49,850	
Huaxtepec	45,200	53,340
Tlalcozauhtitlan	29,010	
Quiauhteopan	4,800	
Tlatlauhquitepec	90,030	
Quauhtochco	17,200	
Cuetlaxtlan	144,140	
Tochtepec	232,840	
Xoconochco	57,640	
Tepeacac	20,640	
Yohualtepec	3,650	
Tlapan	40,620	
Tlachquiauhco	36,010	
Coayxtlahuacan	57,300	
Coyolapan	20,950	
Tlatelolco[4]		
Petlacalco	62,380	
Apan[5]	60,300	
Total	1,902,490	1,933,200

Notes: 1. In gold pesos ("pesos de oro común").

2. The numbered provinces on this table correspond to the numbered provinces on Barlow's 1949 map.

3. Towns with two values are those for which informants gave conflicting values.

4. No value is given for the provinces that do not appear in the *Información de 1554*.

5. This province appears only in the *Información de 1554*.

José Luis de Rojas, Información de 1554 sobre los tributos que los indios pagaban a Moctezuma. México D.F.: CIESAS, 1997.

reach Tenochtitlan. These networks had to create or take advantage of secondary centers that became consumers as well.

We should not overlook the fact that Tenochtitlan had become a producing center that exported its products to subject provinces. Many of these products were prestige items. We must consider regional studies in order to track Mexica objects and items displaying Mexica artistic ideas or styles. The excavations at the Templo Mayor have considerably complicated our ideas of what Mexica style is, since they incorporated influences from other regions and time periods. Comparing manufactured goods to establish areas of influence (Garraty 2007) or analyzing sculpture to establish stylistic connections (Umberger 1996a, 1996b, 2007) are some of the paths that we should follow in the future.

An interesting exercise that helps us understand the weight of the different regions as a group is to quantify the value of the tribute paid by each province. The only estimate available appears in the *Información de 1554* (Rojas 1997), a document related to tributary codices. Along with each informant's response is a valuation for the tribute in gold pesos (an old Spanish currency). The information is summarized in f. 224 of the *Información* (ibid., 207–8; see Text Box 9.1). Here one can appreciate the fact that the value of the tribute paid by the nearby provinces was much smaller than that paid by faraway provinces that were conquered later. The provinces that stand out are those on the Gulf coast: Tochtepec and Cotaxtla. Elsewhere, Tepequacuilco and Xilotepec also paid very high tributes. The strings of *chalchihuites* must be the reason for the high values, since they are such expensive items.

These numbers serve only to establish a comparison between the different provinces. We can also compare the total value of tribute from the provinces with some colonial figures in order to understand the wealth of Motecuhzoma. These figures only quantify tribute in kind and do not include the value of other obligations such as maintaining garrisons or bringing the tribute to Tenochtitlan. For example, corn may have cost much less that *chalchihuites*, but it was considerably more expensive to transport.

The arrival of all these goods had a direct impact on the development of Tenochtitlan. However, we must consider the other side of the coin and identify what influence the development of Tenochtitlan had in the provinces that sent tribute goods. We should consider this impact from the point of view of production, which could have been modified

by new demands for tribute. Consumption may also have been affected by the development of secondary centers. It is also necessary to contemplate the impact of migration on the centers people migrated from and the development of settlement patterns. In the pyramidal network structure of the empire, each center exerts pressure on those below it, extracting people and resources and modifying local networks.

We should also remember that not everything necessarily had to occur in the center. The movement of people and products could have occurred between different regions of the empire. It will be important to analyze the relations among the subjects. These relations were not always cordial, nor did they necessarily concentrate on defying the center, as occurred in the relations between Cuauhnahuac and Tenochtitlan. Tepeaca is a good example of this dynamic. Another good example will come from analysis of the relationship between the empire and places like Cholula and Huexotzinco. On several occasions both were friendly to the Tenochca and at other times each was antagonistic, particularly during the wars with Tlaxcala. We still need to study the other independent domains, conflicts with the Tarascans, and incursions into Mayan lands.

All of these topics lead to the topic of Tenochca emigrants. Some of them were soldiers or administrators and some were temporary migrants such as the *pochteca*, but it is possible that others simply chose to live in provinces. They are awaiting a study.

The more we know of the regions of the empire, the better we will understand the empire and its capital, Tenochtitlan.

10

From Tenochtitlan to Mexico City

Context is very important. In fact, without it we would not be able to understand many things. Tenochtitlan's context, both past and present, is Mesoamerica (Rojas 2005). The Mesoamerican civilization is an ancient one that covers a considerable area, and it was a powerful reality by the time Huitzilopochtli's followers appeared on the scene. We have already seen how they were concerned with instilling their version of history, in which they were the chosen people and the axis around which everything revolved. However, this is a biased version; reality was very different.

When the Mexica left Aztlan, wherever that was, Mesoamerican civilization had already existed for a millennia. Cities had been built and destroyed, empires had risen and fallen, cities had developed exchange systems, and empires had arisen to resist or be subjected to. Thus, we can understand the history of the Mexica during their migration, their role as nomads who fought for those they were subjected to, and their search for a place to settle. The selection of the small barren island in the center of a lake, justified by Huitzilopochtli's intervention, seems rather to be a place of refuge in an inhospitable land for a group expelled from other places, largely because of their behavior. The submission of Tenochtitlan to Culhuacan, a secondary site, and its unequal coexistence with Tlatelolco correspond to this condition. The latter occupied a higher place than Tenochtitlan in the hierarchy in those times.

Life in Tenochtitlan took off at an unknown time, although 1325 is the traditionally accepted date. The city began as a tiny village with a small temple made of canes and mud. More than a century of small improvements in position had to occur before the city had the opportunity to integrate itself into a coalition that supplanted the established power, the Tepanecas of Azcapotzalco. A moment of crisis occurred

when the old and powerful lord Tezozomoc died, and the struggles began between the aspirants to the throne, each of whom had their own supporters. Among others, Texcoco and Tenochtitlan, who had closely related lords, took advantage of those troubled times to free themselves of the Tepanec hegemony and become the heads of a small empire that soon exceeded the limits of the Valley of Mexico. To do so, they had to defeat Azcapotzalco and convince some of its allies that only the lord had changed, not that they had obtained independence.

Over time the changes increased in magnitude. The networks of power in Mesoamerica were essentially composed of dynastic relations forged by generations of marriage. The highest place in the hierarchy became the main reference point and the wives and husbands that came from the most powerful families occupied preeminent places in the submissive cities. Their position in the hierarchy determined the position of the places they or their spouses governed: in places where a lord from a principal city governed or the lord was married to a wife from a principal city, the city of that lord was just one level below the capital in the hierarchy of power. Thus, Tlatelolco was second to Azcapotzalco. The system repeated itself at each level, forming a constellation of relationships in which it was possible to ascend or descend. In fact, Mexica from Tenochtitlan under the dominion of Azcapotzalco once requested the grandson of Tezozomoc of Azcapotzalco as *tlahtoani* in order to be second to this city.

In addition, polygamy permitted the establishment of kinship relations with many places, some superior, others of the same level, and still others inferior. The repetition of these practices over generations was what formed a great pan-Mesoamerican family of power in which all the lords were more or less close relatives. A consequence of this is that ethnic identifications become mere conventions, because the ethnicity of the lords was very mixed, as was surely also the case for many subjects.

The Mexica entered this system from the time they had Acamapichtli as their lord. They continued their ascent until the war against Azcapotzalco, after which they became the reference lineage. At the outset the status of the Tenochtitlan lineage seems to have been similar to that of Texcoco, but later it was clearly the superior lineage that decided who would marry whom and appointed governors. Of course there was a high price to pay for the Tepanec lords of the Valley of Mexico, many

of whom were eliminated when the Azcapotzalco were defeated. Their descendants were also replaced by closer relatives of the Tenochca.

Within Tenochtitlan a great family pact took place that involved the marriage of the son of Itzcoatl, the *tlahtoani* and the creator of independence, to the daughter of his nephew Motecuhzoma Ilhuicamina, one of the most important generals of that time and the future successor of his uncle and the father-in-law of Itzcoatl's child. The joint descendants of both Itzcoatl and Motecuhzoma provided the *tlahtoque* that succeeded them and the governors of colonial times. After the defeat of Azcapotzalco, marriage alliances were arranged to make the Mexica lineage the one to reference: the successors of Nezahualcoyotl, the lord of Texcoco and the protagonist in the defeat of Azcapotzalco, were the children of Mexica wives, as he himself was. Particularly challenging was the succession of Nezahualcoyotl's son Nezahualpilli, who died in 1515, because he had two Mexica wives. The two wives had the same parents and thus occupied identical places in terms of the succession rights of their sons. Nezahualpilli had a son with one of the sisters and two sons with the other sister. Motecuhzoma chose Cacama, to the annoyance of Cohuanacochtzin and Ixtlilxochitl. The Mexica *tlahtoani* was able to appease the disappointed temporarily. However, when Cacama died in 1520 and Motecuhzoma selected Cohuanacochtzin, the other candidate, Ixtlilxochitl, rebelled, joining forces with the Spaniards who ultimately appointed him lord of Texcoco after the death of Cohuanacochtzin and his successor Tecocoltzin. Ixtlilxochitl's role in the Spanish conquest was very important (see Rojas 2007).

The presence of several potential heirs always produced problems when it came time to designate a successor. Some of the "rebellions" the Mexica had to put down were in fact caused by such aspirants. Yet this availability always permitted the Mexica to identify a suitable candidate within the governing family. The backbone of the empire was composed of this great family of power that extended over large areas and filled numerous positions in a hierarchical scale. In order to have good prospects, one needed to be near the center, and this is the context in which we must consider the presence of "vassal" lords in Tenochtitlan during at least part of the year or the presence of one of their sons when they were absent. The ancient chroniclers speak of "court" when they talk about Motecuhzoma's palace. They may be right if we consider the lords who served the *huey tlahtoani* in a way that was

similar to how Spanish noblemen served their king. The way to advance in the hierarchy was to fill an important position in the administration or to accomplish missions such as leading the army on a conquest. The variety of types of lords also suggests that there were ways of belonging to the empire in which the relations between the lord of Tenochtitlan and the vassal lords could be decisive.

Tenochtitlan

The city of Tenochtitlan grew along with the empire. Key supplies were often produced in distant locations, and maintaining a steady flow of these goods depended on good security in production areas and on a strong communication network. The well-being of the capital was a "state" concern, and one of the obligations of the *huey tlahtoani* was that of caring for his people. Supervising the operation of the market and the activities of retailers was part of this, and having a phalanx of craftspeople who worked in the palace was another aspect. Ahuitzotl's decision to open the Acuecuexco spring and his responsibility for the flood that followed must also be understood in this light. Another way the *huey tlahtoani* met the needs of his people was by collecting and distributing tribute.

The city was also connected with the rest of Mesoamerica through migration. We have already seen that the city grew thanks to immigration. It became a cosmopolitan capital where people of diverse origins and languages coexisted. The immigrants must have been incorporated into Tenochca culture without major problems because of their shared Mesoamerican culture. We know very little about those who settled in Tenochtitlan and whether they maintained ties with their places of origin.

Each day, many people passed through the city. Merchants from all points of the empire must have come to the city, as well as farmers and craftsmen who lived along the lake edge who sold their products in the market. Tenochtitlan was the capital of an empire, and the empire depended on Tenochtitlan in a symbiotic relationship that we are just now beginning to study in depth (see, for example, Berdan 2007a; and Chance and Stark 2007).

Tenochtitlan integrated itself into the Mesoamerican political and cultural system and took advantage of those systems to advance to the

point of becoming the most important center of pre-Hispanic Mexico. However, this strategy ultimately worked against the city when the Spaniards arrived. Many cities saw this event as an opportunity to change the status quo and better their own positions. They allied with the Spaniards in what turned out to be a highly successful rebellion.

Mexico City

But Tenochtitlan did not lose absolutely. The long siege the city underwent in 1521 destroyed a great part of it. However, when the war ended, the city was reconstructed and most of it continued to be indigenous. The center underwent the most remodeling, but the districts retained many aspects of pre-Hispanic life, although the temples in the districts became chapels. Most of the people were also the same and they continued to live their lives as before, since the only way for things to continue running smoothly was to maintain the existing system. The Spaniards were very few and acculturation is a process that takes time. In addition, the Tenochtitlan tradition of integrating strangers helped the European become incorporated into existing networks and systems.

It is true that we cannot overlook the trauma of the conquest, especially for Tenochtitlan. The siege resulted in the destruction of the city and a great number of its inhabitants, through both combat operations and epidemic diseases. The size of many families was greatly reduced, and some families disappeared completely. However, we must admire how the Tenochca rose from the ashes and continued to sell in markets, maintain canals, and hold celebrations, just as the inhabitants of other cities destroyed in ferocious sieges were able to come back to life (see Kellogg 1995; Berdan 2007b; Novic 2006). The population of the newly founded Mexico City was largely composed of Tenochca who were in the process of slowly incorporating some Spanish customs and beliefs that were fused with the old ones. That is why when we read about life in Mexico City in the eighteenth century (Viqueira 1987) or the vivid descriptions of the city and the market in the late nineteenth century (Payno [1891] 1983), we are reminded of daily life in pre-Hispanic Mexico. These sources provide details that do not appear in the texts that refer to the early period of contact and help us understand more about pre-Hispanic life. Some authors, such as Calnek (1979), assume that the changes were drastic. Based on recent studies of the indigenous people

of the colonial period, others of us believe there was more continuity and that many indigenous nobles retained or even gained privileges during colonial times (Rojas 2010). Despite all the changes and continuities, a reality prevails: Mexico-Tenochtitlan continued to be the capital of a great domain and continued to exert an important influence in New Spain, and it did so for a much longer time as the viceregal capital than it had done as the capital of the Aztec Empire. Thus, Tenochtitlan was able to maintain its place of privilege from the time of Independence until it became that giant of indeterminate population that is the Federal District of Mexico.

Back to Mesoamerica

Tenochtitlan is the most well-known place in all of pre-Hispanic America, not just in Mesoamerica. This knowledge permits us to fill in some gaps in information about other places. We would like to have the same amount of documentation about Cuzco, for instance, or Teotihuacan, as we have for Tenochtitlan, but we don't have it. What we do have is a large volume of archaeological remains in Teotihuacan, Tikal, Chichen Itza, and hundreds of other places. One of the main tasks for researchers now is to link archaeological information with documentary knowledge. We can imagine Tenochtitlan and try to reconstruct Teotihuacan's history. They are part of the same tradition and this helps a lot. And we mustn't forget the Maya. There are many Maya sites, much of which have been extensively excavated, and thousands of texts about that people. What we know now shows a system that is very similar to that of the Mexica. If this is confirmed, the descriptions we have of the better-known city will allow us to construct theories about the other cities in an effort to reach our main objective: find new knowledge.

So the description of Tenochtitlan is of value in itself, but it can also help us construct descriptions of other places for which far fewer documents have survived. And the greater volume of physical evidence that exists for other cities may help us understand the texts about Tenochtitlan.

Glossary of Nahuatl Terms

achacacauhtli: executor or bailiff
acxoteca: head of the long-distance traders (*oztomeca*)
ahuauhtli: fly eggs recovered from the surface of the lake and made into a type of paste that was eaten
ahuehuete: Mexican bald cypress
ahuianime: (lit. "women who produced merriment"); prostitutes
ajolote: amphibian that looks like a salamander
altepetl: city-state; a physical space inhabited by people
amanteca: feather workers
atole: a drink made with corn flour, sometimes with an added condiment
axin: yellow ointment that was used like makeup
cacaxtli: wooden frames to bear charges
calli: house
calmecac: (lit. "the house of the lineage"); a school where noble children received military and religious training
calpixcacalli: house of the stewards
calpixqui: steward, majordomo
calpulli: (lit "large house"); organizational unit below the city-state level (or *altepetl*) composed of people who may or may not have been related and who collectively performed various organizational and religious tasks
campan: districts, neighborhoods
Centzontotochtin: (lit. "the 400 rabbits"); the innumerable gods of drunkenness
chalchihuites: precious green stones
chapapotli: tar, bitumen
chilmolli: (lit. "chili pepper sauce"); a tomato stew made with chili peppers
chinampa: a raised agricultural field
-chiuhqui: suffix meaning "the one who does"
cihuacalli: house of women
Cihuacoatl: (lit. "snake woman"); first advisor to the ruler; goddess of motherhood and fertility

cihuatlamacazqui: a female priest
cipactli: (lit. "crocodile"); a day sign
coa: wooden plant holder, also called *huictli* in Nahua
coacalco: the temple where the gods of conquered areas were "imprisoned"
coacalli: a room where foreign lords stayed during their visit to Tenochtitlan
coatepantli: a wall decorated with images of serpents
comal: griddle, or large ceramic plate on which tortillas were cooked
copal: resin typically from the genus Copaifera; used as incense
cotare: sandal; a type of footwear. The Nahuatl term is *cactli*; the Spanish is *cacle*. *Cotara*, which is Tarascan, was more commonly used during colonial times.
coztic tecuitlatl: gold
cuexcomatl: mud- or plaster-covered granaries
cuicacalli: music conservatory
huey tlahtoani: emperor
huipil: traditional embroidered blouse
huitznahuas: from Centzon *huitzanhua*; gods of the southern stars, eldest sons of Coatlicue who are the brothers of Coyolxauhqui
itacate: lunch
ithualli: rectangular patio
iztac tecuitlatl: silver
macehual: commoner
malacate: a stone used to rotate a bobbin when spinning; also used in modern water wheels for retrieving water from wells
malcalli: house of the prisoners or captives
maxtlatl: fabric truss or strip worn by men as a loincloth
mecapalli: a leather harness made of a band that was placed on the forehead and two cords to which a porter's load was tied
metate: stone slab for grinding
molcajete: stone or ceramic vessel, generally with striations in the center for grinding the ingredients used to make sauces
mole: sauce made from several ingredients, including sesame seeds, chili peppers, cinnamon, chocolate, tomato, garlic, onion, peanuts, and seeds
nacanamacac: literally flesh sellers
nemontemi: additional days in the 365-day calendar
netlatiloyan: building where the skins of flayed sacrificial victims were stored after the celebrations of Tlacaxipehualiztli and Ochpaniztli

nitequiti: work service as part of tribute
nitetlayecoltia: work performed by a free man
nitlacoti: work performed by a slave
nixtamal: dried corn that has been treated with lime and partially cooked
nopal: prickly pear cactus
ocnamacac: pulque salesmen
ocote: pine wood used to make torches
otate: hardwood
oztomeca: long-distance traders
pain: messengers
patolli: game similar to Parcheesi
petaca: from the Nahuatl *petlacalli* (box); often made of cane or stone
petate: reed mat used to make furniture such as *icpalli*, on which the lords sat; to cover doors; or to sleep on
petlacalcatl: head steward
petlacalco: (lit. "in the bag or box"); the administration in charge of supervising the operation of the city
pinolli: pulverized toasted corn mixed with cinnamon and sugar
-pitza: to make red hot, to fuse
pochteca teohua: religious leader of the *pochteca*
pochteca tlailotlac: head of the *pochteca*
pochteca: long-distance traders who also served as spies
quachictin: (lit. "the shorn ones"); individuals who dedicated themselves to combat
tamal: dumpling made of corn meal stuffed with meat or fruit and sauce that was boiled in the husk of the corn
tealtiani: (lit. "bather"); the person who bathed the slaves before sacrificing them
-teca: suffix; to place, to arrange
tecalli: a kind of alabaster
techialoyan: towers
tecomate: gourd cups
tecuhtli: (sing.; pl. *tetecuhtin*); lord
tecuitlatl: algae recovered from Lake Texcoco with great nutritional value; known today as spirulina
telpochcalli: a house of youth; school
telpochtlato: teacher
temalacatl: gladiatorial sacrificial altar

temazcalli: steam bath
teocalli: temple
tepoztli: metal worker (but not in gold or silver)
tiacahuan: captains
ticitl: medical doctor
tlacatecatl: keeper of the house of darts; one of the highest military ranks
tlacochcalcatl: man from the house of darts; one of the highest military ranks
tlacochcalco: armory
tlacuilo (sing.; pl. *tlacuiloque*): painter, scribe
tlacxitlan: court of justice
tlahtoani (sing.; pl. *tlahtoque*): leader, ruler
tlahtocayotl: political unit associated with the *altepetl*
tlamatinime: spiritual teachers
tlameme: porters
tlanecuiloque: (lit. "those who contract things"); hagglers
tlatlalianime: stone cutters or stone setters
tlatzotzonqui: one who strikes
tlaxilacalli: subunits within houses; see *calpulli*
tonalamatl: (lit. "pages of days"); almanac used for divination
tonalpohualli: count of days, or destinies
tonalpouhque: readers of destinies, astrologers
totocalli: aviary
tzictli: tree resin used like makeup; chewing gum; *chicle* in Spanish
tzinnamaca: (*nino-*; reflexive verb) engaging in prostitution; (*nite-*; transitive verb) to pander
tzompantli: skull rack
ulli: rubber; root word of the Spanish *hule*
xilote: green corn
Xiuhcoatl: Fire Snake
xiuhpohualli: count of years
xochimanque: florists

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