ECONOMIC DIMENSIONS OF PRECIOUS METALS, STONES, AND FEATHERS: THE AZTEC STATE SOCIETY

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In the spring of 1519, Hernán Cortés and his band of Spanish conquistadores feasted their eyes on the wealth of an empire. While resting on the coast of Veracruz, before venturing inland, Cortés was presented with lavish gifts from the famed Aztec emperor Moctezuma II.[1] While only suggestive of the vastness of imperial wealth, these presents included objects of exquisite workmanship fashioned of prized materials: gold, silver, feathers, jadeite, turquoise.[2] There was an enormous wheel of gold, and a smaller one of silver, one said to represent the sun, the other the moon. There were two impressive collars (necklaces) of gold and stone mosaic work: they combined red stones, green stones, and gold bells.[3] There were fans and other elabo-

[1] Saville (1920: 20-39, 191-206) provides a detailed summary of the many accounts of the gifts presented to Cortés on this occasion.

[2] Up to this point in their adventure, some of the conquistadores apparently had been sorely disappointed in the mainland's wealth. Bernal Díaz del Castillo repeatedly refers to the gold encountered by the Hernández de Córdova and Grijalva expeditions (1517 and 1518, respectively) as "low grade" or "inferior", and small in quantity (Díaz del Castillo, 1956: 8, 22, 23, 25, 28). While Díaz, writing many years after the events he describes, seems especially critical of the quality of the gold available on the coast, the friar Juan Díaz's account of the Grijalva expedition betrays no such disappointment. An inventory of "The Barter that was got by Juan de Grijalva", published by López de Gómara, reveals numerous pieces of fashioned gold, most of them small and seemingly delicate (Saville, 1920: 14-19). Gómara observes that "The work of many of them (the things brought) was worth more than the material" (*ibid.*: 15) and, of course, it was the "material" which most interested the Spaniards. Díaz del Castillo's critical posture may also derive from a rather unfortunate transaction in which the Spaniards bartered for six hundred shiny axes, thinking they were fashioned of low grade gold. However, the axes turned out to be copper, and predictably (with some embarassment) rusted! (Díaz del Castillo, 1956: 28).

[3] Although accounts differ in a few details, the first necklace probably was composed of eight strings, containing 232 red stones, 183 (or 163) green stones, 27 gold bells, and four large stones set in gold, with pendants suspended from them. The second necklace had four strings, with 102 red stones, 172 green stones, 26 gold bells, and ten large stones in gold settings, again with pendants hanging from them (142 or 140 pendants) (Saville, 1920: 38-39).

rate objects created from many-colored feathers, and stone mosaic pieces combined with gold and feathers. The artistry of these now-lost treasures must have been extraordinary —Cortés' list includes items such as

> ...a scepter of red stone mosaic-work, made like a snake, with its head, teeth, and eyes from what appears to be mother-of-pearl, and the hilt is adorned with the skin of a spotted animal, and below the said hilt hang six small pieces of feather-work (Saville, 1920: 27).

Also included was

> ...A piece of colored feather-work which the lords of this land are wont to put on their heads, and from it hang two ear-ornaments of stone mosaic-work with two bells and two beads of gold, and above a feather-work [piece] of wide green feathers, and below hang some white, long hairs [fibers] (*ibid.*: 29).

These and other objects sent to Spain by Cortés and others were rich in symbolism —religious, social, and political. The large gold wheel presented to Cortés, said to be the size of a cartwheel (Tapia, 1971: 562),[4] was elaborately worked with religious imagry, perhaps resembling the extant calendar stone unearthed in Mexico City's Zócalo in 1790. Feathered fans and ornate wearing apparel signaled the high social station of the bearer or wearer; and, collectively, the wealth amassed symbolized the power of the Aztec Triple Alliance[5] over the resources and labor of its conquered peoples.[6]

While the symbolic aspects of these luxuries have been treated widely by researchers, studies of their economic dimensions have attracted less attention. This article will attempt to fill this gap by approach-

[4] The various accounts of this gold wheel, and its size, are handily summarized in Saville, 1920: 36-37. The silver wheel, and other items of silver, are included in Cortés' inventory (*ibid.*: 30).

[5] The term Aztec should be used with care. The domain ruled by the Aztec Triple Alliance powers was culturally and linguistically diverse; indeed the three powerful capital cities were themselves associated with different ethnic groups: Tenochtitlan with the Mexica, Texcoco with the Acolhuaque, and Tlacopan with the Tepaneca. This Triple Alliance conquered and drew tribute from some 38 provinces in central and southern Mexico during its brief lifetime (1430-1521).

[6] The "warehousing" of wealth by the state, and the wearing of treasures by the elite certainly symbolized the strength of the empire and the power of the elite. But while Aztec rulers and other nobles were bedecked in gold, jewels, and fine apparel, they do not seem to have been literally "sheathed in gold" in the manner of the Incas. According to Helms (1981: 220), "...the realm of the Inca nobility... was considered as inherently 'golden' in essence, quality, and concept by virtue of being composed or constructed of goldness".

ing the study of precious metals, stones, and feathers in the Aztec empire from an economic viewpoint stressing their economic attributes and functions in the broader cultural, social and political milieu. I will first deal with notions of wealth and relative value as they pertain to luxuries in Aztec culture, then present the economic context of Aztec luxuries in their production, distribution and consumption phases. Finally, I will offer an integrative perspective on the complex life of these exotic and treasured objects through application of a variety of principles.

NOTIONS OF WEALTH AND RELATIVE VALUE

Cultures vary considerably as to the materials they value most highly yet no matter what the specific materials are, they normally fulfill certain physical and cultural "requirements", they share special attributes. In the physical realm, these include; 1) relative scarcity; 2) appearance; 3) durability or tenacity, the ability to survive the ravages of time; and 4) a certain ease of accessibility and extraction, as long as this does not undermine the scarcity of the material. Cultural attributes would include: 1) utility, in a material and/or social sense; 2) restricted control over possession or use of the material; 3) workability and aesthetic value of the product fashioned from the material; and 4) requirements of specialized skills, sophisticated technology, and a relatively large investment in labor and/or capital to fashion the material into a valued object.

These are, though only ennumerated, general physical and cultural criteria for establishing what most likely will be deemed valuable in a society, in a material sense. In Aztec Mexico, the available materials fitting these criteria (or a balance of the criteria) included stones of many kinds (especially jadeite and turquoise, which are often undistinguishable in the ethnohistoric literature), gold, silver (although it is little documented for pre-Conquest times), feathers (despite their perishable nature), shells, and cotton cloth (but only if finely made, and, usually, resplendently decorated).

The importance of these materials as models of value, against which anything else of value might be measured, is reflected in other realms of Aztec culture. An unborn baby was called *ce cozcatl, in ce quetzalli* ("the necklace, the quetzal feather"; Sahagún, 1950-1982, book 6:135, 137, 144). A ruler about to be installed into the highest office in the land was addressed: "...ye are precious, ye are bracelets, ye are precious green stones, ye are precious turquoise, ye are that which is

cast, ye are that which is perforated" (*ibid.*: 57). Exalted rank itself was symbolized by the regalia of high office —...the peaked hat, the turquoise, diadem,[7] and the earplug, the lip plug, the head band, the arm band, the band for the calf of the leg, the neklace, the precious feather" (*ibid.*: 44).[8] Grand pronouncements, words of wisdom, from persons of esteemed status were likened to "a precious green stone, a precious turquoise" (*ibid.*: 248). When such words were spoken, it was said that "that which is much like precious green stones hath been spread..." (*ibid.*: 249). And the receiver of these pronouncements or admonitions was advised to "Grasp the discourse, the very broad, the deep green, like a precious feather" (*ibid.*: 252).

Songs themselves were similarly graced in Nahuatl poetry:

> Ohua ca yuhqui teocuitlatl
> yuhqui cozcatli [sic]
> in quetzalin patlahuac
> in ipan ye nicmatia
> yectli ya mocuic (*Poesía Náhuatl,* I, 1964: 6).
>
> Like the gold,
> like a rich collar [necklace],
> like a broad quetzal plume,
> I honor your song.

The shimmering quetzal feather especially carried with it notions of special value; the word *quetzalli* was frequently used as an adjective to signify "precious", even in combination with other treasured items. Take the case of *quetzalchalchiuitl* ("precious stone of blue or green color"; Molina, 1970: 89).[9] *Quetzalli* and *cozcatl* (necklace, usually of precious stones or stones and gold combined) can both take an adjectival form, as in *quetzalteuh* or *cozcateuh ipan nimitzmati* ("for the parent to have great love for his child"), a metaphor found in Molina's sixteenth century dictionary (1970: 89).

The list of cultural usages of these precious items, from metaphors to poetry to the serious *huehuetlatolli* (admonitions) is long and varied.

[7] The turquoise diadem *(xiuhuitzolli)* was the symbol of noble status; it is even found as a glyphic ideograph symbolizing *tecutli,* noble, in the placename *Tecmilco* (in Chalco province; *Matrícula de Tributos,* 1980: lámina XXI).

[8] A similar list appears on page 57 of the *Florentine Codex,* Book 6, although it omits the necklace and the precious feathers.

[9] According to Sahagún (1950-1982, Book 11: 223), this stone is so named "because its appearance is like the quetzal feather, so green, so herb-green is it. And its body is a dense as the green stone".

They all point to the same conclusion: these items were highly valued, as a standard, and regarded as the most precious in the realm against which rulers, unborn babies, and even "pearls of wisdom" might be judged.

THE ECONOMIC CONTEXT OF LUXURIES

What, then, was the economic context of these precious materials and the treasured items fashioned from them? How were they procured and manufactured, what avenues did they travel as they changed hands, and what rules surrounded their use and display?

Production

In the area of procurement, the ancient Mexicans and their neighbors employed clever and straightforward techniques requiring a relatively small technological investment. Overall, the acquisition of raw metals, precious and semi-precious stones, and feathers posed only a few problems.

Gold was obtained readily from rivers or streams in Aztec Mexico. Juan Díaz's account of the 1518 Grijalva expedition to the Mexican mainland relates that

> An Indian could leave here [near Veracruz city] and reach the source [of the gold] by midday, and have time before dark to fill a reed as thick as a finger. In order to get the gold they had to go to the bottom of the water and fill their hands with sand in which they searched for the grains, which they kept in their mouths (Saville, 1920: 14).[10]

The emperor Moctezuma apparently told Cortés and his captains that "...they collected it [gold] in gourds by washing away the earth, and that when the earth was washed away some small grains remained" (Díaz del Castillo, 1963: 265). This seems to be *the* technique for obtaining gold; apparently no sub-surface mining was undertaken. As such, the technique appears as a highly individualized, labor-intensive activity, requiring little in the way of technological investment.

Probably the thorniest problem the Aztecs faced concerning the acquisition of gold was access to, or control over, the areas of gold

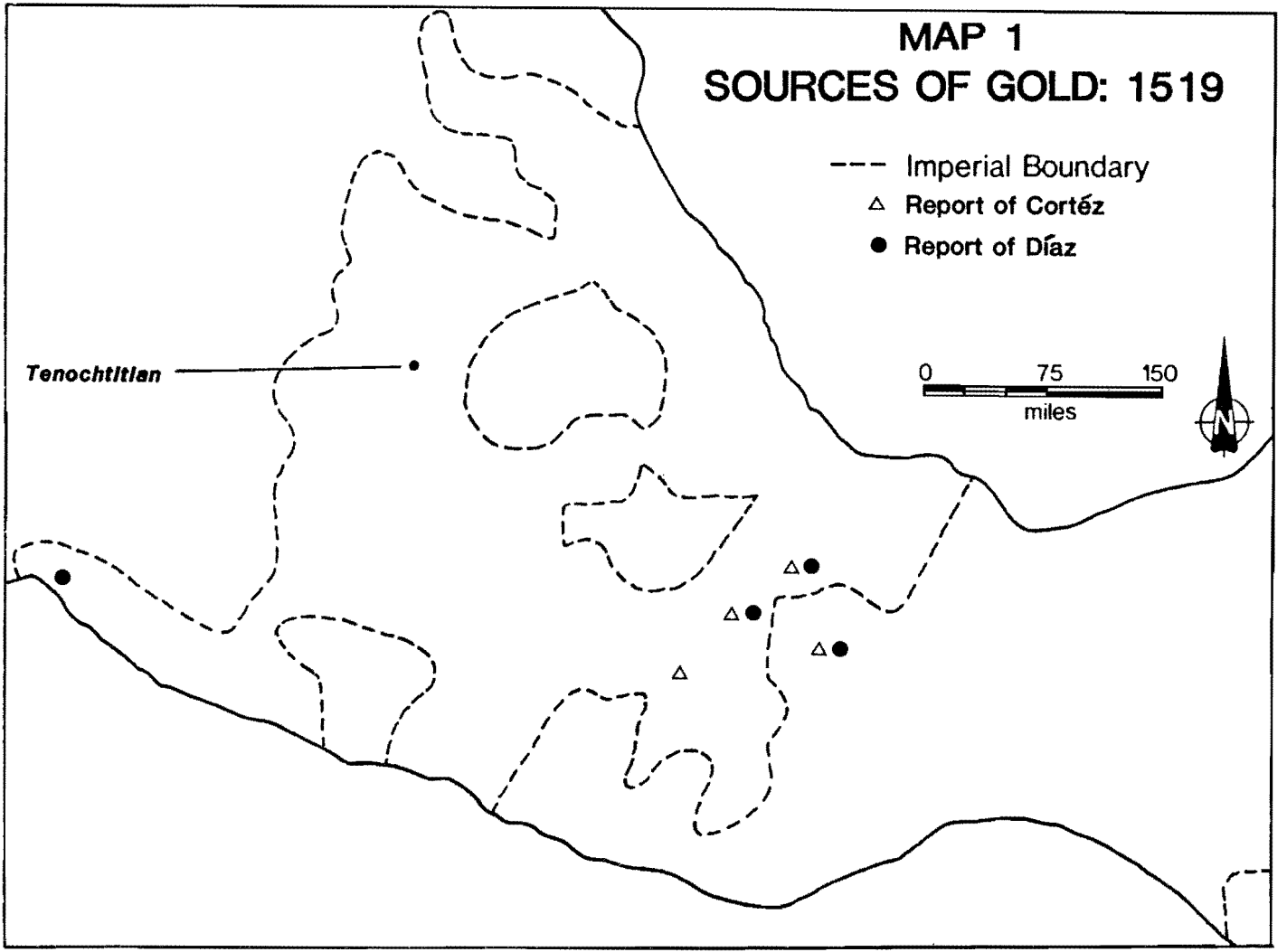
[10] Original Spanish version found in García Icazbalceta, 1971, vol. 1: 281-308. Reference cited is on page 299.

production. The most lucrative regions of gold production were to the south of the Valley of Mexico. While Hernán Cortés was a "visitor" in the Aztec capital of Tenochtitlan, he requested information on the gold producing areas of Moctezuma's imperial domain. In response, Moctezuma offered to send some guides[11] with a few Spaniards on an "inspection tour". According to Cortés, four expeditions left the capital, going to Çoçolan, Malinaltepeque, Tochtepec, and the realm of an independent ruler, Coatlecamac in the Chinantec territory (1977: 242-244). Bernal Díaz del Castillo's account, written more than four decades after the Aztec fall, mentions three expeditions: Malinaltepec and Tochtepec combined, the land of the Chinantecs and Zapotecs, and Zacatula (1963: 265, 268). In terms of destinations, the two Spanish accounts agree on the "eastern tour", but quite disagree on the south coast destination (see Map 1).[12] However, both chroniclers do agree that one group of Spaniards had to trek beyond the imperial boundaries in their quest this to the land of the Chinantecs,[13] where the Aztec emissaries were not at all welcome (see Map 1). Yet Moctezuma claims this to have been one of his major sources of gold, apparently received through means other than state-controlled tribute (see below). Apparently Moctezuma did not show his entire hand, for the *Matrícula de Tributos* and *Codex Mendoza* tribute tallies reveal that gold was exacted as tribute from additional provinces; the *Relaciones Geográficas* of the later 16th century provide even more detailed information on tribute in gold

[11] Cortés, in his second letter to Charles V, calls them "servants", while Díaz del Castillo says "chieftains". From the lofty perspective of the imperial ruler, chieftains were servants.

[12] It is somewhat more likely that Çoçolan, rather than Zacatula, was the actual destination. Çoçolan was reasonably close to much gold-producing activity in the neighboring province of Coyolapan, and may have had good supplies available to it. Zacatula, on the other hand, is rather distant from gold-producing areas (its province, Cihuatlan, is not registered in the *Matrícula de Tributos* or the *Codex Mendoza* as paying tribute in gold; other sources mention gold available only in the most easterly communities of that province. Zacatula was on the very border of Cihuatlan province and the empire; its location was so "borderline", there are some questions as to its affiliation with the Aztec empire or the Tarascan (see Brand, 1971: 646). Bernal Díaz's inclusion of Zacatula may have been influenced by the areas's post-conquest importance as a mining district.

[13] Bevan (1938: 50) has some difficulty deciding if the Aztecs exercised political and military control over the Chinantecs. Actually, it is most likely that some Chinantecs, such as those at Ucila and Malinaltepec, were indeed incorporated into Moctezuma's empire and paid substantial tribute, while other Chinantec centers lay beyond Aztec control. The boundaries of Aztec imperial administration did not always neatly conform to cultural boundaries —the Chinantec, for example, inhabited corners of the provinces of Tochtepec, Coyolapan and Cohuaxtlahuacan, as well as adjacent districts outside the imperial net.


MAP 1
SOURCES OF GOLD: 1519
Imperial Boundary
Report of Cortéz
Report of Díaz
Tenochtitlan
0
75
150
miles
N

demanded from communities within those and other provinces (see Map 2).

Silver is more troublesome. Little is known of the extraction methods or its pre-Spanish areas of procurement. Sahagún, in one of his massive tomes (1950-1982, Book 11: 233) suggests that gold and silver were obtained by similar procedures:

> ...when the Spaniards had not come, the Mexicans, those of Anahuac, the experienced, did not mine the gold, the silver. They just took the river sand, they panned it.

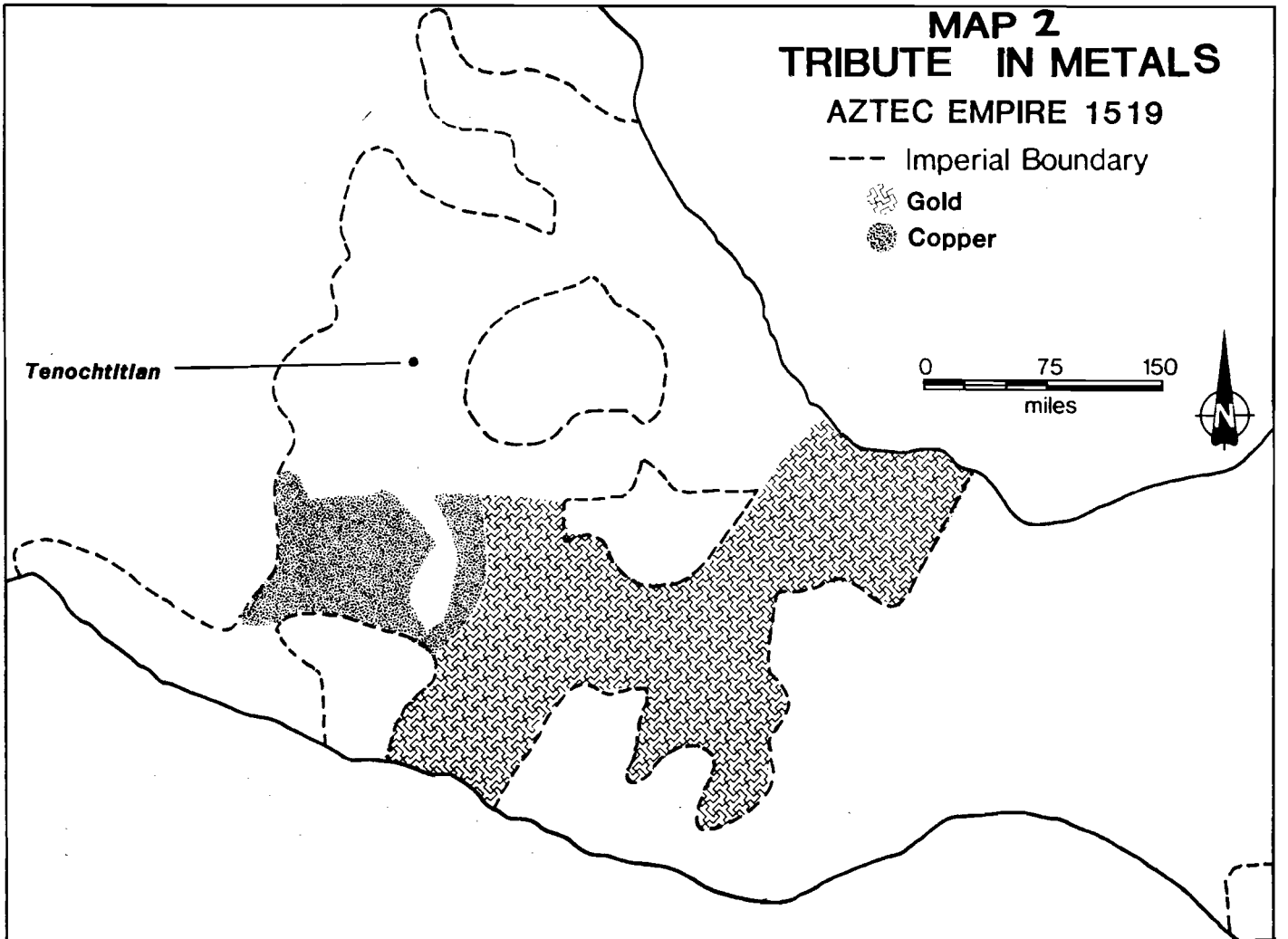
Yet elsewhere Sahagún states that

> It is said that in times past only gold (was known to) exist... Silver was not yet in use, though it existed; it appeared here and there. It was highly valued (*ibid.*, Book 9: 75-76).

The precious objects obtained and seen by the early Spanish arrivals include many clever objects in which silver plays a part —normally combined with gold. For example, "...they can make a piece half in gold and half in silver and cast a fish with all its scales, in gold and silver, alternating" (Motolinía, 1950: 242). Clearly silver was used by the Aztec artisans, yet whether obtained from sources within the imperial bounds or beyond is not clear. In either case, it must have arrived through organized trade or marketing networks, for it does not appear at all on the administrative tribute rolls.

Copper appears on the tribute lists in the form of axes and bells —it appears to have been both obtained and fashioned in the imperial provinces... or even beyond the imperial borders. The province of Tepequacuilco, which provided the copper axes, lay flush with the Tarascan frontier, where copper was widely manufactured and used. Indeed one Tepequacuilco community offering copper as a tributary "gift" to Moctezuma lay close to the Tarascan borden (PNE, 6: 149; Barlow, 1949: map). The little copper bells were provided from the Mixtec zone; the copper may have been obtained locally or perhaps from realms to the south. Pendergast (1962: 533) shows heavy concentrations of copper artifacts in west Mexico, the Mixtec-Zapotec zone, and in western Guatemala.[14] Interestingly, peoples called Tepuztecas ("people from a place of abundant copper") inhabited parts of northeastern Cihuatlan and southwestern Tepequacuilco (Barlow, 1949:

[14] Also, Quauxilotitlan in Coyolapan province supposedly gave little copper hoops (necklaces?) in tribute to Moctezuma (PNE, 4: 197).


MAP 2
TRIBUTE IN METALS
AZTEC EMPIRE 1519
Imperial Boundary
Gold
Copper
Tenochtitlan
0
75
150
miles
N

13) yet there are no extant records of communities in this district producing or distributing copper or copper objects.

The Valley of Mexico, center of imperial Aztec power, was no better endowed with precious stones than with metals. Some stones were funneled into the Aztec cities through tribute —jadeite, turquoise, amber and crystal. Yet a variety of other stones were also prized and used by the urban lapidaries: opals, rubies, bloodstone, and amethysts (Sahagún, 1950-1982, Book 9: 80-82; Book 11: 221-230). According to Aztec wisdom, experienced persons could locate jade by searching for it at dawn:

> ...when (the sun) comes up, they find where to place themselves, where to stand; they face the sun... Wherever they can see that something like a little smoke (column) stands, that one of them is giving off vapor, this one is the precious stone (*ibid.*, Book 11: 221).

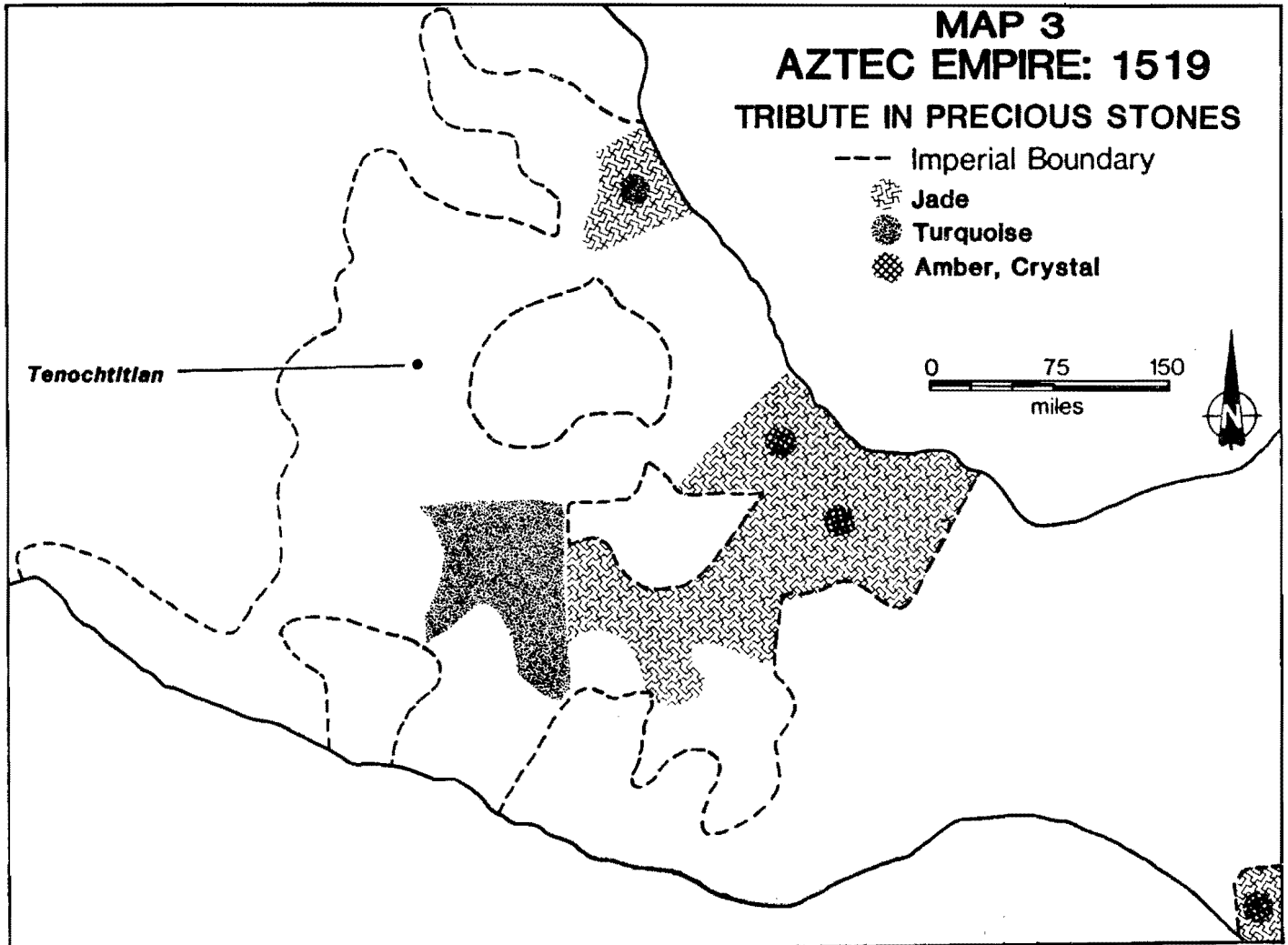
This procedure may be associate with a particular physical property noted by Sahagún (*ibid.*: 223) —he mentions that jadeite, *chalchiuitl*, "attracts moisture". Hence it may be that moisture that is rising in the early morning sun.

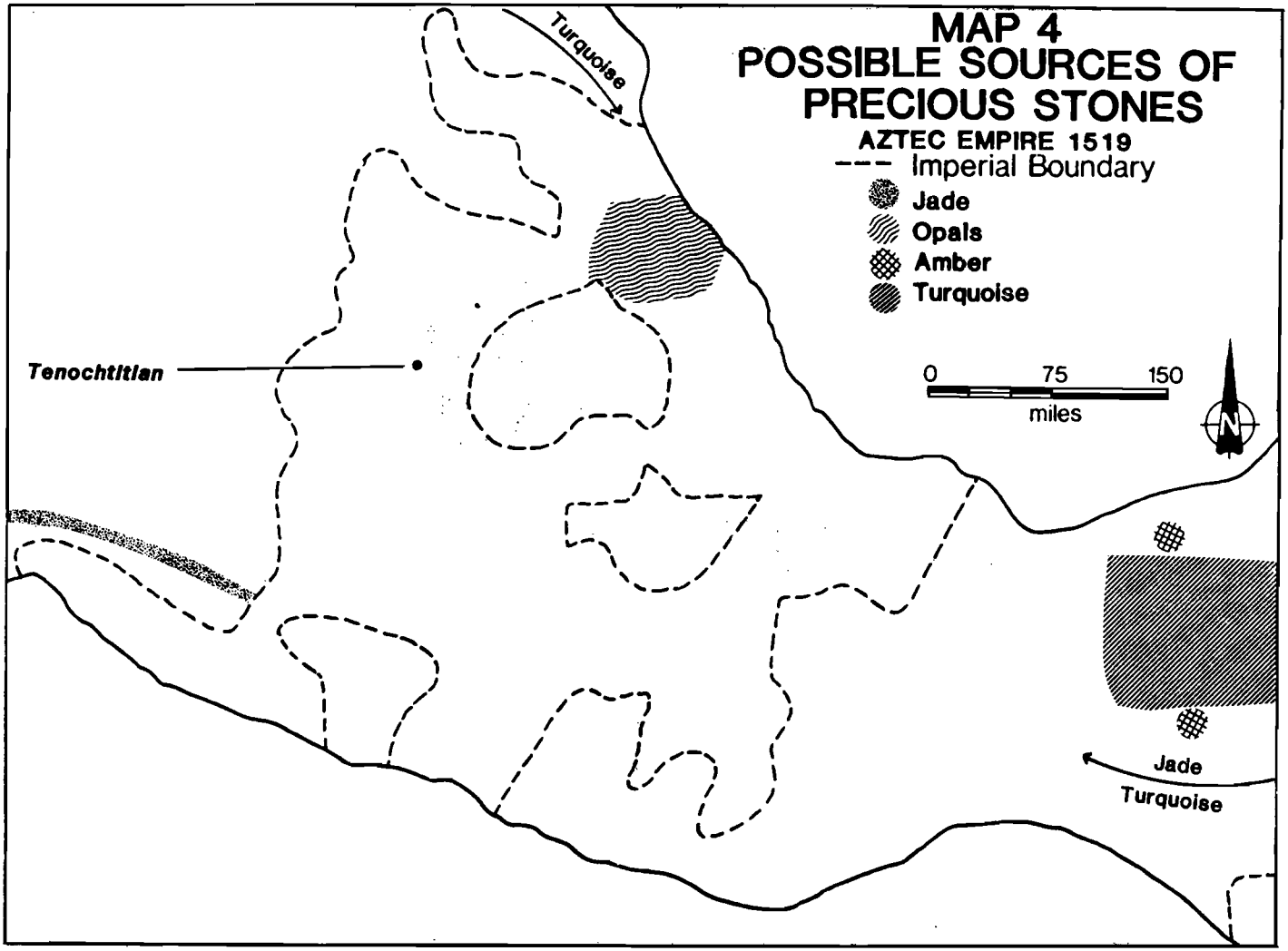
If the precious stone were not apparent on the surface, then they would dig for the prize. And of the other stones, Sahagún informs us that they were mined:

> From within, it is removed: the fine turquoise, the even, the smoked; and that called turquoise or ruby; and then the amber, the rock crystal, the obsidian; and then the flint, the mirror stone, the jet, the bloodstone. All are from mines (*ibid.*: 222).

The sources of jadeite, are rather vague, although Coe (1968: 94, 102-103) suggests that jadeite was available in the Balsas River drainage (in Tarascan territory), the Motagua River valley in Guatemala, and in Costa Rica. Interestingly, the jadeite given to the Aztecs in tribute was provided by the more southeasterly imperial provinces and the northeastern province of Tochpan (see Map 3) —this suggests that it was obtained through trade routes from Central America rather than from western Mexico (Map 4). Perhaps there is a hint here that the Tarascan-Aztec border was impermeable where such a luxury was concerned.

Turquoise presents somewhat different problems. It was offered as tribute from two quite distant provinces (distant from one another, and


MAP 3
AZTEC EMPIRE: 1519
TRIBUTE IN PRECIOUS STONES
Imperial Boundary
Jade
Turquoise
Amber, Crystal
Tenochtitlan
0
75
150
miles
N


MAP 4
POSSIBLE SOURCES OF PRECIOUS STONES
AZTEC EMPIRE 1519
Imperial Boundary
Jade
Opals
Amber
Turquoise
Turquoise
Tenochtitlan
0
75
150
miles
N
Jade
Turquoise

from the imperial capitals). While these provinces lie well within imperial borders, it is not at all clear if the turquoise was locally available to the provinces, or whether it may have been imported, especially from the north (Weigand, 1978, 1980). If it were imported, and supplies somewhat unpredictable, this may explain why "the Aztecs also made use of older turquoise artifacts refitted as mosaic blanks" (Weigand, 1978: 107). Nonetheless, imperial sources of turquoise in the two tributary provinces are at this time vague, although Sahagún (in Noguera, 1971: 259) mentions Toltec turquoise mines in central Mexico and sources in Chiapas and Guatemala. This would be only somewhat consistent with the distribution of tribute demands.

Some of the other highly-desirable stones came from localized sources. Opals were found in Totonacapan, in the northeastern part of the empire (Sahagún, 1950-1982, Book 11: 222, 230), and amber was available in Chiapas, beyond direct Aztec control.[15] The lapidaries were faced with other problems of "resource acquisition": not only the stones, but some of the materials used in polishing the stones were available only in distant places. For example, bloodstone was polished with water and a very hard stone which came from Matlatzinco (*ibid.*, Book 9: 81), in the realm of Toluca to the west of the Valley of Mexico (Barlow, 1949: 28). Some necessary abrasives were only tenuously available to the artisans, and in one case a distant conquest was undertaken under Moctezuma Xocoyotzin (1502-1520):

> ...the lapidaries of the city of Mexico, of Tlatelolco, and of other cities heard that in the provinces of Tototepec and Quetzaltepec there existed a type of sand good for working stones, together with emery to polish them until they became bright and shining. The stone workers told King Moteczoma about this and explained the difficulties in obtaining the sand and emery from those provinces, and the high prices that were asked (Durán, 1964: 229-230).

According to the chronicle, Moctezuma negotiated with the people of these provinces for the materials; the people took offense at this gesture, resulting in hostilities and, ultimately, conquest by the Aztecs.[16]

Many types of glamorous feathers were prized, but none so highly

[15] Two major sources of amber have been discovered, one in the vicinity of Simojovel (Navarrete, 1978: 76), the other closer to old Xoconochco province near Totolapa (Bryant, 1983: 354-357). There probably were multiple sources of amber, as Sahagún (1950-1982, Book, 11:225) mentions three varieties, each of a different color.

[16] This was toward the Gulf coast, and may have been the Tototepec in Tochtepec province. Quetzaltepec has not been located.

as the shimmering green quetzal. This now-rare bird lived in some abundance in the forests of Oaxaca, Chiapas and Guatemala, characteristically at elevations of 4 000 to 7 000 feet (Edwards, 1972: 114). The male tail feathers were especially prized, draping some 20 inches beyond the end of the tail *(ibid.)*. The birds preferred to nest in the highest trees, and presented some problems of "proper feather procurement". According to one account,

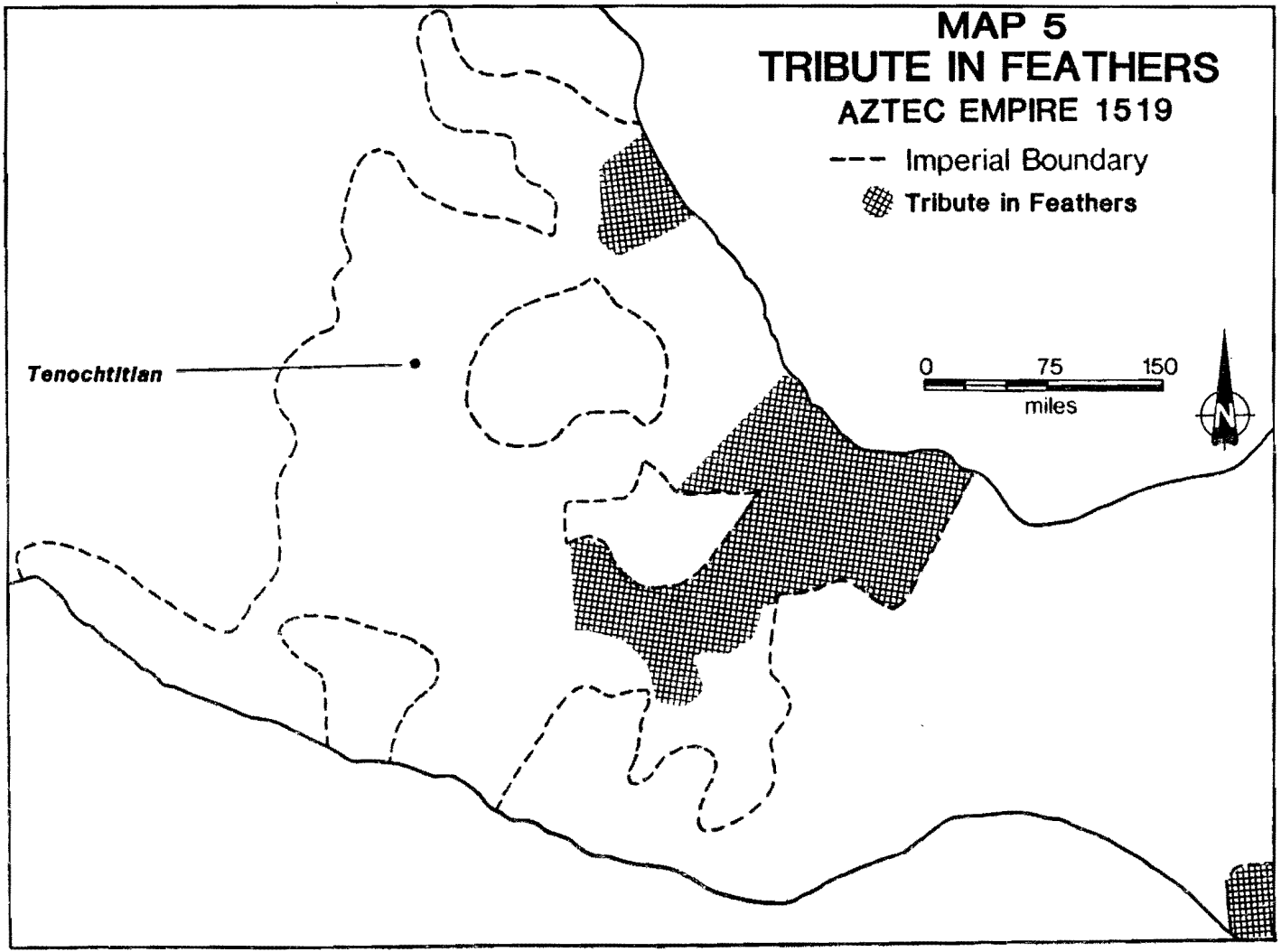
> ...the native Indians [of Verapaz, in Guatemala]... painstakingly capture [the quetzal birds] alive with some little nets and other devices which they have for the purpose. They pull out three or four of the prettiest tail feathers and release the bird so that they may bear more of the same fruit the following year (Médel, mid-sixteenth century, in McBryde, 1945-1972).

Other accounts tell of different techniques, luring the birds to places where they habitually fed, then catching them and plucking the few treasured feathers. By this means some 10 000 feathers were procured annually in the Vera Paz district of Guatemala.[17]

While the flowing quetzal feathers were the most highly valued, other exotic feathers from distant parts were also sought and demanded in tribute. These included the feathers and "skins" of the lovely cotinga *(xiuhtototl)* of lowland Veracruz to Chiapas (Edwards, 1972: 140); the Mexican trogon *(tzinitzcan)* ranging in highlands from northern Mexico to Chiapas *(ibid.:* 115); the adult yellow-headed parrot *(toztli)* from Cuextlan on the Mexican east coast; and the Roseate Spoonbill *(tlauhquechol)*, a water-bird ranging especially along the Gulf coast of Mexico (see Map 5). The documents are silent on the techniques of acquiring these birds and their luxurious feathers.

Once procured, the precious materials were subjected to elaborate and time-consuming processes to form them into glamorous and exquisite objects of special value. The specific technologies and procedures have been described in depth elsewhere (see Noguera, 1971; Easby, 1961; Bray, 1972 and 1978; Berdan, 1982a). I need not elaborate on them here. Rather, it may be more useful to pay particular attention to more general aspects of the social and economic organization of these highly esteemed artisans. How were they organized, or even stratified, within the craft organization? What were their relations with the state and the ruling elite?

[17] This was in 1575; it might be guessed that the annual production in pre-Spanish times was greater, assuming greater demand and probably a generally greater abundance of birds during Aztec times.


MAP 5
TRIBUTE IN FEATHERS
AZTEC EMPIRE 1519
Imperial Boundary
Tribute in Feathers
Tenochtitlan
0
75
150
miles
N

These artisans of luxury goods appear to have enjoyed some degree of exclusiveness in Aztec society. Indeed, they were organized in a fashion reminiscent of the craft guilds of Medieval Europe —they were set apart from the rest of Aztec society by virtue of their separate residence in urban centers, control over their membership, internal control over education and ranking, distinct ethnic origins, commitments to particular patron deities and religious ceremonies, and special privileged relations with the state.

The most detailed descriptions of artisans feature the featherworkers, or *amanteca.* These craftsmen were early residents of the Mexica centers of Tenochtitlan and Tlatelolco —in Tlatelolco they occupied an important "barrio" or *calpulli*[18] called Amantlan (hence their name). They also resided in separate residential districts in Tenochtitlan and Texcoco, and probably in other cities as well. Amantlan, at least, had its own temple and *calmecac,* or elite school for young men —the featherworkers were obviously flirting with high status. Fundamentally, featherworking was a household enterprise, and knowledge, skills and standards of workmanship were passed from parent to child, and both boys and girls were trained in the craft. But they would also act collectively, particularly during religious events (Berdan, 1982a: 28). Their guild structure included a system of internal ranking, with position and prestige based on the ability to provide (purchase) human sacrificial offerings and conduct religious ceremonies. All of this was based on wealth. And in wealth, they were collectively comparable to the professional merchants, or *pochteca,* their close associates. The "employment opportunities" for the featherworkers were two-fold. They

> ...engaged in both public employ and private enterprise. Those in the public domain worked specifically for the ruler; they created his attire, they fashioned magnificent gifts for his guests, and they adorned the god Huitzilopochtli with feathered cloaks. These artisans had access to the state treasury which held goods received by the state through tribute and foreign trade. This included great quantities of precious feathers from distant and exotic provinces. In all likelihood, the royal aviary was also a source of priceless feathers for these artisans. The privately employed featherworkers made shields and other plumed devices as a household operation. They must have

[18] Cities and towns were generally divided into *calpulli,* or separate districts. These were not just residential zones, but also social units: each *calpulli* normally had its own temple, school, patron deity, and even occupational inclination (see Berdan, 1982a).

obtained their raw materials from either the marketplaces, where feathers were always sold, or directly from the long-distant merchants, their close associates. In turn, these artisans sold their creations in the colorful marketplaces (Berdan, 1982a: 28).

Information on the metalsmiths and lapidaries is less detailed. Aztec goldsmiths were classed into two groups according to their mastery of the craft: smiths (who only beat and polished the gold) and finishers (master craftsmen). Sahagún (1950-1982, Book 9: 69) indicates that these two groups were quite separate: "...for their tasks were of two kinds, so that they deliberated separately". It is difficult to surmise if these groups were arranged in stages where the gold hammerers were neophytes and the finishers were the experienced masters; or if they were two rather exclusive groups, trained for quite different tasks. Like the featherworkers, they would offer a human sacrifice to their patron deity, educate their children in the art, and apparently control the ranking of their members. Also like the featherworkers, some metalsmiths were employed at the palace and enjoyed the abundant stores of the state treasure. They were strongly associated with the city of Azcapotzalco, just to the west of Tenochtitlan.

Aztec lapidaries used jadeite, turquoise, amber, opals and other fine stones to fashion lip-plugs, ear plugs, necklaces and bracelets for nobles and gods. They also created intricate mosaics and the ruler's stone-encrusted armaments.[19] While little is known of their internal organization, it is likely that they shared the same basic features of guild organization enjoyed by their fellow artisan groups: exclusive residence, participation in collective religious events in honor of their four patron deities (especially in Xochimilco), education of their children, and internal ranking ultimately based on skill and wealth. They also must have carried some political clout, as evidenced by the conquests made on their behalf (see above).

While these urban guilds present a very closed, even formidable appearance, there must have been considerable interaction and cooperation among their members —so many of the finished products, either documented or extant, would have required the skills of more than one craft. A magnificent headdress attributed to Moctezuma combines gold and featherwork. Among the inventories of treasures sent to Europe shortly after the Spanish conquest were "Two white snail-shells with greenstones tied with gold thread", "A collar of small melons consisting of thirty-two pieces of greenstone, made so that they seem

[19] Good descriptions are in Saville (1920) and Noguera (1971).

to issue from the flower, the flowers and stalks being of gold", "A face of gold with the features of stone mosaic", and "A little duck of gold coming out of a stone" (Saville, 1920: 71, 82). Indeed, the prolific sixteenth-century Franciscan friar, Bernardino de Sahagún, relates that the gold workers did call upon the featherworkers, especially in designing works that combined gold and feathers —his statement suggests that the featherworkers enjoyed a higher rank than the goldsmiths:

> The goldworkers join with (and) are instructed by the feather workers who cut all manner of feather work which may come their way (Sahagún, 1950-1982, Book 9: 76).

Overall, the production of precious ornate objects in Aztec society appears to have been closely tied to highly specialized groups. Yet the members of these groups were not the major consumers of the treasures. Through what channels did these materials and objects move to finally rest on the exalted head of a noble or around the sacred neck of an idol?

Distribution

In stratified Aztec society, the nobility were the major market for the products of the luxury artisans. As has been seen, the highest ranking personages were adorned in the most glamorous attire and accoutrements. Many of the raw materials for these products came from distant lands, beyond the Valley of Mexico, through three major avenues, tribute, foreign trade, and market exchange.

Tribute

By 1519, tribute was exacted by the Aztec Triple Alliance powers from at least thirty-eight conquered provinces. It was typycally paid on an annual, semi-annual or quarterly basis, and included foodstuffs, building materials, clothing, warriors' costumes, and a wide array of exotic goods. Luxuries were predominately acquired from the most distant, and most recently conquered areas. This was no accident. Materials such as jade, copper, gold and precious feathers were only found naturally at some distance from the Valley of Mexico. These regions were, for the most part, conquered during the latter half of

the empire's 90 year history. Coincident with the empire's ability to control areas of luxury-good production was an increase in the demand of sumptuous goods in the urban setting. Numerically, the elite increased rapidly as the empire matured,[20] and they required rather abundant supplies of exotic adornments for verification of their status —through ostentatious display.

Table I summarizes the tribute in luxuries delivered from provinces subject to Aztec control. Many of these are in the form of raw or semi-worked materials, probably to be enhanced by palace craftsmen. Raw materials were especially in the form of gold dust, feathers, bird skins, and perhaps the bowls or packets of turquoise. Some tribute items may have arrived partially-worked, like the gold disks and gold tablets which were undoubtedly hammered, but not yet embellished. Surprisingly, a considerable quantity of luxury tribute was presented in manufactured form —strings of jadeite or turquoise; amber or crystal labrets (lip plugs) mounted in gold; copper axes and bells; a shield, headband, diadem, beads and bells— all of gold; elegant feather headpieces *(tlapiloni);* and a multitude of feathered warriors' costumes.[21]

What is the geography of this tribute? Metals, gold (and copper), were demanded generally from areas which Cortés and Bernal Díaz del Castillo described as "gold-producing areas" —this includes one which was described as beyond the domain of Aztec rule. Yet it does seem that the gold traffic could penetrate these political-military borders, although Moctezuma's ambassadors dared not. The quality and variety of fashioned gold objects demanded from the province of Tochtepec suggest well-developed metalworking skills and strong artisan organization in that province. Curious, however, is the complete lack of silver as a tribute item. It must have followed other avenues to the urban artisans. Jadeite and turquoise present other difficulties, since their native habitats have not been conclusively established. However, the jadeite does seem to have been given by provinces that re-

[20] Polygyny was a prerogative of the nobility; it was apparently not permitted among commoners. This rule tended to produce a somewhat disproportionate number of noble progeny, requiring a continuous supply of sumptuary goods to maintain them in a style to which they had become accustomed. By way of example, Nezahualpilli, ruler of Texcoco (1472-1515), fathered 144 children; eleven of these were considered legitimate, although the remaining 133 offspring were granted substantial rights and wealth.

[21] While this article concentrates on precious metals, stones and feathers, other items were also in the Aztec luxury category. These included jaguar skins, shells, cacao (an elite beverage as well as a form of money), and a variety of beautifully-embellished garments (see Anawalt, 1981).

TABLE I

TRIBUTE IN LUXURIES [22]

Tribute Item	*Form*	*Amount*	*Frequency*	*Province*
METALS				
Gold	dust	20 bowls	annually	Tlapan
	dust	20 bowls	annually	Cohuaxtlahuacan
	dust	20 bowls	annually	Tlachquiauco
	tablets	10	annually	Tlapan
	round disks	40	annually	Yoaltepec
	round disks	20	annually	Coyolapan
	shield	1	annually	Tochtepec
	headband	1	annually	Tochtepec
	diadem	1	annually	Tochtepec
	beads	1 string	annually	Tochtepec
	beads & bells	1 string	annually	Tochtepec
Copper	axes	100	annually	Tepecuacuilco
	axes	80	semi-annually	Quiauhteopan
	bells	40 *	semi-annually	Quiauhteopan
STONES				
Jadeite	round & oblong stones	5 strings	annually	Tepecuacuilco
	round & oblong stones	2 strings	annually	Cohuaxtlahuacan
	round & oblong stones	1 string	annually	Cuetlaxtlan
	round & oblong stones	4 strings	annually	Tochtepec
	round & oblong stones	2 strings	semi-annually	Xoconochco
	round & oblong stones	2 strings	annually	Tochpan
	round stones	3 strings	annually	Tochtepec
	large beads	3	annually	Tochtepec
Turquoise	stones **	1 small pan	annually	Quiauhteopan

[22] The items, quantities and frequencies are derived from the tribute section of the *Codex Mendoza* (mainly because of provinces included on that tally that are not included in the *Matrícula de Tributos*). While the *Codex Mendoza* cites annual and semi-annual periods of tribute collection for luxury goods, the *Matrícula de Tributos* most frequently claims that such tribute was rendered "every eighty days", or quarterly. If these latter periods of collection are accepted, then a substantially greater tribute results.

* These are on a string; it is not clear if the tribute demanded is 40 bells or 40 strings of four bells each.

** It is not clear if these have been worked in any way.

TABLE I. TRIBUTE IN LUXURIES (*cont.*)

Tribute Item	*Form*	*Amount*	*Frequency*	*Province*
	stones **	10 masks 1 packet ***	annually	Yoaltepec
	string of stones	1 (w/19 stones)	annually	Tochpan
	mosaic disks	2	annually	Tochpan
Amber	labrets, mounted in gold	20	annually	Tochtepec
	labrets, mounted in gold	2	semi-annually	Xoconochco
	labrets, mounted in gold	20	annually	Cuetlaxtlan
Crystal	labrets, in blue smalt and gold setting	20	annually	Tochtepec
	labrets, in blue smalt and gold setting	20	annually	Cuetlaxtlan
FEATHERS ****				
Quetzal	feathers	800	annually	Cohuaxtlahuacan
	feathers	400	annually	Tlachquiauco
	feathers	80	annually	Tochtepec
	feathers	800	semi-annually	Xoconochco
	feathers	400	annually	Cuetlaxtlan
Lovely cotinga	feathers	8000	annually	Tochtepec
	feathers	800	semi-annually	Xoconochco
	skins	160	semi-annually	Xoconochco
Mexican trogon	feathers	8000	annually	Tochtepec
	feathers	800	semi-annually	Xoconochco
	feathers (green and yellow)	4 bunches	annually	Tochtepec
Roseate Spoonbill	feathers	800	annually	Tochtepec
	feathers	800	semi-annually	Xoconochco

*** Clark (1938, vol. 1: 75) also gives this interpretation. However, ten packets, rather than one, may also have been intended.

**** In the *Codex Mendoza* these are always annotated as bunches or handfuls. In the *Matrícula de Tributos* no special units are given. I feel it is most likely that these numbers refer to just feathers, not bunches (see Berdan, 1982b).

TABLE I. TRIBUTE IN LUXURIES (*cont.*)

Tribute Item	*Form*	*Amount*	*Frequency*	*Province*
Adult Yellow-Headed Parrot	feathers	800	semi-annually	Xoconochco
———	white down	20 bags	annually	Tochpan
Quetzal and other	tlapiloni (head-piece)	1	annually	Cohuaxtlahuacan
	tlapiloni	1	annually	Cuetlaxtlan
OTHER				
Spondylus shells	unimproved shells	800	semi-annually	Cihuatlan
Jaguar skins	unimproved skins	40	semi-annually	Xoconochco
Cacao	beans	200 loads	annually	Tochtepec
	beans	200 loads	semi-annually	Xoconochco
	beans	20 loads	annually	Quauhtochco
	beans	200 loads	annually	Cuetlaxtlan
	"flor de cacao"	80 loads	semi-annually	Cihuatlan

ceived this material by virtue of trade with points south (see Map 2). Weigand (1978, 1980) suspects that the turquoise found in objects in central Mexico did not come from the south at all, but rather from northern Mexico and the American Southwest through northern Mexico trade-routes. In Aztec times, those routes were, however, effectively blocked by the powerful Tarascan state. Amber was available in the Chiapas area, beyond the Aztec imperial boundaries. It must have been brought to the three nearby provinces (Tochtepec, Cuetlaxtlan and Xoconochco) which presented it as tribute. Fine feathers were provided by provinces where exotic birds were prevalent, or by provinces adjacent to such areas. As with amber and some gold (and perhaps jadeite and turquoise as well), some areas of "quetzal feather production" were not under the political umbrella of the Aztec empire. The voluminous production of quetzal feathers in the Vera Paz region of Guatemala is a case in point. Tribute, therefore, was not the only conduit for goods moving from provinces (and extra-provincial regions) to the imperial capitals.

Foreign Trade

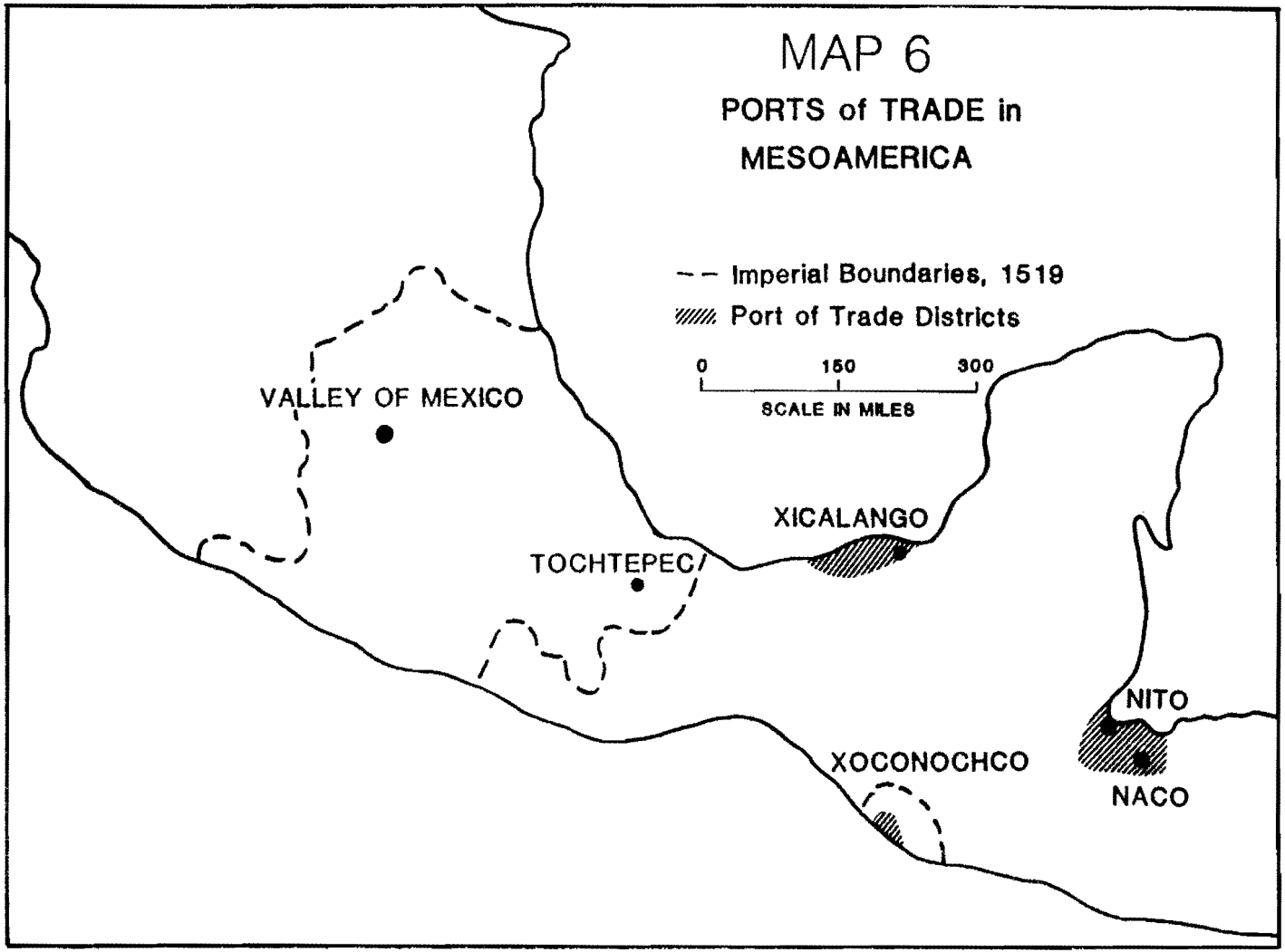
Ethnohistoric sources tell tales of Aztec merchants traveling on perilous journeys to distant lands. These professional merchants *(pochteca)* served the Aztec state by trading for the emperor (or state) in territories beyond the emperor's political and military control, and by serving as spies for the state. In one specific example (Sahagún, 1950-1982, Book 9: 7-8, 17-19), the Tenochtitlan *pochteca* were entrusted with 1,600 large white cotton cloaks[23] which they divided equally with the *pochteca* of their neighboring city Tlatelolco. All these merchants then traded the cloaks for finely decorated clothing which they carried to the Gulf coast port of trade districts (see Map 6). They returned with precious feathers (or quetzal, cotinga, red spoonbill, blue honeycreeper, yellow parrot, trogonorus, and unspecified green birds), jadeite (some cut), turquoise mosaic shields, many kinds of shells, tortoise-shell cups, and skins of wild animals. In this exchange the *pochteca* seem to be operating as diplomatic ambassadors —but on these same occasions they also energetically traded their own private wares. They carried ornate gold accoutrements (such as necklaces, forehead rosettes and ear plugs) and rock crystal ear plugs for the coastal nobility, and wares such as obsidian ear plugs, copper ear plugs, rabbit fur, and cochineal for the commoners (*ibid.*: 8, 17-18). The Mexican merchants are recorded as returning with cacao (Berdan, 1978: 192), although they probably traded for other valuable items as well.

In their role as spies, they penetrated many unfriendly, actually dangerous, districts, often disguising themselves to avoid detection. To Tzinacantlan (Chiapas), for example, the disguised merchants took their personal inventories of "obsidian blades with leather handles, obsidian points, needles [copper], shells, cochineal, alum, red ochre (and) strands of rabbit fur not yet spun into thread" (Sahagún, 1950-1982, Book 9: 22). They exchanged these for amber; feathers of the quetzal, cotinga, and blue honeycreeper; and supposedly wild animal skins (*ibid.*: 21-22).[24]

Aztec merchants also apparently traveled to the Vera Paz region of Guatemala to purchase great quantities of quetzal feathers, especially

[23] These are called *quachtli*, and are frequently mentioned as a form of money in the sources.

[24] This area of Chiapas offered a very hospitable and attractive environment for these birds: the quetzal birds "came down when spring set in and here ate the acorns of the oak trees. And the blue cotingas (and) the blue honeycreepers came here to eat the fruit of the black fig tree" (Sahagún, 1950-1982, Book, 9:21).


MAP 6
PORTS of TRADE in
MESOAMERICA
Imperial Boundaries, 1519
Port of Trade Districts
0
150
300
SCALE IN MILES
VALLEY OF MEXICO
XICALANGO
TOCHTEPEC
NITO
XOCONOCHCO
NACO

to adorn their idols (McBryde, 1945: 72). Indeed, unless the Vera Paz had other outlets for its feather production, it needed this long-distance trading activity. Perhaps as many as 10,000 feathers were procured annually from this region alone, and the stately birds ranged from Oaxaca through Guatemala (at least). Yet, according to the extant tribute tallies, only 3280 were demanded annually in tribute by the Aztec powers.[25] There must have been a considerable volume of private trade in this prized commodity. Profit and convenience surely highlighted the close relationships enjoyed between the *pochteca* and the professional featherworkers.

The long-distance merchants, carrying state goods and their own private wares for sale in distant regions, moved considerable quantities of luxuries (in unworked or semi-worked condition) from outlying areas to the Valley of Mexico centers —especially prized feathers of many kinds, fine stones, cacao and the skins of wild animals. Also in terms of luxuries, they seem to have carried manufactured gold and copper adornments *out* of the empire as part of their private enterprises, and fine clothing as the emperor's property.

Marketplace Exchange

In their travels, professional merchants frequented the numerous marketplaces which, probably more ancient than tribute imposition, facilitated the greatest amount of traffic in both luxury and utilitarian goods.

The Tlatelolco marketplace was the largest and most luxurious, and probably the most expensive, in the empire —it served the most urban of areas. Hernán Cortés observed that, in the realm of luxuries, jewels of gold and silver copper, stones, shells and feathers were sold in that marketplace.[26] Except for the gold and silver, his statement does not specify the form (raw, semi-worked or finely-worked) these items took (Cortés, 1977: 257). Bernal Díaz del Castillo, viewing the same marketplace with Cortés, also observed "dealers in gold, silver, and precious stones, feathers, cloaks and embroidered goods" (1963:

[25] This amount would be substantially larger if "bunches" of feathers were given, as implied by the *Codex Mendoza* annotations. I prefer the interpretation that numbers of individual feathers were tabulated, following the *Matrícula de Tributos*. However, these tribute rolls may have been revised frequently (perhaps applying to periods as short as a year), and more feathers may have been demanded in other years (see Berdan, 1928b).

[26] He also includes lead, brass, zinc and bones in the same list.

232). He also adds "chocolate merchants with their chocolate"; tanned and untanned skins of wild animals; axes of bronze (?), copper and tin; and gold dust *(ibid.)*. Concerning the latter, Díaz says

> We saw many more merchants who, so I was told, brought gold to sell in grains, just as they extract it from the mines. The gold is placed in the thin quills of the large geese of the country, which are so white as to be transparent. They used to reckon their accounts with one another by the length and thickness of these little quills... (*ibid.*: 233-234).

The Anonymous Conqueror contributes the detail that next to the gold sellers were those who sold various kinds of stones mounted in gold, resulting in images of birds and animals (1971: 392). This observant conquistador adds that on another side of the great marketplace were beads and mirrors; on yet another were sold feathers of a multitude of colors for embellishing "clothing that they use in war and celebrations". Farther on skilled workers fashioned utilitarian stones (certainly obsidian) into shapes appropriate for weaponry (*ibid.*: 392-393).

It seems that luxury and utilitarian stones were classed quite separately, since each type of merchandise was sold in its own area of the marketplace. This apparently was also the case with feathers: dealers in precious feathers were grouped closely with fine stone sellers and gold dealers; sellers of more ordinary feathers (such as duck and turkey) were located near sellers of herbs and dyes. This latter feather dealer also processed the feathers for sale they were carefully spun into a fine thread (Sahagún, 1950-1982, Book 10: 61, 92). It is possible that fine stones (jadeite, turquoise, jet, opals and pearls) were also sold separately from necklaces fashioned from obsidian, rock crystal, amethyst, amber, mirror-stone, and gold (*ibid.*: 60, 86-87). Cast gold ornaments —necklaces shaped like shields or shrimp, and bracelets— were quite separate from copper items such as bells, axes, needles, awls and fish hooks (*ibid.*: 61, 87). The accounts seem to support a "hierarchy of trade value" mirrored in the physical arrangement of the urban marketplace.

At the great Tlatelolco marketplace certainly every luxury was available, probably in almost any form —although unpolished stones, fine jadeite and turquoise strung as necklaces, stone mosaics, unembellished hammered gold, and finished feather garments are not specifically mentioned (see below).[27] On the other hand, silver, absent

[27] This does not necessarily mean that they were not available. Díaz, for one, does not describe the gold and silver he observed.

in the lists of tribute and professional merchant activity, was reported by the awed conquistadores as present in the Tlatelolco marketplace. That grand marketplace also offered a wider range of stones, feathers and copper goods than is found in the tribute tallies.

Provincial marketplaces would have been less varied and opulent, but some carried exotic items. In provincial Tepeacac, for example, gold, silver and other metals; jewels and stones; feather work; fine clothing and animal skins were available in the marketplace (Durán, 1964: 102-105). Tepeacac gave none of these in tribute, but the availability of these valuables followed on the heels of Aztec conquest and was a "condition of peace". Precious goods circulated through other large and small provincial marketplaces with regularity (see Berdan, 1980).

Consumption

The ultimate consumers of valuable and exotic goods were the state, the gods, and the elite of Aztec society. State-owned treasures were accumulated in urban storehouses, and symbolized the accumulated wealth of the empire. Many of these stores, such as resplendent feathered warriors' costumes, were presented to valiant warriors at special ceremonies. Other caches, such as the glittering treasure discovered by Cortés' men in Axayacatl's palace,[28] were a form of dynastic *wealth —partially state property, partially personal property.*

The idols of the numerous Aztec gods were bedecked with gold and gems. Díaz del Castillo (1956: 219) describes the idol of Huitzilopochtli[29] as having

> a very broad face and monstrous and terrible eyes, and the whole of his body was covered with precious stones, and gold and pearls, and with seed pearls stuck on with a paste... and the body was girdled by great snakes made of gold and precious stones, and in one hand he held a bow and in the other some arrows... [Huitzilopochtli] had round his neck some Indians' faces and other things like hearts of Indians, the former made of gold and the latter of silver, with many precious blue stones.

In addition, religious offerings were deposited at the temples. The recent Templo Mayor excavations in Mexico City have uncovered

[28] Axayacatl was Moctezuma Xocoyotzin's father; he had died in 1481, but his palace was nonetheless maintained.

[29] Patron god of the Mexica.

eighty offerings containing a total of more than 5,500 objects, though not all would be classed as "luxurious" (Bonifaz Nuño, 1981: 9).

Fine costumes and accoutrements were the exclusive prerogative of the nobility. They wore plain or finely-decorated cotton clothing;[30] they adorned themselves in expensive jewelry: lip plugs, ear plugs, nose plugs, necklaces, and bracelets. While only persons carrying the proper social credentials could openly display these expensive adornments, it does appear that anyone with sufficient means could possess them. Certainly persons who were not nobles visibly sold luxuries in the marketplaces or presented them as tribute. The professional merchants, intermediate in status between nobles and commoners, handled precious objects in their private trading enterprises; they could dress expensively only on specified ceremonial occasions.

CONCLUSIONS

In the Aztec economy, three major distributive channels funneled luxuries from source to consumer.[31] The process was complex and sometimes enigmatic.

Precious goods generally moved from outlying areas to the centers of political power. Yet the *pochteca* carried gold ornaments to trade beyond the imperial boundaries.

Concentrations of artisans in urban centers would suggest an emphasis in tribute on raw materials. Yet the emphasis was on manufactured or partially-manufactured luxuries. Gold did arrive in grains, but also as hammered disks, in bars, and fashioned into items such as a headband or shield. With the possible exception of some turquoise, precious stones were delivered polished, perforated and strung; as mosaics and masks; and as lip plugs. Thousands of unimproved feathers arrived from distant provinces. However, great quantities of warriors' costumes —fashioned of feathers— were provided by provinces closer to the centers of power and population density. This distribution may reflect a greater ease of political control over "proper style" in the more proximate provinces —an important consideration where costume style carried specific information about the wearer's social status.

[30] Noblemen also did wear maguey fiber capes, but only if exquisitely decorated (see Anawalt, 1981).

[31] Ornaments of precious metals and stones. Precious wearing apparel and adornments also circulated in a system of "elite reciprocity", a mechanism not treated in this article.

Perhaps most surprising is the relatively small role tribute seems to have played in moving luxuries. Only four kinds of fine stones were given in tribute, but some dozen others were worked by the urban lapidaries. From the inventories of conquest-period treasures, the tribute rolls document only a fraction of gold objects, and silver does not even appear. The quetzal feathers supplied to the empire annually were scarcely sufficient to handle the demands of the nobility, and some important feathers were not given in tribute. Interestingly, long-distance trade and marketplace exchange provided major networks for moving these treasured materials and objects into (and out of) the major urban centers. This is a small surprise, since the luxuries satisfied essentially political, religious and elite needs.

From an economic standpoint, however, this may not be so perplexing. In the amassing of luxuries, there was no necessary one-to-one correspondence between production and tribute. The procurement of exotic materials required little investment in technology and labor organization. Although there is no conclusive evidence, these procurement activities appear to have been individual, rather than collective, activities. As such, the Aztec state was probably not directly involved in the procurement of these materials. A given individual, a provincial commoner, might have had some small opportunity to acquire bits of exotic materials by panning for gold, digging for stones, or defeathering a colorful bird. These small lots could be readily traded to merchants or others in marketplaces for products more immediately consumable by the commoner. Since the commoner could not publically display these treasures, they were of greatest use to him in their exchange value for goods and products he could use. Certainly the tribute system served as a stimulus for the procurement and trade of precious metals, stones and feathers. But, given the documented and proposed styles of production, it seems reasonable that they often would have entered the distribution networks through market-places and trade, perhaps changing hands frequently before reaching an interested and appropriate noble consumer.

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