

# Mapping the Aztec Capital: The 1524 Nuremberg Map of Tenochtitlan, Its Sources and Meanings

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**ABSTRACT:** The map of Tenochtitlan published along with a Latin version of Hernán Cortés's letters (Nuremberg, 1524) was the first picture Europeans had of the Culhua-Mexica city, the capital of the Aztec empire. The source of this woodcut map is unknown, and the author argues here that it was based on an indigenous map of the city. Once published in Europe, the city map and its companion map of the Gulf Coast, while certainly documentary, also assumed a symbolic function in supporting Cortés's (and thereby Spain's) just conquest of the Amerindian empire.

**KEYWORDS:** Aztec maps, Culhua-Mexica, New Spain, Hernán Cortés, Amerindian maps, Tenochtitlan [Tenochtitlán, Temistitan], Mexico, cartography, Pre-Columbian maps.

The startling news of the Spanish conquistador Hernán Cortés's entry into Mexico and his encounter with the Aztecs in 1519 fascinated Europeans, and a large audience awaited the publication of the conquistador's letters describing his initial adventures.<sup>1</sup> When these letters were translated into Latin and published in Nuremberg under the title *Praeclara Ferdinādi. Cortesii de Noua maris Oceani Hispania Narratio . . .*, they were accompanied by a map of Tenochtitlan, the Aztec capital city (Fig. 1). Today, this map affords one of the few contemporary pictures we have of a city that struck one conquistador 'like the enchantments they tell of in the legend of Amadis, on account of the great towers and cues [temples] and buildings rising from the water'.<sup>2</sup> The original woodcut map shows this impressive metropolis set like a jewel in the centre of an azure lake (in the hand-coloured versions). Around the lake cluster neighbouring cities, the whole urban area connected by causeways, and the lake water tamed by a dike.

By the time the map was published in February,

1524, the city it showed was as much a fantasy as Amadis: the devastating war of conquest, coupled with the internecine hatreds that Cortés unleashed, had reduced the city to smoking rubble by August of 1521. None the less, the map was the first image Europe had of the fantastic capital and soon would become the most widespread. Throughout the sixteenth century and into the seventeenth, publishers from Venice to Cologne had their illustrators reworking this map; versions were published in Giovanni Ramusio's *Terzo Volume delle Navigazioni et Viaggi* and Braun and Hogenberg's *Civitates Orbis Terrarum*, among others (Appendix 1).

The historic importance of this map has led to its widespread publication in the twentieth century, but most writers have expressed a vague uncertainty about the map's nature. The woodcut is undoubtedly carved by a European craftsman, but close examination reveals many precise details of the Amerindian city that do not appear in the long description of the city that Cortés had included in his Second Letter.<sup>3</sup> In short, the map is not just an

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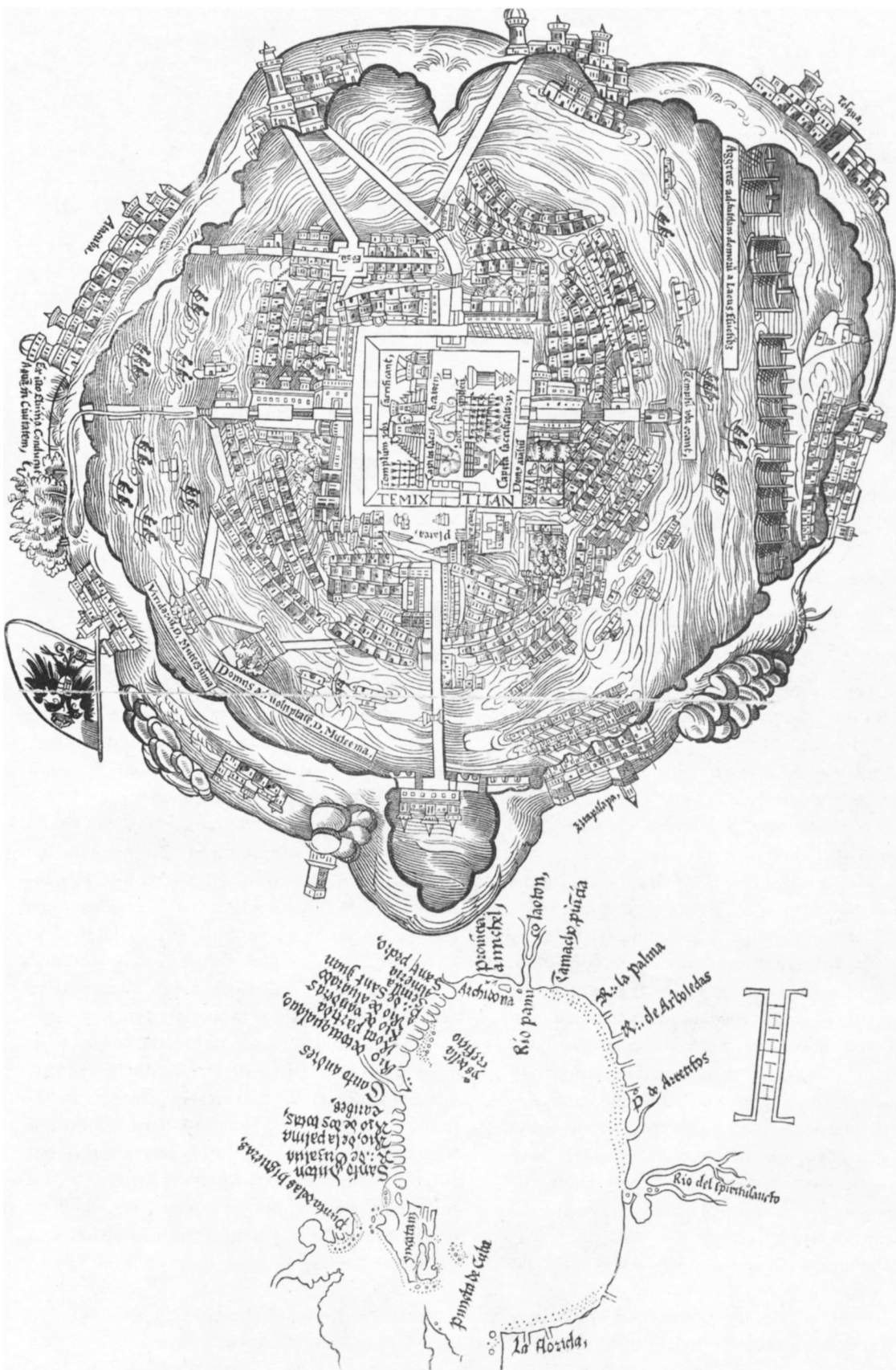


Fig. 1. Nuremberg map of Tenochtitlan and the Gulf Coast, 1524. This was the first map of the Aztec capital city to be published in Europe; it accompanied the letters of the conquistador Hernán Cortés. (From *Praeclara Ferdinandi. Cortesii de Noua maris Oceani. Hispania Narratio* . . . (Courtesy Rare Books and Manuscripts Division, The New York Public Library, Astor, Lenox and Tilden Foundations, \*KB + 1524.)

illustration drawn from the letter. We are left to conclude that the picture must derive from another source.

But what was this source? Was it an Aztec map or a European one? Was it an insider's view or not? The question of the map's provenance is a crucial one. While the conquistadores lived in the city briefly and left a few written accounts of it, the Aztec imperial centre was foreign to them and they hardly understood it. Today, when we piece together the sixteenth-century accounts of Tenochtitlan (many of which were stained by the prejudices of their European authors) with information from recent excavations, we are only beginning to understand what the city was to the Culhua-Mexica: a cosmic linchpin, a place where the human world brushed up against the divine.<sup>4</sup> A sixteenth-century paean to the city written in Nahuatl, the language of central Mexico, described it:

Mexico Tenochtitlan Atlitic . . .  
Among the rushes and the reeds  
At the heart and the head  
Of what is called the New World  
Here it is at the setting of the sun  
Where are awaited and received  
The diverse people of the four quarters.<sup>5</sup>

But the puzzle of Tenochtitlan is far from resolved, and indigenous maps of Tenochtitlan might afford us practical information on the layout of the city or perhaps yield a glimpse of the ideological conception of the imperial capital. For we know the Culhua-Mexica and their neighbours in central Mexico made maps, and these maps—in their symbols and their logographic writing—share many features with Aztec 'picture writing' in general. Unfortunately, we know of no map of Tenochtitlan that survived the conquest, and little has been preserved from the early colonial period. Today we can count few indigenous maps that show the sixteenth-century city.<sup>6</sup>

The Nuremberg map offers a tantalizing possibility: Could it have been based on yet another, now lost, indigenous map of the capital? Most scholars have, in passing, thought not: Benjamin Keen, a masterful scholar of Europe and the Aztecs, theorized that the map was based on an eyewitness sketch of Tenochtitlan sent by Cortés and that whatever fidelity it owes to the Culhua-Mexica capital is mitigated by its style, which follows 'the conventional aspect of island-city plans [of Europe]. The total effect is unreal . . .' Manuel Toussaint held that it was not made by Cortés but by a fellow

conquistador trained as a pilot or surveyor. Because of its flawed planimetry, Toussaint's colleague Justino Fernández granted the map only a limited role in helping to reconstruct the layout of Aztec Tenochtitlan.<sup>7</sup> In short, the main objections to an indigenous source for the Nuremberg map are thus: first, the map's style reveals it to be essentially a European product, and second, since the view it presents of the Culhua-Mexica city seems unfaithful to its planimetry, it owes more to European conventions than to first-hand knowledge of Tenochtitlan.

### *Paradigm Shifts*

But since these writers were considering the map, underlying theories guiding the history of maps and Mexico have shifted. The grout of their objections no longer seems as firm as it once did. The map begs to be re-examined in light of changing models as well as in light of our growing understanding of the nature of the Aztec capital. In this essay, I argue that the Nuremberg map is indeed based on an indigenous prototype—a Culhua-Mexica map of the capital city—and offer a re-interpretation of the map that embraces its ideological and rhetorical functions.

When Keen wrote, the widely accepted view among historians and art historians was that style was perhaps the best index of authorship—if something *looked* European, then its painter or carver or artist *was* European. The same held for the Aztec, and Donald Robertson's influential work on native style systematically laid out how to distinguish that style from European.<sup>8</sup> In the years since Robertson wrote, however, numerous art works from the colonial New World that look European but were authored by indigenes disprove any simple equation of style to authorship.<sup>9</sup> New historical research also suggests that indigenous culture persisted long after its most visible and highly organized forms (like religion) were suppressed. As a result we now tend to think of culture in the New World, and with it visual culture, as a cross-pollination of the European and the indigenous, and of its artifacts as hybrids.<sup>10</sup>

Like hybrid flowers, where crossing red and white may not lead to pink, the way hybrid artifacts manifest connections to their precursors is often unpredictable and surprising. Thus style in the hybrid artifact can be misleading when used to determine authorship. When applied to the Nuremberg map, the concept of the hybrid allows us to

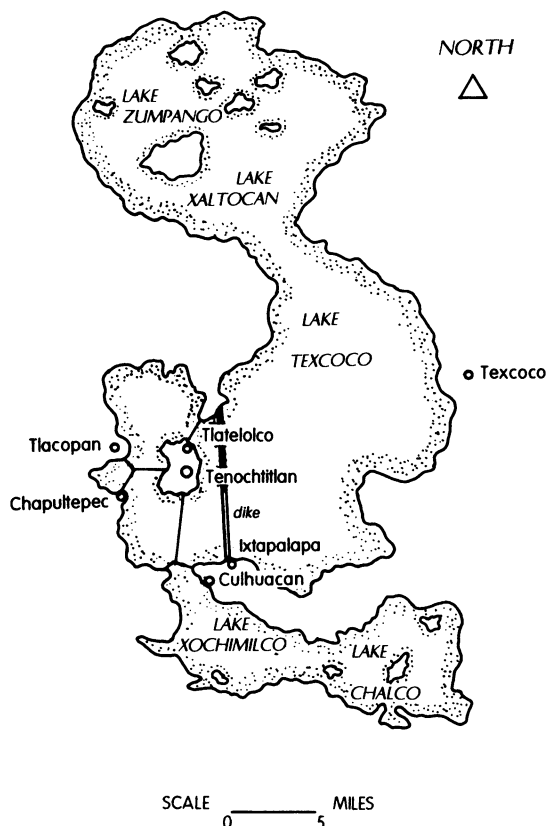


Fig. 2. Map of the Valley of Mexico in the sixteenth century. (Author drawing.)

re-evaluate the importance of its style. While the style of the Nuremberg map may look conventionally European—it was, after all, copied at least once by an artist cutting the wood block in Nuremberg, and he may have been working from a European copy of the original—if we examine the map with the emphasis on its content, then we will see it freshly revealed as rooted in an Aztec mapping tradition.

A change in the theories guiding cartographical history also allows us to re-evaluate the map's ambiguous relationship to the planimetry of Tenochtitlan. Following the work of Brian Harley and others, we are now more ready to accept that a map can be shaped by ideology as well as planimetry—that is, a city map can be faithful to a reigning idea of a place, rather than to the mathematical relationships between points A, B and C. If we forgive the Nuremberg map for its faulty geometries, what we can discover in the map is a previously overlooked fidelity to the Aztec *idea* of Tenochtitlan. Despite its undoubtedly European authorship and mode of projection, this map offers

so many points of contact with indigenous maps as to leave little doubt of an indigenous pedigree.<sup>11</sup>

### The Source

While the woodcut's origins have been masked by the European style and convention (houses are rendered in perspective, Aztec towns give rise to medieval towers and Renaissance domes), other aspects of the city, particularly its centre, show the distinct imprint of a cosmic model that the Culhua-Mexica imposed on their capital, whereby the human city was patterned after the perceived order of the larger cosmos.<sup>12</sup> We understand this cosmic modelling both through the nucleus of the ceremonial centre which has been excavated in the centre of present-day Mexico City,<sup>13</sup> and through a number of indigenous portrayals of Tenochtitlan. These later documents present, more than the planimetry of Tenochtitlan, the *idea* of Tenochtitlan, wherein the intermeshing of city and cosmic model are made manifest. In the following sections, I will lay out in detail the close correspondence between the Nuremberg map, the known details of the temple precinct and the extant pictorial record of the native city.

### The Circular City

In the Nuremberg map, Tenochtitlan, with its prominent square temple precinct, is set in the centre of a round lake, clearly contradicting the actual planimetry of the system of linked lakes, which looked something like a backwards Ç (Fig. 2). Cortés himself well knew that there was not just one lake but two, one salty, the other sweet, separated by a chain of mountains, and linked by a narrow canal.<sup>14</sup> So how are we to understand the distorted planimetry? Incompetence? Misunderstanding? On the contrary, the island set in the circular lake, although far from planimetrically correct, reflects an indigenous understanding of the centre of empire. Perfect geometry, albeit distorted planimetry, pervades native images of the city.

Sometime after the city was destroyed, it was represented in a native history recounting the siege of the final phase of Cortés's campaign. This native *lienzo* (canvas) is called the Lienzo of Tlaxcala (c.1550) after its city of origin (Fig. 3). In it, Tenochtitlan is remembered in shorthand—as an island set in a circular lake. In the Codex Boturini (c.1530), another native work made soon after the Conquest, the Culhua-Mexica showed themselves



Fig. 3. Lienzo de Tlaxcala. This scene from a larger *lienzo* (canvas) shows the Spanish and their indigenous allies marching on the Aztec island capital in 1521. At the centre a shorthand version of Tenochtitlan appears as a temple pyramid, pictured in profile, ringed by a lake. The original of the *lienzo* of c.1550 is now lost, and the lithographic version reproduced here was published in 1892 (after Alfredo Chavero (ed.), *Homenaje a Cristóbal Colón: Antigüedades mexicanas publicadas por la Junta Colombina de México en el cuarto centenario del descubrimiento de América* (Mexico City, 1892), vol. 2, pl. 42). (Courtesy of the New York Public Library, Astor, Lenox and Tilden Foundations.)

leaving Aztlan, which they held as the mythic prototype for Tenochtitlan.<sup>15</sup> In this account, Aztlan is depicted in roughly the same fashion as its successor Tenochtitlan—an oblong set in a squared-off circle (Fig. 4). The Codex Aubin repeats roughly the geometric formula—a rounded island set in a square lake—in rendering Aztlan.<sup>16</sup> And when the Culhua-Mexica represented the founding of their city Tenochtitlan, the latter-day Aztlan, they did so in an equally schematized fashion. The Codex Mendoza (c.1542) shows Tenochtitlan as a rectangular city surrounded by a thin frame of lake (Fig. 5).<sup>17</sup>

All of these pictures showing the capital city as a square, circle, or oblong set into a lacustrine rectangle or circle are examples of modelling, where a physical description (a map) follows a symbolic prototype. This visual practice is in turn related to Aztec concepts of cyclical time and patterned history, where events are seen as belonging to endlessly repeating cycles. In the case of the Culhua-Mexica, they held a place called 'Anahuac', the 'Place Surrounded by Waters' to be the original template of their home of the past (Aztlan) and their home of the present (Tenochtitlan).

The depictions of Tenochtitlan recall the emble-

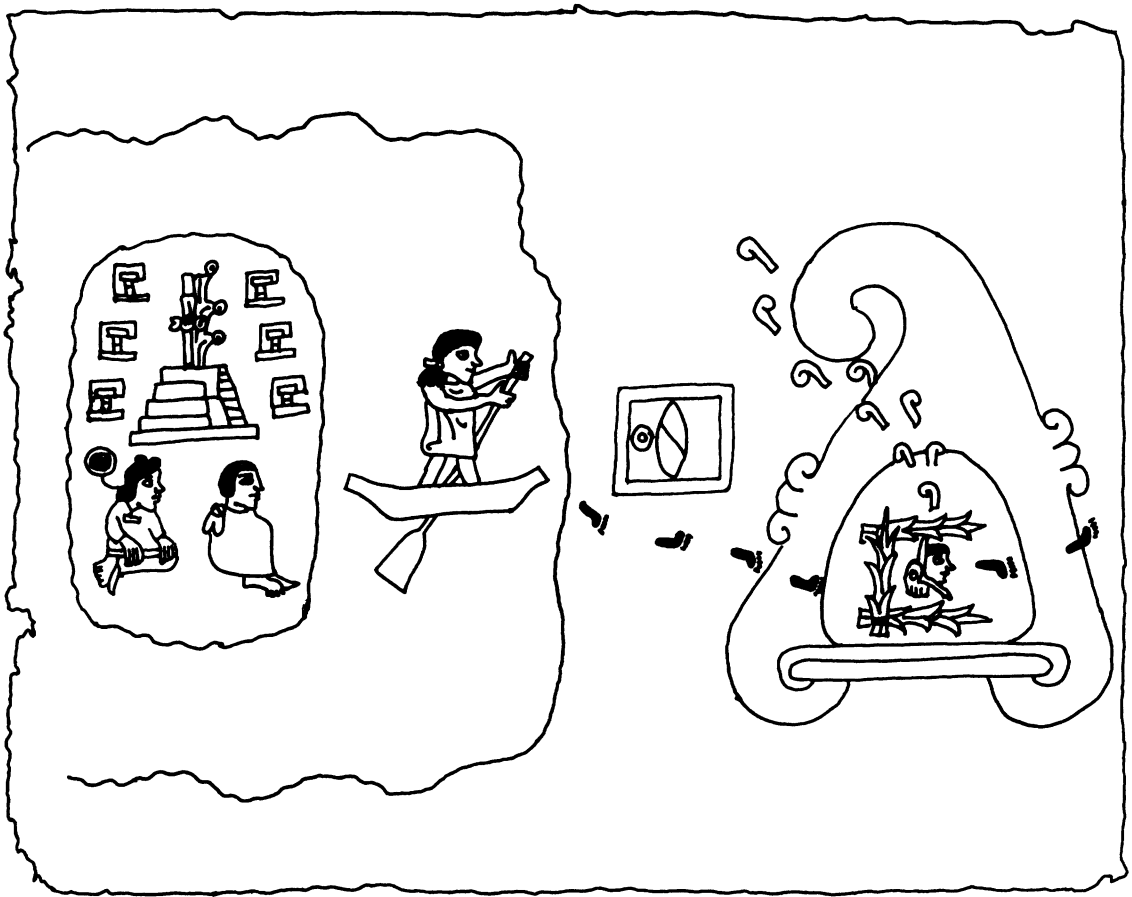


Fig. 4. Drawing after Codex Boturini. This native history of c.1530 tells of the migration of the Mexica from their original homeland, Aztlan, towards their eventual capital, Tenochtitlan. The opening part of the codex, a long strip of paper, shows the Mexica departure from the island city of Aztlan, represented here by a single figure rowing across a lake. The path of footprints shows him to be heading towards a place named Culhuacan—a hill symbol with a curved top—where the deity Huitzilopochtli, wearing a hummingbird head-dress, awaits. The date of departure is written in the square cartouche at centre; the year One Flint Knife is thought to have fallen at the beginning of the twelfth century (Museo Nacional de Antropología, Mexico, MS 35–38, fol. 1; author drawing.)

matized geography of Europe (T-O world maps and maps of Jerusalem being prime examples), and thereby raise the possibility that the Nuremberg map might just as easily have been drawn by a conquistador under the sway of his own tradition. This seems unlikely. We find that Europeans used such emblematic rendering to represent sites freighted with meaning—the globe as conceived of by classical authors, or the *axis mundi* of the Christian world. Tenochtitlan was certainly not such a place to the sweaty conquistadores. It was such a sacred place to the Culhua-Mexica, however, being 'the heart and the head of what is called the New World'. In showing Tenochtitlan as a square ceremonial precinct, set within a circular city, set within a circular lake, the Nuremberg artist was re-inscribing the idealized geometries of a native, not a Spanish, conception of the city.

### The Temple Precinct

The map's temple precinct clearly reveals the imprint of Aztec mythic and cosmic models (Fig. 6). In the charged ground of the centre of the city, the Culhua-Mexica carefully forged their world into a mirror of mythic history and cosmic order.<sup>18</sup> Here, on this sacred arena, they built linked temple-pyramids to honour, on one side, the ancient agricultural and water god Tlaloc, and on the other, their newly fashioned tribal deity Huitzilopochtli. The cleft between the temples of the two gods aligned with the rising sun of the equinox; on these days, the temples appeared to channel the sun itself on its ascent.<sup>19</sup> Only recently excavated, these temples have long been the site of speculation. Cortés neglected to mention the dual nature of the central pyramids, and other European accounts and pictures present it fancifully.<sup>20</sup>

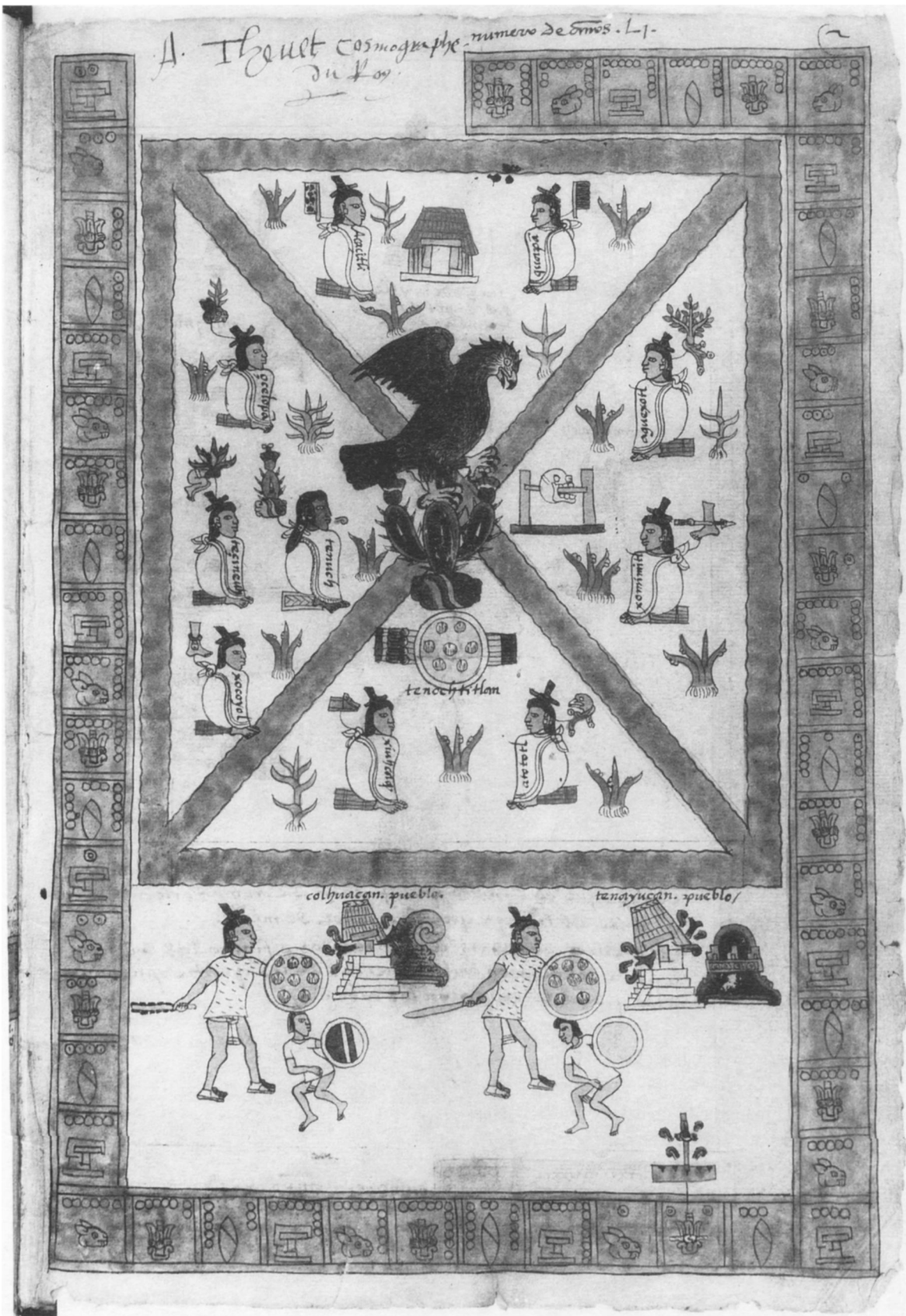


Fig. 5. Codex Mendoza, c.1542. The opening picture of this codex is a schematic map of Tenochtitlan drawn by an indigenous artist, probably at the behest of the Spanish Viceroy. It shows the city in the year of its founding, 1325, and represents the canals and surrounding lake as an X set into a rectangle. The place-name of the city—a cactus growing from a rock—appears at the centre, and the original founders of the city appear in its four quadrants. (Courtesy Bodleian Library, University of Oxford, MS Arch. Selden. A.1, fol. 2'.)

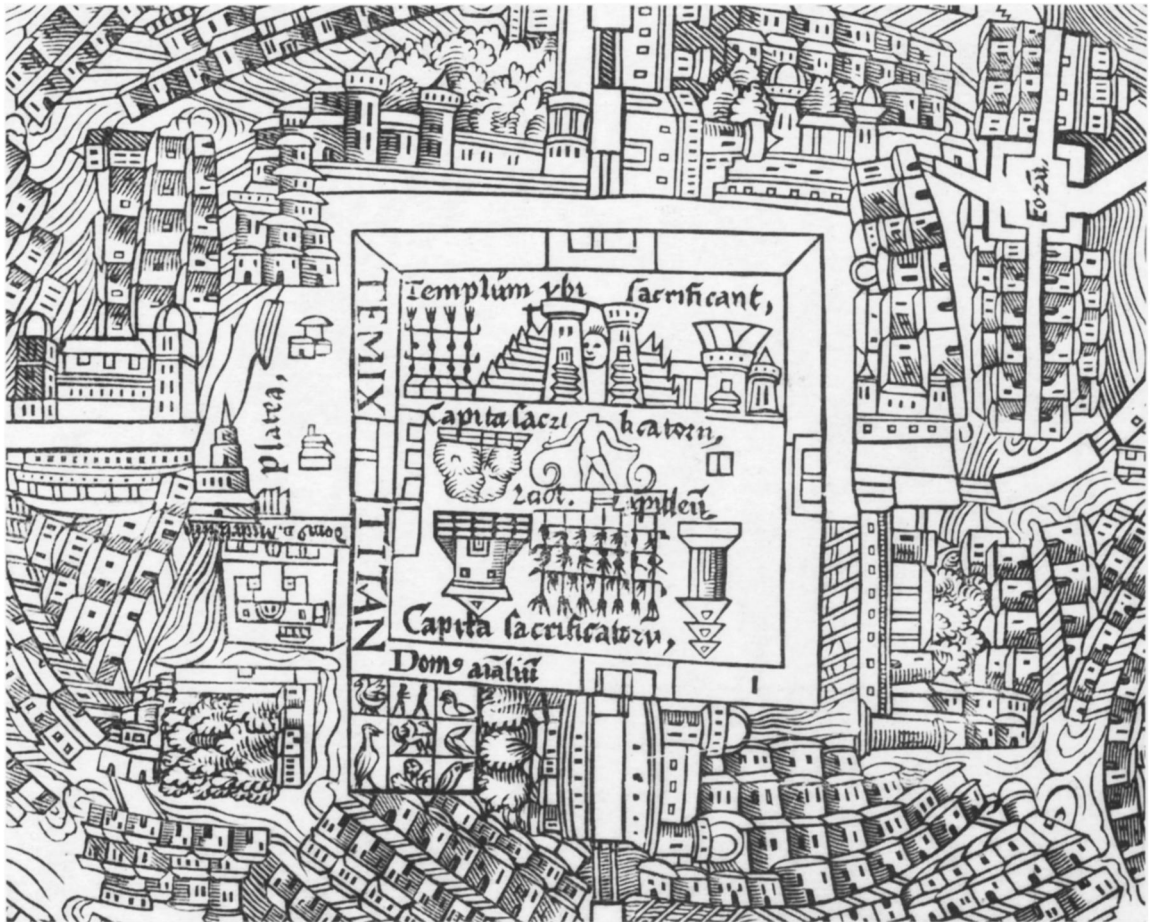


Fig. 6. Nuremberg map of Tenochtitlan, 1524, detail. The map's centre shows the great temple precinct of the city dominated by the twin pyramids, called the *Templo Mayor*, flanked at left and bottom by two skull racks and facing two other shrines. (Courtesy Rare Books and Manuscripts Division, The New York Public Library, Astor, Lenox and Tilden Foundations, \*KB+ 1524.)

But in the Nuremberg map these pyramids appear as the Culhua-Mexica knew them, with a linked base, parallel flights of stairs leading to the doors of the shrines and distinct roof decorations; other native depictions contain the same distinguishing details.<sup>21</sup> The plan on folio 269<sup>r</sup> of the *Primeros Memoriales*, a book indigenous writers drew up c.1561, offers an invaluable comparison to the Nuremberg map: the *Primeros Memoriales* plan is the only known native drawing of the entire precinct of Tenochtitlan (not just the temples).<sup>22</sup> On it the temples appear as they do on the Nuremberg map (Fig. 7). Surprisingly, the German-made map may even better capture the Culhua-Mexica view, for it includes the solar event that animated the twin pyramids. In the cleft between the twin pyramids on the Nuremberg map, the equinoctial sun is glimpsed, a human face with rays of hair.<sup>23</sup>

Oddly enough, both the *Primeros Memoriales* and Nuremberg maps show the precinct as minimal, bereft of most of its buildings. In the 1570s, Bernardino de Sahagún, an erudite friar, queried native intellectuals about the precinct and found it to have been much more capacious than either map shows it to be, containing at least seventy-eight structures. Eyewitness accounts of the Spanish likewise comment on its extent.<sup>24</sup> I see the brevity of the maps as a conscious choice: they show the precinct stripped down to its bare symbolic essentials, a hieroglyph, as it were, comprising the twin temples, the *tzompantli*, or skull rack, and the retaining wall. Had the Nuremberg prototype indeed been drawn by a Spanish conquistador, we would expect it to give a better sense of what the Spanish recorded as overwhelming—the expanse and extent of the precinct; we would not expect a



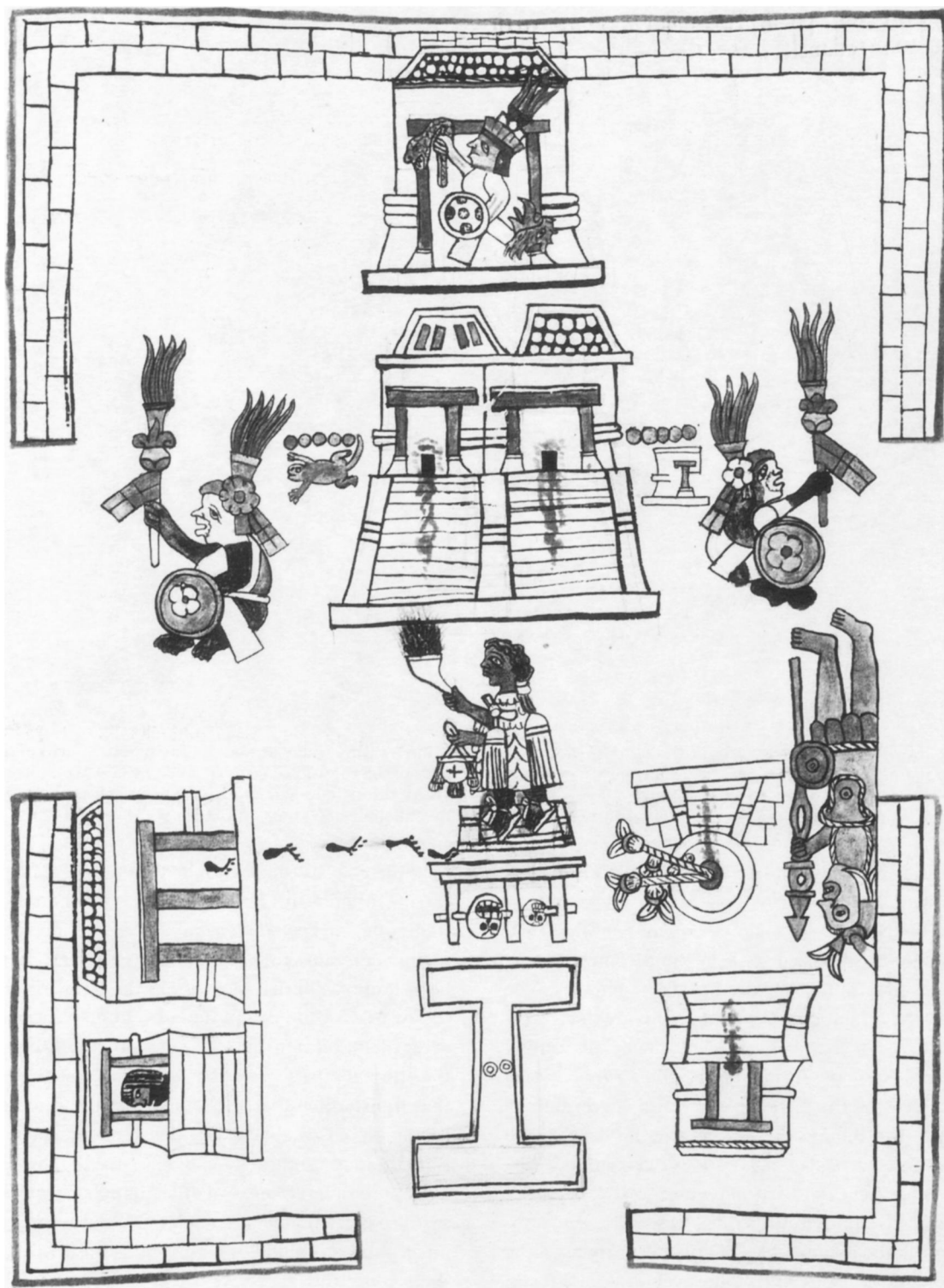


Fig. 7. Primeros Memoriales, fol. 269<sup>r</sup>, c.1561. This native drawing of the temple precinct of Tenochtitlan was created well after this ceremonial centre had been razed, but it seems to draw on the firsthand knowledge of native informants. As in the Nuremberg map, the twin temples dominate and are set above a simple skull rack holding just two skulls. Other ceremonial buildings are included and identified in a facing text. The figures appearing on either side of the temple stairways, while the figure at the centre is a priest. (Photograph copyright © Patrimonio Nacional; Códice Matritense del Palacio Real de Madrid, fol. 269<sup>r</sup>.)

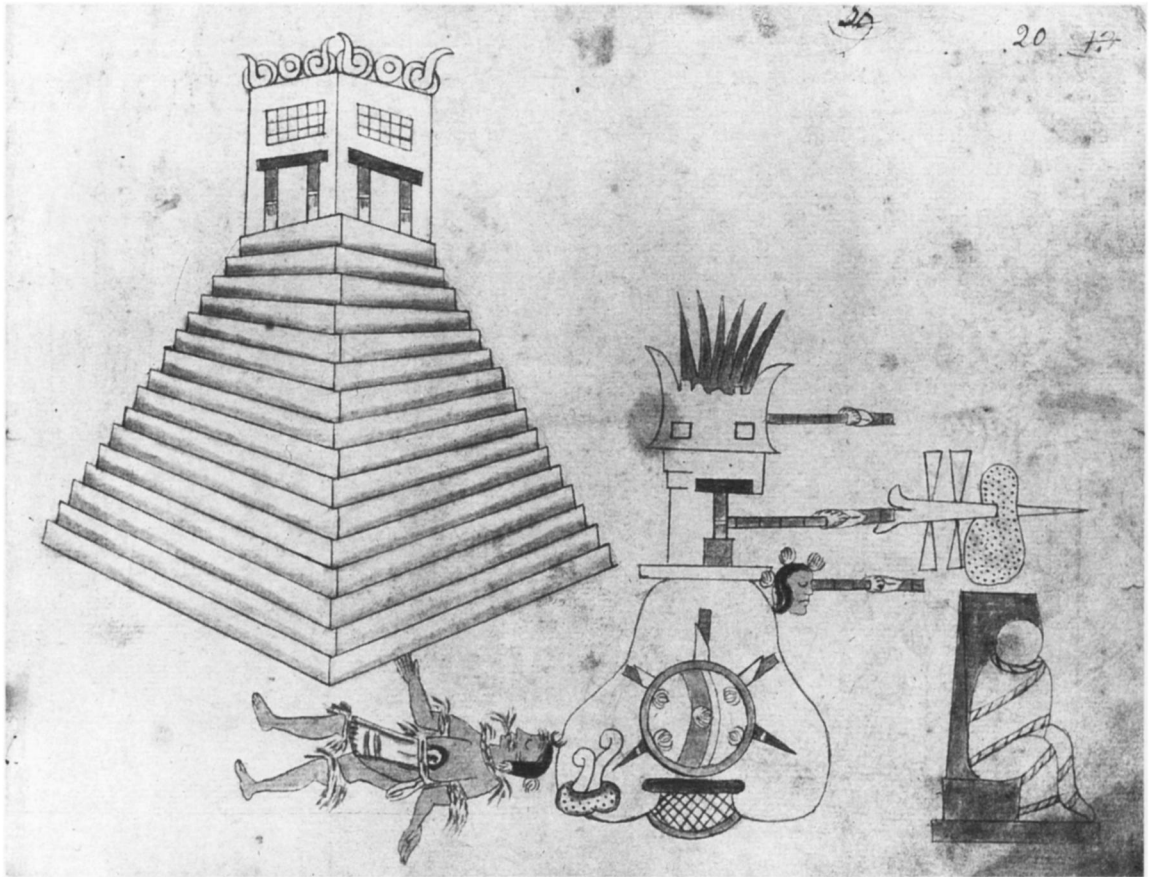


Fig. 8. Codex Azcatitlan, early 17th century. A chronicle of Aztec history, this Codex devotes a section to the reigns of the Culhua-Mexica emperors. This page, one of two providing an account of the short-lived Tizoc (reigned 1481–1486), records his re-dedication of an enlarged Templo Mayor in Tenochtitlan. At the temple-pyramid's base lies a decapitated and dismembered sacrificial victim. (Photo courtesy of Bibliothèque nationale de France, MS Mexicain 59-64, fol. 20<sup>r</sup>.)

recently arrived Spaniard to reduce the precinct to its symbolic kernel.

The Nuremberg map also registers the twin temples as oversized, as if to capture their importance. The Culhua-Mexica held these temples to be Coatepec, 'Serpent Mountain', the mythic birth-place of their tribal god Huitzilopochtli, setting carved serpent (*coatl*) heads the size of small boulders at the base of the stairs. According to myth, Huitzilopochtli's first act after his birth was to slay his matricidal half-sister, Coyolxauhqui, dismember her, and then pitch her down Coatepec's stairs. His murderous sacrifice was well commemorated at the twin temples. A low relief carving of the dismembered Coyolxauhqui, over three metres in diameter, lay at the base of the temple stairs; thousands of human beings were likewise sacrificed at the temple and then rolled down the stairs, just like Coyolxauhqui. Heart extraction brought fame to Aztec sacrificers, but their victims were probably also decapitated and dismembered, since this was

how the god Huitzilopochtli had chosen to dispatch Coyolxauhqui. The head was a particular trophy: numerous *tzompanitli* decorated the precinct and mainly human skulls, not entire skeletons, have been found as buried offerings in the temple.<sup>25</sup>

For us, like the conquistadores, human sacrifice is repellent, but for the Aztecs human sacrifice was the ritual that sustained the cosmos; it was the act that transformed the twin temples into the sacred mountain of Coatepec; it was the ritual that aligned human communities with divine needs. Thus in native representations of the temples, human sacrifice is celebrated, not denied. Numerous native images show us temples with victims of sacrifice at their tops, the stairways slick with blood. The victims were also pictured at bottom: the Codex Azcatitlan shows the Templo Mayor being consecrated during the emperor Tizoc's reign (1481–1486) with a decapitated and dismembered victim at its base (Fig. 8).<sup>26</sup>

The Nuremberg map echoes the Aztec under-

standing of both the necessity and the actual practice of sacrifice by including a decapitated victim who is set at the base of the pyramid; the map's European artist understood it to have been some kind of monumental statue, labelling it 'idol lapideu[m]'. It may even represent the great statue of the headless mother of Huitzilopochtli, Coatlicue, which stood in the precinct, or the bas-relief of the dismembered Coyolxauhqui which was set at the base of the temples.<sup>27</sup> In the map, banners uncurl from this 'idol's' hands, perhaps a reworking of the streams of blood that would have ebbed out of an Aztec sacrifice. We would not expect a Spanish conquistador to understand the function of the statues of sacrifice or to distil the bloodbath he witnessed into the symbolic figure seen in the

Nuremberg map, but a Culhua-Mexica artist certainly would—to him, human sacrifice was as fundamental to the temple precinct as the architecture itself. Without sacrifice, the buildings were piles of earth; with it, they were abodes of the divine.

Just as the city of Tenochtitlan in the Nuremberg map is modelled on Anahuac, its temple precinct is modelled on the Culhua-Mexica cosmos.<sup>28</sup> On the map are two *tzompantli*, one to the left (or south) of the temples, one below them. These gruesome skull racks appear through the lens of the European engraver like plant stands, although native depictions make their use and purpose abundantly clear.<sup>29</sup> The *Primeros Memoriales* map, for instance, shows only one *tzompantli* in the precinct,

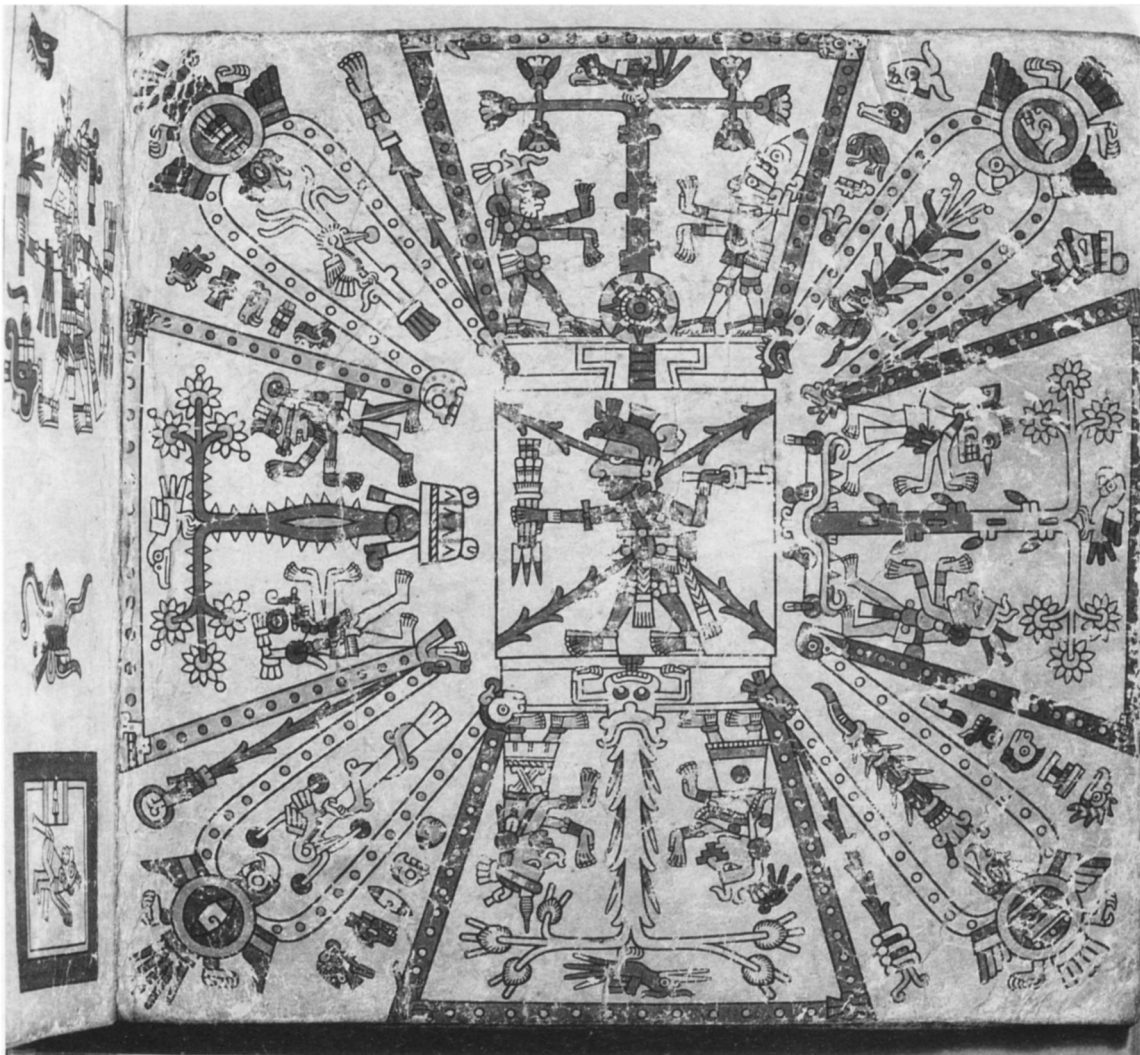


Fig. 9. Codex Fejérváry-Mayer, c.1400–1521. The frontispiece of one of the few surviving pre-Hispanic manuscripts shows a mappamundi constructed largely of symbols and set into a calendar of days that takes the form of a Maltese cross. (Courtesy of the Board of Trustees of the National Museums and Galleries on Merseyside, Liverpool Museum, 12014 Mayer, fol. 1<sup>r</sup>.)

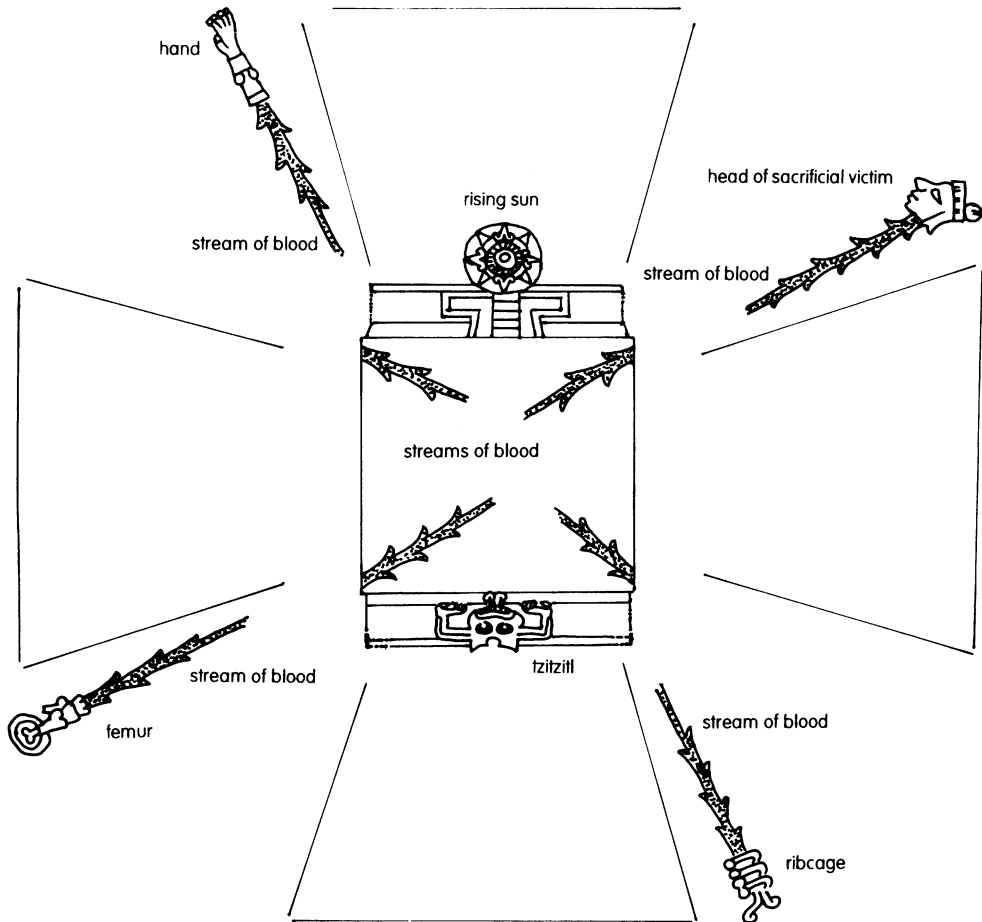


Fig. 10. Drawing after the Codex Fejérváry-Mayer. (Author drawing.)

holding just two skulls strung along a pole, and sets it below the temples (Fig. 7).<sup>30</sup>

This arrangement of temple, statue, and *tzompantli* clearly adheres to a cosmic template. The Culhua-Mexica imagined that below the skies that held the sun lay their earth, which could be represented by the mountain Coatepec. The earth in turn was linked to Tlaltecuhltli, the ravenous earth monster, often shown by the Culhua-Mexica as an open maw, into which the blood of sacrifice would pour.<sup>31</sup> Below Tlaltecuhltli was Mictlantecuhltli, the land of the dead. In the Nuremberg map, we see the arrangement of sun/temple/sacrifice victim/skull rack echoing the (simplified) cosmic template of sun/earth/Tlaltecuhltli/Mictlantecuhltli. Indeed, the Nuremberg map is closer than one might imagine to the famous cosmic map/calendar found in the frontispiece of the Codex Fejérváry-Mayer, one of the dozen or so known pre-Hispanic manuscripts (Figs. 9 and 10).<sup>32</sup> Although this codex was not made by the Culhua-Mexica, it shows the

general cosmic arrangement to which many ancient Mexican cultures adhered. Above the centre quadrant of the map, the sun rises in the east above a temple. At centre is the old god of fire, with the blood of a dismembered sacrificial victim flowing toward him. Below the centre quadrant, to the west, a hungry *tzitzitl*, or death goddess, waits to devour the setting sun. This widely held pattern of sun/temple/sacrifice/death shaped Tenochtitlan and its representations, and we see this pattern coalescing even in the work of an unwitting woodcarver in Nuremberg.<sup>33</sup>

### Lakeside Cities

The map shows us numerous cities around the lake of Tenochtitlan but names only three of them: Atacuba [or Tlacopan, later Tacuba], Tesqua [Texcoco], and Iztapalapa [Ixtapalapa]. Here we might discern the Culhua-Mexica sociopolitical view, perhaps modulated by the Spanish. Tlacopan and Texcoco were the other two members of the

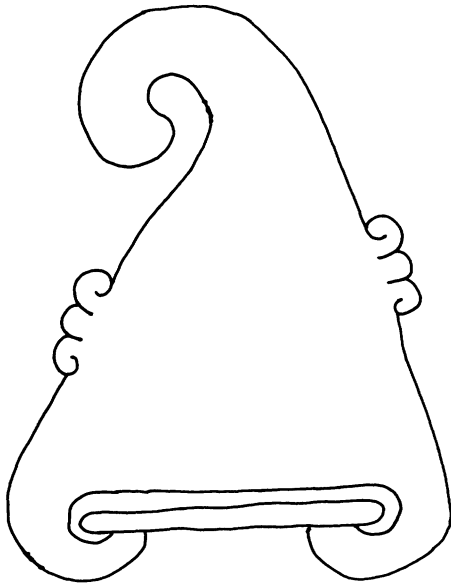


Fig. 11. Place-name of Culhuacan, after Codex Boturini, fol. 1. The basis of this symbol is the bell-shaped hill symbol. To write the place-name 'Culhuacan', central Mexicans added a curved top to convey 'col', or something twisted. (Author drawing.)

triumvirate headed by the Culhua-Mexica of Tenochtitlan; although the Culhua-Mexica were the clear leaders, all three shared in the riches of the tributary empire we have come to call the Aztec. Thus the Culhua-Mexica's two partners in the imperial enterprise rightly figure on the map. Ixtapalapa, on the other hand, was a secondary city in the southern lakes, where it moved in the sphere of the larger and more important Culhuacan. Cortés mentions Ixtapalapa as the last native city he visited before entering Tenochtitlan; he may have annotated the map source to this effect.

### The Southern Lake

The single disruption to the circular shoreline of the lake comes to the south or left of the city, where the lake protrudes into a bell-shape. Towards this blip, an arrow-straight causeway shoots out from Tenochtitlan. As with the shape of the lake itself, this protrusion of the southern lake can not be said to represent planimetry exactly, rather, it seems to arise from a western artist mistaking a Culhua-Mexica convention (Fig. 2).

Although not named on the Nuremberg map, the principle southern city was Culhuacan. Its

importance to the Culhua-Mexica of Tenochtitlan was great; Culhuacan was seen as one of the older cities of the valley, its occupants the inheritors of the great previous civilization headed by the Toltecs. After the ragtag Mexica settled in the valley, they looked to the royal line of Culhuacan to provide their ruler and subsequently took on 'Culhua' as part of their name.<sup>34</sup> The Mexica connection with the Culhua was as direct, and necessary, as the arrow-straight causeway on the map; the Culhua-Mexica customarily showed their own city Tenochtitlan adjacent to its predecessor Culhuacan. In the Codex Mendoza (Fig. 5), the newly founded city Tenochtitlan is set triumphant above Culhuacan, which it lists as its first conquest; in the Codex Boturini, the prototype of Tenochtitlan, Aztlan, is also flanked by another Culhuacan (Fig. 4).

Given the importance of Culhuacan to the Culhua-Mexica, it is likely they would have included it on an early sixteenth century map of Tenochtitlan and environs; yet Europeans, among them Cortés and the Nuremberg engraver, could not have known the importance that Culhuacan had to the Mexica. Thus I am convinced that the protrusion on the lake shore in the Nuremberg map was a copyist's misreading of the indigenous place-name that would have been used to designate

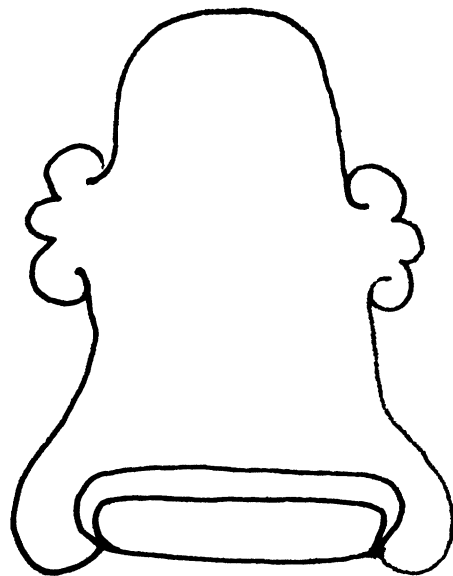


Fig. 12. *Tepetl*, or hill, symbol, found in native manuscripts of Central Mexico. (Author drawing.)

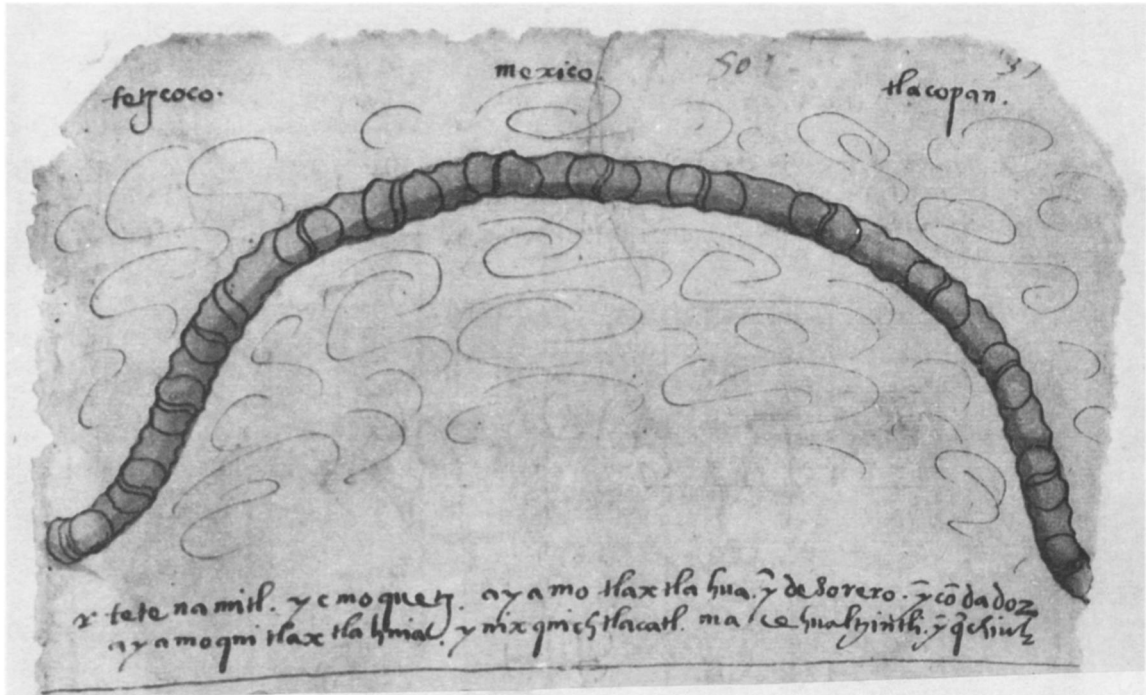


Fig. 13. Codex Osuna, 1565. A page from a collection of documents created by indigenes in the Valley of Mexico as part of an inquiry into official misdeeds. This part tells of the abuses native communities suffered in rebuilding a dike across one of the valley lakes. It shows the dike in native fashion, as a chain of stone symbols stretching from one shore to the next (Biblioteca Nacional, Madrid, MS Vit. 26.2, Códice Osuna fol. 39/501). (Photo courtesy Biblioteca Nacional.)

Culhuacan on the native prototype. The symbol for Culhuacan, a name meaning 'Place of our Grandfathers', would have been, on a native map, recorded in the logographic writing of central Mexico (Fig. 11). The symbol, drawn here from the Codex Boturini, begins with the generic hill or place sign shown in Figure 12, which was to convey the '-can' (place of) suffix, and to this adds a curved or twisted top, thus representing 'colli' (grandfather) with its near homonym, 'col' (something twisted).<sup>35</sup> The successive copying that resulted in the Nuremberg map led to this symbol's integration into the lake shore. As a result, the shoreline takes on the rough bell shape of the hill symbol; with the topmost part inclining to the right, it retains a dim memory of the original curved top.

### The Dike

The dike on the Nuremberg map which runs between Tenochtitlan and Texcoco may be indebted to a native source for both its position and odd design. From what we know, the dike of Nezahualcoyotl, named after the Texcocan king who built it, was not the improbable wicker-fence construction we see in this map but a more conventional earthen bulwark. In the native-drawn Codex Osuna, we see a depiction of a later

replacement dike built in the valley after the flood crisis of the mid-1550s.<sup>36</sup> The 1555 dike was made by piling up stones and mud, and the Codex Osuna represents it as an overlapping line of stones set in an arc (Fig. 13). The picture in the Codex Osuna bears the imprint of the conventional indigenous manner of representing stones: rounded volutes and a double S marking the interior (Fig. 14). If we imagine the Nuremberg prototype represented the dike similarly as a line of stone symbols, it would bear an uncanny formal resemblance to the round poles and the curving weaving of the Nuremberg's 'wicker' dike, whose odd design may be ultimately attributable to a European misreading of a native source.

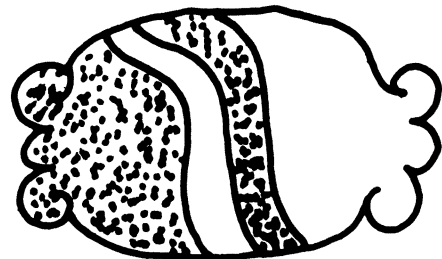


Fig. 14. Stones, as they appear in native manuscripts of Central Mexico. (Author drawing.)

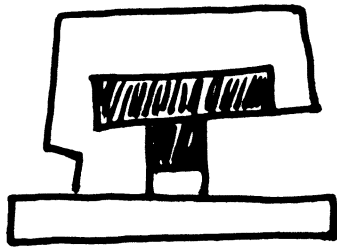


Fig. 15. A house as it appears in native manuscripts. (Author drawing.)

### Houses

Rippling out from the centre temples, the houses of Tenochtitlan appear in careful rows on canals, making the city look like Venice. The Aztec city clearly evoked this maritime nation in the minds of Europeans,<sup>37</sup> and the Nuremberg engraver may have had maps of Venice on his mind.<sup>38</sup> But we can also encounter a precedent for the house rows in sixteenth-century native maps. The conventional house symbol (Fig. 15) was ubiquitous in maps, and in a map from the Valley of Mexico called the *Plano en Papel de Maguey* (thought to be a northern suburb of Tenochtitlan), the city is represented as rows of houses arranged neatly along canals just like in the Nuremberg map.

In the arrangement of the centre and in the appearance of details corresponding to the conventions of native maps, we see the Nuremberg map indebted to a native prototype. The native understanding posited Tenochtitlan as an *axis mundi*, the centre of a perfectly centred world; it was linked to, but separate from, an older centre of civilization, Culhuacan. While its partners in the imperial enterprise, Tlacopan and Texcoco, were included in this picture of the imperial capital, they were peripheral; their status was clearly secondary in Culhua-Mexica eyes. Most important, the Culhua-Mexica understood their city to mirror the cosmic order, with its temples evoking the sites of myths and its sacrifices echoing those of the gods. The starting point of the Nuremberg map, therefore, is solidly on Aztec ground.

### *The Map in Europe*

#### Historical Evidence

Europeans writing at the time of the conquest have left evidence that supports the 'indigenous prototype' theory. The city map that was published

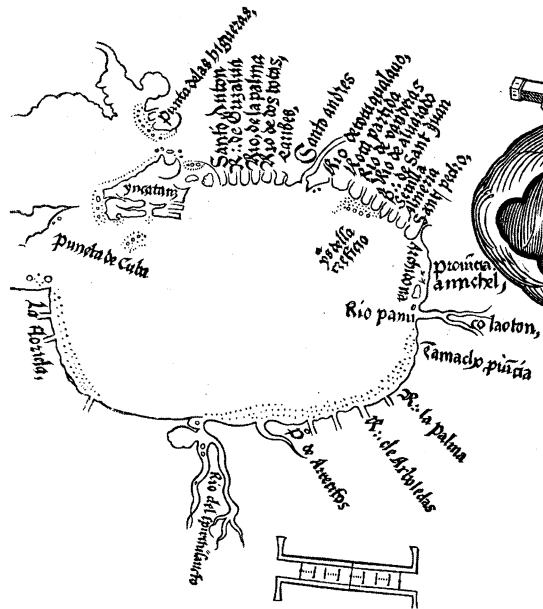


Fig. 16. Nuremberg map, detail: A schematic map of the Gulf Coast appears to the left of the city map. It is oriented to the south and shows the coast from Florida to the Yucatan. (Courtesy Rare Books and Manuscripts Division, The New York Public Library, Astor, Lenox and Tilden Foundations, \*KB+ 1524.)

in Nuremberg is flanked by a smaller map to its left, showing a rough diagram of Mexico's Gulf Coast (Fig. 16). The wily conquistador Cortés was the first to mention the two maps that were the likely sources for the double map printed in Germany. Cortés informed the king, Charles V, that he had sent a detailed city map of Tenochtitlan to accompany his Second Letter.<sup>39</sup> He also included in the text of that Second Letter the description of a second, different map:

a cloth with all the coast painted on it, and there appeared a river which ran to the sea and according to the representation was wider than all the others. This river seemed to pass through the mountains which we call Sanmin . . .<sup>40</sup>

The maps Cortés describes as coming from the New World—the detailed city map and coastal map—are unmistakably like those published in Nuremberg.<sup>41</sup> Cortés only specifies that one artist was indigenous, saying that the coastal map had been commissioned by Motecuzoma, the Culhua-Mexica emperor, from his artists at Cortés's request.<sup>42</sup> Cortés says nothing about the authorship of the city map. The garrulous correspondent Peter Martyr D'Anghera fills in the blank. Not long after Cortés sent his maps to Europe, D'Anghera saw what must have been the same pair of maps—a coastal map on cloth and a city map of Tenochti-

tlán—and makes it clear they were both *native* maps.<sup>43</sup>

### Transmission

But how could these Culhua-Mexica maps, one of the coast, the other of the city, which Cortés says he sent from Mexico in October 1520 and which Peter Martyr saw, probably in Seville, sometime after early November 1522, have ended up in Germany by 1524?<sup>44</sup> We can speculate on their travels: Cortés's missive would have arrived in Spain, probably Seville, around the beginning of 1521 and with it two maps. The original letter and maps may have remained in Seville, for it was here that Peter Martyr saw them. Since their royal recipient, Charles V, was in Germany at the time they would have arrived, it is probable that *copies* of the letter and maps were dispatched to him there.<sup>45</sup> After Charles left Germany to return to Spain in mid-1521, his copies of the maps may have remained in Germany among state papers entrusted to his brother Ferdinand, who was the overseer of the German provinces. Ferdinand spent much of 1522 to 1524 in Nuremberg attending its Diet,<sup>46</sup> and it was here, in February of 1524, that an impression of the maps, showing them side by side, was cut into a woodblock and printed.

Above I suggested that the source of the Nuremberg map of Tenochtitlan was as much a map of ideology as it was of spatial relations—positing an Aztec idea of Tenochtitlan and its relationship to the larger Aztec cosmic order. Here I aim to show that the Nuremberg map, in turn, was shaped by an ideological programme, this one generated by Cortés. While many have considered what the map showed, few have questioned the role of the map in its European context, and this neglected aspect of the map is what will concern me. Further, I shall argue that the map was not just a passive object; rather, it was an agent in both reflecting and shaping European understandings of the Aztecs and the New World.

### Civility or Barbarity?

Cortés was preoccupied, as he reveals in his letters, with showing Tenochtitlan's place in the Spanish imperial domain; that is, Cortés was concerned not merely with establishing the physical location of the city but also with creating a political space for the city within the larger realm of Hapsburg Spain, as the larger context of his Second Letter makes clear. We see Cortés's preoccupation

reflected in the writing on the Nuremberg map. A Culhua-Mexica map would carry no alphabetic writing, and the writing we see on the woodcut map may have been a transcription of glosses added by the conquistador to explain the drawings and hieroglyphs of the original native map. Many of the inscriptions on the printed map—the identification of sources of water, temples and palaces—suggest a first-hand knowledge of the city which Cortés had (Appendix 2). Most importantly, the details singled out by the inscriptions on the map dovetail with the larger arguments made in Cortés's letter.

What makes the Nuremberg map so compelling, to my mind, is that the map is stretched like a taut rope between Cortés's ideological programme and that of its Culhua-Mexica prototype. The picture drawn from a native prototype often conveys one meaning, while the texts add another layer on top of the first. The resulting dialogue, which we can think of as an exchange between the native artist and Cortés, helped shape Europe's view of the Aztecs. A particularly important matter to Europeans was the question of the foreign capital's civility. As the map presents it, almost certainly following the prototype, the Valley of Mexico was an orderly place, its cities carefully planned and built. Tenochtitlan's order was in part due to the order of the cosmic template upon which it was modelled, revealing how different the Culhua-Mexica understanding of civilization was from the European. None the less, the way the Aztecs pictured their community could easily promote their civility in the eyes and understanding of Europe, a 'parallelism in the semiotic codes of these two very different cultures' about which Ceceila Klein has written.<sup>47</sup>

For the careful urban planning seen in the map of Tenochtitlan was widely held in Europe as an index of social organization: the more planned a city, the more advanced a civilization. Spaniards went as far as to set urban order as a precondition for *policía* (polity) and later legislated that New World cities be laid out in much the manner that Tenochtitlan appears in this map—with an ample central plaza, flanked by religious and royal buildings, with smaller auxiliary plazas, four straight main streets and carefully laid out house plots.<sup>48</sup> In addition, this map-city made manifest the technical abilities of its inhabitants as well as the centralized control they enjoyed, for it seemed to show that engineers had planned waterworks and conscripted peasants had built them.



The texts on the map modulate the pictorial view, and in them we seem to hear the voice of Cortés. For they signal the locus of this order as Moteuczoma, and in this they closely follow Cortés's own fascination with the doomed king in his accompanying letter. The map's texts, following the letter, identify Moteuczoma's gardens, his zoos, his pleasure houses of women, his palace, and in doing so set him at the top of a familiar European hierarchy (of plants/animals/women/men).<sup>49</sup> Thus both the image and the words of the map promote the Culhua-Mexica as living in an ordered, centralized imperial state, as did many Europeans.

While the texts help to establish Aztec civility by European norms, they also undercut it. For they reveal the Aztec practice of human sacrifice, the mortal sin that corrupted all other Aztec achievements. The map's pictures are poor conduits for European disapprobation, although the stepped pyramids, dominated by spiked profiles, differed sharply from the chisel-edged, enclosing churches of Europe (Fig. 6). Instead, the temples' purpose is revealed by the text: 'Templum ubi sacrificant'. Should any viewer mistake the bristling racks, the text identifies them—twice, close together—by their lopped-off heads: 'Capita Sacrificatoru[m]'. Thus the spectacle of civic and social order set up by the picture implodes at the centre, where the words make present the human sacrifice that corrodes this utopia. Notably, the name of the city (called Temixtitlan here), is set not at the top of the block as might be expected but to flank the scene of sacrifice. Given the code established by the words, the map was ultimately understood as proof in European eyes of essential barbarity, not civilization. Once human sacrifice is introduced, the ordered houses of the cityscape that encircle the temples come to appear like hordes of orants kneeling before a false god. They turn their backs on the banner at the top left of the map, upon which the double-headed eagle of the Hapsburgs unfurls wings and claws.

The Nuremberg map, then, oscillates between presenting civility—pictured in the civic order—and barbarity—described by words of sacrifice—a split echoed in the accompanying letter where Cortés himself wrote:

I will say only that these people live almost like those in Spain, and in as much harmony and order as there, and considering that they are barbarous and so far from the knowledge of God and cut off from all civilized nations, it is truly remarkable to see what they have achieved in all things.<sup>50</sup>

The terms of understanding established in the map—created by inscribing European conceptions of barbarity upon an Aztec depiction of urban (and cosmic) order—reassert themselves again and again. Bartolomé de las Casas and Francisco de Vitoria, both influential theorists and Dominicans, depended upon the dichotomy established in the map when they argued for the essential civility of indigenes and simultaneously cited Aztec paganism, made manifest by sacrifice, as the essential reason why Spain could establish rights over the New World. To these friars, as well as (publicly at least) to Cortés, Hapsburg rule was necessary to bring true civility, which was founded upon Christianity; to their eyes the flag set on the horizon was the banner of native salvation.<sup>51</sup>

### The Map as Sign

Up until now, I have been considering the content of the Nuremberg map in analyzing its relationship to its native prototype and its multivalent message about Aztec civility. But the map can also be considered as carrying a meaning beyond its specific rendering of Tenochtitlan. We see this clearly when we turn to the map's specific function within the context of the Second Letter, with which it was first published (the printed map would come to play the same role for the wider readership of the printed work as the native prototypes did for the king). For in this letter, the cunning Cortés had a subtext, and the map was crucial in creating it. Superficially, the Second Letter, penned in October 1520, gives a straightforward account to the king of what had occurred since Cortés reached the mainland, where he and his troops, after an initially courteous reception at Moteuczoma's court, had just been repulsed by Culhua-Mexica armies and were now regrouping among indigenous allies in Tlaxcala.

But Cortés had other agendas in the letter, and for our purposes they were three.<sup>52</sup> First, so that King Charles would appreciate what he, Cortés, had discovered, he needed to convince the king of the marvels of a city (and empire) that Charles had never seen. To this end, the letter provided a lengthy, and at times awestruck, description of Tenochtitlan and Mexico, and the maps corroborated its extent and some of its marvels. Second, given the dazzling booty of city and gold that he held out to the crown, Cortés needed to assure the king that the rout of the Spanish troops and their allies was a momentary setback and not, as it must

have seemed to his foot soldiers, a military catastrophe.<sup>53</sup> In the map, therefore, the Hapsburg banner at top appears triumphant, as if only moments away from being set at the centre of Tenochtitlan.<sup>54</sup>

While the map played a supporting role in the first two arguments, it was central to Cortés's third, and perhaps most important, cloaked argument to the king, wherein Cortés tried to convince Charles of the validity of the conquest of Mexico. Before Cortés had penetrated the Mexican interior, Spanish conquistadores had merely skirmished with Amerindians and had assumed them to be tribal savages. But once Cortés had entered Tenochtitlan, he had encountered an organized state that might be seen as a civilized nation, with all the prerogatives civility accords. When Cortés audaciously seized the Aztec emperor and held him captive (for plotting an insurrection), he might have been seen as violating, through the particular case of Moteuczoma, the rights of a 'natural lord', one holding a 'proper, natural and contractual' relationship with his community.<sup>55</sup> The conquistadores' actions were still open to question many years later: 'Given that these people had kings and lords', Las Casas would ask, 'with what right and in what good conscience could they be despoiled of their states and domains?'<sup>56</sup> At the time, Cortés also realized that a lawless usurpation might well rankle with Charles, whose own royal power in Spain was concurrently under threat by *Comuneros*.

Cortés thus shrewdly wove his narrative to show that Moteuczoma was indeed a 'natural lord' who rightly represented his subjects. However, as Cortés presented it, Moteuczoma had not been unjustly usurped but had willingly abdicated both his own royal rights and those of the nation he represented in favour of the Spanish king. If we examine closely the part of the Second Letter where Moteuczoma's 'abdication' takes place, we find that the map-gift is a key moment. In what is probably Cortés's carefully scripted symbolic drama, performed only in the letter for the benefit of the king, Cortés assigns five gestures to Moteuczoma. As Cortés tells it, Moteuczoma acceded to Cortés his gold mines and then ordered that a farm be constructed for the Spanish king. On a symbolic level, Cortés is showing him giving away his source of national wealth (gold) and means for sustenance (food). And then, having signed away wealth and sustenance, Moteuczoma gave Cortés the map of the Gulf Coast. This gift proved to have a symbolic

value even greater than a strategic one, becoming proof of Moteuczoma's absolute submission.

Why a map? In the Spain in which Charles V lived, the Spain that was the birthplace of Cortés, maps were highly charged documents; their possession brought power over territory. To give an example: the Casa de Contratación [House of Trade] in Seville maintained tight control over (and secrecy about) mariners' maps. They were entrusted to a ship's pilot at the start of a voyage and immediately collected upon his return. Map theft was a weighty crime, and map pirating a constant danger. Mariner's maps were often perforated, so that they could be strung with weights, ready to be committed to the sea bottom if the ship were overtaken by pirates or enemies. Knowledge about sea routes, ports, shoals, coastlines that these maps contained was necessary to the continuance of imperial power, and the royal bureaucracy maintained a tight hold upon them. The same secrecy attended land maps, particularly large-scale survey maps. While royal bureaucracies throughout Europe frequently sponsored surveys, the resultant maps were held close. The Escorial atlas, a survey of Spain sponsored by Charles's son, Philip II, was guarded in his library and to this day has never been fully published.

Just as a king would never willingly sign away wealth and sustenance, he would never consent to give up his maps or the trade routes that they represented. But Moteuczoma acted thus and thereby signalled his acquiescence. Moteuczoma then continued along his *via dolorosa* of abdication, as the letter tells it, to visit the final stations: he asked his underlords to pledge fealty to Charles V, and finally, he signed over to the Spanish crown his received tribute. With these actions, Moteuczoma had reached the end: his fall was complete, and the death-blow that smote him after the drama had come to a close merely confirmed, rather than determined, his fate.

The maps that Charles received with the letter were proof of the truth of its narrative—and most importantly, proof of the willingness with which Moteuczoma ceded power. When printed together to illustrate the Second Letter, they offered a similar message to a wider European audience: a nation, both civil and barbarous, was now the lawful realm of a Hapsburg king.

What lessons are we to draw from this map? We might see it as an example of Europe's colonization

of the New World. As the Aztec world was steamrolled by the Spanish imperial crusade, so the initial Aztec map was first effaced by copying and engraving. Then its printed version was put to the service of a rhetorical conquest, in Cortés's Second Letter, as proof of a people's capitulation to Charles's imperial right. But I also see it as showing us the resiliency of Aztec self-conception, notwithstanding the effacement and reinscription that scores the map's face. For despite the gulf between the two cultures, the map, even in its bowdlerized form, presented to Europe a record of Aztec civility (viewed in the developed and ordered urban form) that demanded recognition. In this light the map, as well as other Aztec artifacts, was not passive, subject to whatever interpretations its European audience might wish to supply. Aztec self-understanding, as manifest in the Nuremberg map, helped frame the European debate about the Aztecs by giving evidence of Aztec urbanity and, in consequence, proving its civility. By the end of the sixteenth century, Europeans may have turned away from recognizing any aspect of civility in the Aztecs, but today in the map, which allows glimpses of a profound vision that related the city to cosmos, the complexity and the subtlety of the Aztec world view and its initial impact on Europe refuse to be overlooked.

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#### NOTES AND REFERENCES

1. Cortés's First Letter was never published and is now lost. His Second Letter describes the initial entry into Mexico, and his Third, its conquest. The Second Letter was first published in Spanish in Seville in November 1522, and this edition contained no map. The Third Letter was also first published in Spanish, appearing four months later. In 1524 the Spanish edition of the Second Letter and Third Letter were translated into Latin and published in Nuremberg; this is the first edition to contain a map. Two manuscript compilations of Cortés's letters also exist (Biblioteca Nacional, Madrid, MS 3020, and Österreichische Nationalbibliothek, Vienna, MS 1600); neither contains maps. These are described by Anthony Pagden, 'Translator's Introduction', in Hernán Cortés, *Letters from Mexico*, ed. and trans. Anthony Pagden (New Haven and London, Yale University Press, 1986), lii–lx. A facsimile of the Vienna manuscript has been published: Hernán Cortés, *Cartas de Relación de la Conquista de la Nueva España, Codex Vindobonensis S.N. 1600* (Codices selecti 2; Graz, Akademische Druck-u. Verlagsanstalt, 1960). For descriptions of the various editions of the letters see Henry HARRISSE, *Bibliotheca Americana Vetustissima* (New York, 1886).

2. Bernal Díaz del Castillo, *The Discovery and Conquest of*

*Mexico*, trans. A. P. Maudslay (New York: Farrar, Straus and Cudahy, 1956), 190.

3. Ola Apenes, following Federico Gómez de Orozco, asserted that the map, on the basis of its style, could be attributed to Martin Plinius, an engraver working in Nuremberg between 1510 and 1536 (Ola Apenes, *Mapas antiguos del Valle de México* (Mexico: UNAM, Instituto de Historia, 1947), 20). But the Nuremberg map could not have been teased out of the Second Letter alone. It contains too many unique details. For instance, while Cortés describes the giant market of Tlatelolco, only the map correctly locates it (as the 'Foru[m]') to the north (and slightly west) of the city centre. Cortés mentions the aqueduct leading into the city but does not give its source; in the map, we see it coming from the springs at Chapultepec to the west. While Cortés mentions the lake system, he does not describe the dike that controlled flooding; here it is shown running along the east side of the lake, looking as if it were made out of wicker. Cortés's accounts of the causeways in the letter are likewise summary—he mentions 'four artificial causeways'; in the map, the system is shown to be more complicated, with causeways linking the city with the shore at six different points (Cortés, *Letters from Mexico* (see note 1), 102). In other places the map is more summary than Cortés himself. Cortés describes the causeway from Ixtapalapa, noting in particular a second canal that joins with the Ixtapalapa canal half a league from Tenochtitlan at the site of a fortification (ibid, 82); these canals and their fortifications are shown schematically, albeit correctly, on the map.

4. The ethnic group that populated Tenochtitlan was the Culhua-Mexica. Led by Moteuczoma, they controlled a loosely organized empire, which I refer to herein as the 'Aztec' empire. The polities within the empire that the Culhua-Mexica controlled had other ethnic names and are called by such herein.

5. Domingo Chimalpahin, *Historia Mexicana: A Short History of Ancient Mexico*, trans. and ed. John B. Glass (Contributions to the Ethnohistory of Mexico, no. 2; Lincoln Center, Massachusetts, Conemex Associates, 1978), 9, 11.

6. The best known map of Tenochtitlan, the Codex Mendoza folio 2, is discussed below. Another, the Plano en Papel de Maguey, shows only a fragment of the larger metropolis. In addition to these two, a page of the Primeros Memoriales, also discussed below, contains a plan of the city's ceremonial centre. Other indigenous manuscripts portray Tenochtitlan in a highly schematic form.

7. Benjamin Keen, *The Aztec Image in Western Thought* (New Brunswick, Rutgers, 1971), 67. See also Jean Michel Massing, 'Map of Tenochtitlan and the Gulf of Mexico,' in *Circa 1492: Art in the Age of Exploration*, ed. Jay Levenson (Washington and New Haven, National Gallery of Art and Yale University Press, 1991), 572–73, who writes that 'the architecture is largely fanciful and accommodated to familiar European conventions'; Manuel Toussaint, Federico Gómez de Orozco and Justino Fernández, *Planos de la Ciudad de México* (XVI Congreso Internacional de Planificación y de la Habitación; Mexico, Instituto de Investigaciones Estéticas de la Universidad Nacional Autónoma, 1938), 98.

8. Donald Robertson, *Mexican Manuscript Painting of the Early Colonial Period: The Metropolitan Schools* (New Haven, Yale University Press, 1959).

9. See for instance, Jeanette Peterson, *The Paradise*

*Garden Murals of Malinalco* (Austin, University of Texas Press, 1993).

10. On the continuities of native cultural patterns after the conquest see James Lockhart, *The Nahuas after the Conquest* (Stanford, California, Stanford University Press, 1992).

11. See Barbara Mundy, *The Mapping of New Spain* (Chicago, University of Chicago Press, 1996), xiii–xiv, for a discussion of the European style of the map.

12. On the topic of cosmic modelling see Richard Townsend, *State and Cosmos in the Art of Tenochtitlan* (Washington, D.C., Dumbarton Oaks, 1979); Johanna Broda, David Carrasco, Eduardo Matos Moctezuma, *The Great Temple of Tenochtitlan: Center and Periphery in the Aztec World* (Berkeley, University of California Press, 1987); Eduardo Matos Moctezuma, 'The Templo Mayor of Tenochtitlan: economics and ideology', in *Ritual Human Sacrifice in Mesoamerica*, ed. E. H. Boone (Washington, D.C., Dumbarton Oaks, 1984), 133–64.

13. Eduardo Matos Moctezuma and Victor Rangel, *El Templo Mayor de Tenochtitlán: Planos, cortes y perspectivas* (Mexico, Instituto Nacional de Antropología e Historia, 1982); Eduardo Matos Moctezuma, ed., *Trabajos arqueológicos en el centro de la Ciudad de México* (Mexico, Instituto Nacional de Antropología e Historia, 1979).

14. Cortés, *Letters from Mexico* (see note 1), 102.

15. Codex Boturini, in *Antigüedades de México*, ed. José Corona Núñez (Mexico, Secretaría de Hacienda y Crédito Público, 1964), 2: 7–29.

16. *Historia de la nación mexicana: reproducción a todo color del códice de 1576* (Códice Aubin), ed. and trans. Charles Dibble (Madrid, Ediciones J. Porrúa Turanzas, 1963), fol. 3r.

17. *The Codex Mendoza*, ed. Frances F. Berdan and Patricia Rieff Anawalt (Berkeley, Los Angeles and Oxford, University of California Press, 1992).

18. On the cosmic modelling and mythology associated with the Templo Mayor see Broda et al., *Great Temple of Tenochtitlan* (note 12); Matos Moctezuma, 'Templo Mayor' (note 12); Elizabeth Hill Boone, ed., *The Aztec Templo Mayor* (Washington, D.C., Dumbarton Oaks, 1987).

19. Anthony Aveni, *Skywatchers of Ancient Mexico* (Austin and London, University of Texas Press, 1980), 245–49.

20. Elizabeth Hill Boone, 'Templo Mayor research, 1521–1978', in *Aztec Templo Mayor* (see note 18), 5–69. For one wholly imaginative reconstruction see Giovanni Battista Ramusio, *Terzo Volume delle Navigazioni et Viaggi* (Venice, Givnti, 1556), fol. 309r.

21. One of these portrayals, from the Codex Ixtlilxochitl, represents the twin pyramids of Texcoco; the rendering is similar enough to those of Tenochtitlan to indicate the conventional nature of the depiction.

22. Bernardino de Sahagún, *Primeros Memoriales* (The Civilization of the American Indian Series, vol. 200, part 1; Norman, University of Oklahoma Press, 1993). Thelma Sullivan et al. in their commentary on this manuscript raise the possibility that the Primeros Memoriales picture may be showing the temple precinct of another central Mexican town. While this is possible, most scholars have accepted it to be that of Tenochtitlan. See Thelma Sullivan, *Primeros Memoriales: Paleography of Nahuatl Text and English Translation*, rev. and ed. H. B. Nicholson et al. (The Civilization of the American Indian Series, vol. 200, part 2; Norman, University of Oklahoma Press, 1997), 117–20, nn. 1–10.

23. Alfred P. Maudslay, 'A note on the position and extent of the Great Temple enclosure of Tenochtitlan, and the position, structure and orientation of the teocalli of

Huitzilopochtli', *Acts of the International Congress of Americanists*, 18: 2 (London, 1913): 173–75. In the Nuremberg map the eastern orientation of the temple has been reversed, and it seems that in recopying the prototype, the Nuremberg artist neglected to compensate for the mirror effect his copying would have on the temple precinct. This kind of disorientation is common among later copies of the Nuremberg map.

24. Bernardino de Sahagún, *Historia General de las Cosas de Nueva Espana* (San Angel, Mexico, Consejo Nacional para la Cultura y las Artes, 1989), 1: 181–89 (book 2, appendix); Bernardino de Sahagún, *Florentine Codex: General History of the Things of New Spain*, trans. Arthur Anderson and Charles Dibble (13 vols.; Santa Fe, School of American Research and the University of Utah, 1950–1963), book 2: 165–80. Cortés, *Letters from Mexico* (see note 1), 105–6; Díaz del Castillo, *Discovery and Conquest of Mexico* (see note 2), 408.

25. Matos Moctezuma, 'Templo Mayor' (see note 12), 148, 161. Sahagún, *Historia General de las Cosas de Nueva Espana* (see note 24), 1: 181–89. Some parts of the bodies (such as limbs) were certainly distributed for ritual cannibalism; the Aztec's disposal of the other body parts is still an unresolved question (Inga Clendinnen, *Aztecs* (Cambridge, Cambridge University Press, 1991), 91).

26. *Codex Azcatitlan/Códice Azcatitlan*, ed. Michel Graulich and Robert Barlow (Paris, Bibliothèque nationale de France, Société des Americanistes, 1995).

27. The Coatlicue statue was probably set at the top of the Huitzilopochtli temple not the bottom. Cortés also mentions large idols in the precinct ('very much larger than the body of a big man'), but these were made of seed-studded dough (Cortés, *Letters from Mexico* (see note 1), 107). Such 'idols' were rarely, if ever, illustrated in conjunction with the central temple, and there is no reason why one would lack its head, as the figure pictured here does.

28. H. B. Nicholson, 'Religion in pre-Hispanic central Mexico', *Handbook of Middle American Indians*, 10 (Austin, University of Texas Press, 1971), 395–446.

29. In the precinct today, only one skull rack, a platform decorated with 240 stone skulls (Temple B) lying to the north of the temple, has been excavated. The area facing the temple (the west) remains unexcavated, but it is likely that a skull rack was built or conceived to exist here. According to the 16th-century friar Sahagún's description of the precinct, there were six *tzompantlis*, and the largest of them, the Hueitzompantli, stood in front of Huitzilopochtli's temple (Sahagún, *Historia General de las Cosas de Nueva Espana* (see note 24), 1: 181–89).

30. I am wary of using contemporary reconstructions of the precinct to corroborate the Cortés map, since in many instances these reconstructions have been drawn out of the Cortés map.

31. Cecelia F. Klein, 'Post-classic Mexican death imagery as a sign of cyclic completion', in *Death and the Afterlife in Pre-Columbian America*, ed. E. P. Benson (Washington, D.C., Dumbarton Oaks, 1975), 69–85.

32. *Codex Fejérváry-Mayer: M 12014 City of Liverpool Museums*, ed. C. A. Burland (Codices selecti XXVI; Graz, Akademische Druck-u. Verlagsanstalt, 1971). See the interpretation supplied by Eduard Selser, *Comentarios al Códice Borgia*, trans. Mariana Frenk (3 vols.; Mexico: Fondo de Cultura Económica, 1988); and in Eduard Selser, *Codex Fejérváry-Mayer* (Berlin and London, Duke of Loubat, 1901–1902).

33. The trees seen in the centre may be a pine grove mentioned by Peter Martyr as being near the great temple

(Peter Martyr D'Anghera, *De Orbe Novo*, trans. Francis A. MacNutt (New York and London, 1912), 2: 133).

34. This interlude is described in Nigel Davies, *The Aztecs* (Norman, University of Oklahoma Press, 1980), 41–42.

35. Frances Karttunen, *An Analytical Dictionary of Nahuatl* (Austin, University of Texas Press, 1983), 40.

36. Francisco de Garay describes the dike as 'construida de piedra y barro y coronado con un fuerte muro de mampostería' [constructed of stone and clay and crowned with a strong wall of rubble masonry], in *El Valle de México, Apuntes Históricos sobre su Hidrografía* (Mexico, Secretaría de Fomento, 1888), 13; *Pintura del Gobernador, Alcaldes y Regidores de México: 'Códice Osuna'* (Madrid, Ministerio de Educación y Ciencia, 1973); Charles Gibson, *The Aztecs under Spanish Rule* (Stanford, Stanford University Press, 1964), 225.

37. Cortés, *Letters from Mexico* (see note 1), 68.

38. Italian-German artistic connections are well established. Jacopo de' Barbari, who created a well-known map of his natal city Venice in 1500, died in Flanders eleven years later; Schulz proposes that he may have worked in Nuremberg (Jürgen Schulz, 'Jacopo de' Barbari's view of Venice: map making, city views, and moralized geography before the year 1500', *The Art Bulletin*, 60: 3 (1978): 426).

39. Cortés, *Letters from Mexico* (see note 1), 174.

40. *Ibid.*, 94.

41. The Gulf Coast map also includes areas of what is now the United States. Kenneth Nebenzahl attributes them to reports from the ill-fated Garay expedition (*Atlas of Columbus and the Great Discoveries* (Chicago, Rand McNally, 1990), 76).

42. In other instances, Cortés recognized the consummate skill of native mapmakers and used maps by their hands, not his own (Cortés, *Letters from Mexico* (see note 1), 192, 340, 344).

43. Martyr, *De Orbe Novo* (see note 33), 2: 198–99, 201.

44. Cortés, *Letters from Mexico* (see note 1), 499, n.99. Peter Martyr says that the goods he saw, including maps, had been brought back to Europe by Cortés's secretary Juan de Ribera, who arrived in Seville around 8 November 1522 carrying a copy of Cortés's third letter. This is inconsistent with what Cortés himself says about the map of Tenochtitlan, which he specifically notes accompanied his second letter of 1520. Martyr, however, could easily have been seeing accumulated materials from the New World along with those that Ribera had brought.

45. Charles left Spain in May of 1520, first to claim his crown as Holy Roman Emperor in Aachen and then to proceed to Worms for its Diet, which convened in January, 1521. On his travels see Karl Brandi, *The Emperor Charles V*, trans. C.V. Wedgewood (London, Jonathan Cape, 1968), 123–32.

46. Jonathan Zophy, ed., *The Holy Roman Empire: A Dictionary Handbook* (Westport, Connecticut, Greenwood Press, 1980), 343.

47. Cecelia Klein, 'Wild woman in colonial Mexico', in *Reframing the Renaissance*, ed. C. Farago (New Haven, Yale University Press, 1995), 244–63.

48. For the urban ordinances promulgated by Philip II in 1573 see *Colección de documentos inéditos, relativos al descubrimiento, conquista y organización de las antiguas posesiones españolas de América y Oceanía, sacados de los archivos del reino, y muy especialmente del de Indias . . .*, ed. J. F. Pacheco, F. de Cardenas, L. Torres de Mendoza (Madrid, 1864–1886), 24: 172–84. An English translation is to be found in Zelia Nuttall, 'Royal ordinances concerning the laying out of new towns', *Hispanic American Historical Review*, 4 (1921): 743–53; 5 (1922): 249–54. Although codified in 1573, these ordinances came after decades of Spanish attempts, begun even before the conquest of Mexico, to impose civic order on New World cities by means of urban planning. Erwin Palm argues that the plan of Tenochtitlan was to influence Dürer; see Erwin Walter Palm, 'Tenochtitlán y la ciudad ideal de Dürer', *Journal de la Société des Américanistes*, n.s., 40 (1951), 59–66.

49. The Latin gloss on the map describes the houses as pleasure houses; Bernal Díaz confirms that these were houses of kept women (Díaz del Castillo, *Discovery and Conquest* (see note 2), 214). See also Appendix 2 of this paper, no. 4.

50. Cortés, *Letters from Mexico* (see note 1), 108.

51. See Peggy K. Liss, *Mexico under Spain, 1521–1556: Society and the Origins of Nationality* (Chicago and London, University of Chicago Press, 1984), 36–38.

52. On Cortés's larger motives in the letter see J. H. Elliott, 'Cortés, Velázquez and Charles V', in Cortés, *Letters from Mexico* (see note 1), xi–xxxvii.

53. *Ibid.*, xxvii.

54. The flag may be intended to mark Tlacopan, later known as Tacuba, where Cortés beat a retreat after being routed from Tenochtitlan on Noche Triste (Cortés, *Letters from Mexico* (see note 1), 139). It was from here he launched an attack on Tenochtitlan, described in his Third Letter (*ibid.*, 187).

55. Liss, *Mexico under Spain* (see note 51), 26.

56. Bartolomé de las Casas, *Historia de las Indias*, ed. Agustín Millares Carlo (Mexico, Fondo de Cultura Económica, 1986), 2: 467.

57. An incomplete version of the Venetian edition may have led Armstrong to assert that this edition was without a map (Lilian Armstrong, 'Benedetto Bordone, miniator, and cartography in early sixteenth-century Venice', *Imago Mundi*, 48 (1996): 83). Rare complete examples, however, show the Venetian edition to have a map, based on the Nuremberg map but with glosses in Italian. This Italian map was likely to have been the template for those by Bordone and Ramusio.

## Appendix 1: Important 16th and Early 17th Century Publications of Versions of the 1524 Nuremberg Map of Tenochtitlan

<i>Author</i>	<i>Title</i>	<i>Place</i>	<i>Printer</i>	<i>Years</i>	<i>Folio/Page</i>
Hernán Cortés	Praeclara Ferdinādi. Cortesii de Noua maris Oceani Hyspania Narratio . . .	Nuremberg	Frederick Peypus Arthimesus; Pietro Savorgnani, trans.	Feb. 1524	betw.ii and iii
Hernán Cortés	La preclara Narratione di Ferdinando Cortese della Nuoua Hispagna del Mare Oceano . . .	Venice	Bernardino de Viano A. de Nicolini	Aug. 1524 Aug. 1524 <sup>57</sup>	before sig. A1
Benedetto Bordone	Libro di Benedetto Bordone: Nel qual si ragiona da tutte l'isole del mondo . . .	Venice	Nicolo d'Aristotile	1528	10 <sup>r</sup>
	Isolario de Benedetto Bordone: Nel qual si ragiona da tutte l'isole del mondo . . .		" "	1534	10 <sup>r</sup>
			Paolo Manuzio	1547	10 <sup>r</sup>
			Francesco di Leno	156-?	10 <sup>r</sup>
Giovanni Battista Ramusio	Terzo Volvme delle Navigazioni et Viaggi Delle Navagationi et Viaggi Raccolte Da M. Gio. Battista Ramvsio	Venice	Givnti " "	1556 1565 1606	309 <sup>v</sup> 307 <sup>v</sup> 258 <sup>r</sup>
Antoine du Pinet	Planz, Povrtraitz, et descriptions de plvsievrs villes et forteresses, tant de l'Evrope, Asie, & Afrique, que des Indes, & terres neuues	Lyon	Ian D'Ogerolles	1564	p. 297
Tommaso Porcacchi	L'isole piv famose del mondo descritte da Tomaso Porcacchi da Castiglione	Venice	Simon Galignani and Girolamo Porro Heredi di Simon Galignani	1572 1576 1590 1605	p. 105 p. 157 p. 157 p. 157
		Padua	Paolo et Francesco Galignani Fratelli	1620	p. 157
Georg Braun and Franz Hogenberg	Civitates Orbis Terrarum, Liber Primvs	Cologne	Braun and Hogenberg " "	1576 1581-82 1612	pl. 58 pl. 58 pl. 58

## Appendix 2: Inscriptions on the 1524 Nuremberg Map of Tenochtitlan

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| <p>1. <i>Ex isto fluuio conducut aguā in ciuitatem</i><br/>From here a stream of water flows into the city</p> <p>2. <i>Atacuba</i><br/>Tacuba</p> <p>3. <i>Viridarūi D. Muteezuma</i><br/>Gardens of Don Moteuczoma</p> <p>4. <i>Domus aduoluptase d. Muteezuma</i><br/>Pleasure-houses of Don Moteuczoma</p> <p>5. <i>Foru[m]</i><br/>Plaza</p> <p>6. <i>Templum ubi sacrificant</i><br/>Temple where sacrifices are made</p> <p>7. <i>TEMIXTITAN</i><br/>Tenochtitlan</p> <p>8. <i>Capita Sacrificatoru[m]</i><br/>Sacrificial heads</p> <p>9. <i>Platea</i><br/>Street</p> | <p>10. <i>Idol Lapidu[m]</i><br/>Stone idol</p> <p>11. <i>Dom[us] D. Muteezuma</i><br/>House of Don Moteuczoma</p> <p>12. <i>Capita sacrificatoru[m]</i><br/>Sacrificial heads</p> <p>13. <i>Dom[us] a[n]ialui[m]</i><br/>House of the animals (zoo)</p> <p>14. <i>Istapalapa</i><br/>Ixtapalapa</p> <p>15. <i>Templu[m] ubi orant</i><br/>Temple of worship</p> <p>16. <i>Aggeres ad tutelam domoru[m] a Lacus fluctiuz</i><br/>Dike to protect the houses from lake tides</p> <p>17. <i>Telqua</i><br/>Texcoco</p> |
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### *Cartographie de la capitale aztèque: le plan de Tenochtitlan de Nuremberg, 1524*

Le plan de Tenochtitlan publié avec l'édition latine des lettres de Hernan Cortès (Nuremberg, 1524) fut la première image présentée aux Européens de la ville de Culhua-Mexica, la capitale de l'empire aztèque. On ignore la source de ce plan gravé sur bois. L'auteur démontre qu'il était basé sur un plan indigène de la ville. Lorsqu'il fut publié en Europe, ce plan, accompagné de la carte de la côte du Golfe du Mexique, en plus de sa valeur de document, assumait également un rôle symbolique pour soutenir que la conquête de l'empire amérindien par Cortès (et donc par l'Espagne) était un acte justifié.

### *Eine Karte der Azteken-Metropole: der Nürnberger Plan von Tenochtitlan von 1524. Seine Quellen und seine Interpretationsmöglichkeiten*

Der Plan von Tenochtitlan, der zusammen mit der lateinischen Version der Briefe des Hernán Cortés 1524 in Nürnberg publiziert wurde, war die erste Darstellung der Stadt der Culhua-Mexica, der Hauptstadt des Aztekenreiches, die in Europa zur Verfügung stand. Die Vorlage dieser Holzschnittkarte ist unbekannt und die Autorin legt dar, daß sie auf einer einheimischen Karte der Stadt basiert. Mit der Publikation des Stadtplans und der zugehörigen Karte des Golfs von Mexiko in Europa sollte—neben der zweifellos dokumentarischen Absicht—auf einer mehr symbolischen Ebene auch die Eroberung des indianischen Reiches durch Cortés (und damit Spanien) legitimiert werden.

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### 'Gateway' Sites on the Web Devoted to the History of Cartography

The history of cartography can fairly claim to be one of the best organised subjects on the World Wide Web. Literally hundreds of sites could be individually mentioned for texts or images relevant to the study of early maps. However, in a situation that is so dynamic that any attempt to tie down the Web behemoth is out of date no sooner than written (let alone printed), and where the subject's most prolific index site is significantly updated *everyday*, the only sensible advice to give here is to point to the 'gateway' sites. These are sites which can be relied upon to provide the best current route into a ceaselessly-changing wired world—in much the same way as knowing where your radio weather programme is while not knowing what tomorrow's weather will be like.

There are two of these gateways, each linked to the other at multiple points. From either, you should be able to find everything on the Web of value to early maps. It is perhaps no coincidence that both sites are managed by librarians, whose metier is the organisation of information and the routes to it.

1. The History of Cartography site: < <http://www.ihinfo.ac.uk/maps/> >

This is run by the British Library's Map Librarian, Tony Campbell, who seeks to provide introductory information on all aspects of the subject while recognising that many of the answers to questions—about fellowships, exhibitions, journals (including *Imago Mundi's* own homepage), conferences and lectures, societies, library collections, for example—are still to be found elsewhere than on the Web.

2. 'Oddens's Bookmarks' site: < <http://kartoserver.frw.ruu.nl/html/staff/oddens/oddens.htm> >

This is managed by the indefatigable Roelof Oddens, Utrecht University's Map Librarian. It comprises, at the time of writing, almost 5000 links to sites involving both historical and modern mapping and has become an indispensable part of our discipline. The easiest way of accessing its varied historical information is via the History of Cartography homepage, under 'Internet Resources—Web Links'.