

PREFACE
WHAT IS A MAP?

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Most people today have no trouble answering the question, “What is a map?”: a map is a picture on paper, often a foldable sheet, that shows a destination that you plan to visit. The map may be virtual, and you may view it on a Global Positioning System, but its main purpose is to help you navigate your route. We have no doubts, either, about what can be mapped (every place on earth, the moon, Mars, with other planets and stars soon to come) and what cannot be (heaven, hell, or any version of an afterworld).

The situation was far less clear along the Silk Road—the overland routes crossing Eurasia before 1500—as this fascinating volume shows. The cost and difficulty of travel meant that few people could afford to leave home. Those who could frequently hired guides, so they had no need for maps. The area between the known world and the unknown worlds beyond was fuzzy: maps often showed fierce monsters or mythical beings guarding the edge of the known world. People used maps to learn about places, whether distant lands or imaginary universes, to which they would never travel during their lifetimes.

Yet some people were traveling during this period, and this volume illuminates the types of information that moved across Eurasia, whether originating in the Islamic world or East Asia. Different cartographic conventions prevailed in the Islamic world and East Asia. Starting in the eighth century, if not earlier, the Chinese used woodblocks to make impressions of books (see Jonathan Bloom’s Chapter 4 below). The block carvers did not have to be literate. They began with any piece of writing or drawing, no matter how complex, and glued it face down on a wooden block, exposing the mirror image of the original. After carving out the mirror image on the face of the printing block, they could print multiple copies. This technique allowed Chinese bookmakers to reproduce earlier images and maps with considerable accuracy. Many of the first maps made in China

were made by officials for administrative reasons. The earliest extant maps date to the second century BCE, long before the use of woodblock printing, and were excavated from the tomb of a prince at Mawangdui 馬王堆, Hunan province (see Nicolas Zufferey's Chapter 1). They show a small section of territory, presumably a location that the army hoped to defend.

The Chinese made maps for religious purposes, too. Natasha Heller's Chapter 2 focuses on the map of an important Buddhist pilgrimage center at Mount Wutai 五台山 (literally, "Five Terrace Mountain") in modern Shanxi province. When the Japanese pilgrim Ennin 圓仁 (794–864) visited there in 840, he received a map of the site, sure evidence that it was already an established tourist center. Only tourists need maps; local people already know where they are. Ennin does not record what type of map he received, but it must have differed from the map of Mount Wutai in Cave 61 at Dunhuang 敦煌, the subject of Heller's chapter. This wall of Cave 61 is 13 meters long and 3.6 meters tall. It depicts Mount Wutai, a religious site some 1,600 kilometers from Dunhuang. Whereas the bottom register of the paintings portrays the important shrines at the site and cartouches containing verbal descriptions of past miracles, the top of the painting shows the heavenly beings who bring the miracles. Viewers living far from the mountain, Heller suggests, did not need to know where to stay because they would never visit the site. Instead, the painting offered them a "personal experience of the holy," which they could obtain by listening to a monk or lay Buddhist explain the map on the cave wall. Viewers could imagine themselves in the place of the many figures who witness the miracles of Mañjuśrī, the bodhisattva believed to preside over the mountain site.

Dorothy Wong's Chapter 3 discusses Buddhist maps of the cosmos. Buddhists in different schools conceived of the cosmos differently: some envisioned a single-world system whereas others described a triple-world system. A sixth-century stone relief from Chengdu, Sichuan (fig. 3.7) portrayed the coexistence of human and other worlds in the same way that the artist of Cave 61 at Dunhuang did: with the human register at the bottom and the pure land above. The designers made a fascinating innovation: they used single-point perspective to guide the viewer's eye to the Amitābha Buddha. Here,

too, we can imagine a lay audience looking at the stone tablet as a preacher describes the different beings of the cosmos.

Chinese mapmakers working in later centuries made other innovations. One of the most unusual was the use of a grid. A map entitled *Yiji tu* 禹迹图 (Map of the Tracks of Yu) dates to the twelfth century (see Chapter 4). As Bloom notes, the grid allows viewers to judge the relative distances between two places. Grids played a very different role in Islamic cartography. Islamic geographers followed the lead of Ptolemy (second century CE) and made charts giving a vertical and horizontal coordinate for every place on earth (and for every star in heaven). As Bloom points out, "In effect, he [Ptolemy] was the first to digitize images." Islamic cartographers adopted Ptolemy's innovation because it allowed even unskilled copyists to transmit information accurately. Accordingly, many Islamic geographic treatises put all the crucial information in the text and treated accompanying maps as nonessential illustrations.

In some cases, though, Islamic maps survive that present new information not in the accompanying text. Andreas Kaplony's Chapter 7 analyzes al-Kāshgharī's grammar of Turkic languages and a map, no longer extant, that survives only in a thirteenth-century copy by Muḥammad ibn Abī Bakr. On the basis of an imaginative reading of the text, Kaplony suggests that the mysterious yellow dots on the map represent the different Turkic tribes. A similar problem occurred in the copying of star charts, Paul Kunitzsch explains in Chapter 9. Whereas one fourteenth-century map showed the Andromeda Nebula as a comprehensible group of dots, later copies reproduced the dots in meaningless groups. Only when the German astronomer Peter Apian located the original text, and had it translated, was he able to restore the dots' meaning. Kunitzsch's chapter is particularly valuable for its elegant and concise description of how an astrolabe works.

Islamic cartographers, always wary of the distortions that could result from copying, made extensive use of color and shape. Copyists, they hoped, could reproduce a standard geometric shape more easily than an accurate geographic contour. This tendency to employ stock shapes may account for the stylized maps in the *Book of Curiosities* (originally drawn in the eleventh century and copied in the twelfth or thirteenth century), the subject of Yossef Rapoport's Chapter 8. The maps in this manuscript show the Mediterranean and the

Indian Ocean as perfect ovals. The place names around the edge are distributed not by their actual geographic location but, instead, as if someone simply copied a list of points on an itinerary along the edges of the oval. The *Book of Curiosities* contains exactly the kind of error that Islamic cartographers dreaded: the copyist has mistakenly transposed elements from the original map, now lost, so that China is directly connected to the Arabian Peninsula (with India missing), and Africa and India form one landmass. Another error is particularly intriguing: the cartographer included a scale marker at the top of his world map but then portrayed the world as a set of shapes whose dimensions have no relationship to the graphic scale. He seems to have copied the graphic scale with “little idea of what it meant or how it was to be used,” as Bloom puts it in Chapter 4.

These transfers of one motif or image from one cultural context to another, where an image could take on an entirely different meaning, are among the most fascinating moments in this volume. The first use of a grid in the Islamic world that Bloom has found is in the thirteenth century, when architects used graph paper to build the Ilkhanid palace at Takht-i Sulaymān in northwestern Iran. Before that, they simply built buildings on the spot, without any plans. But where did they get the idea of a grid? From China, according to Bloom. It seems, then, that a Persian must have seen some kind of grid used in China. The Chinese employed grids to make maps (like the Map of the Tracks of Yu), to practice calligraphy, and for architectural drawings (as in the twelfth-century architectural manual entitled *Yingzao fashi* 营造法式). Unlike the Chinese, the Persians used a grid keyed to a single unit (the *gaz*, or cubit) to plan how many bricks were required for a given edifice. Although the Persian who borrowed the first grid could not read the accompanying Chinese text, he “was inspired by it to produce something quite new and different,” Bloom suggests, “even if the original intended meaning was completely lost in translation.”

The same kind of process underlies the transformation of horoscopes from circular shapes to squares, argues Johannes Thomann in Chapter 5. People in the Islamic World saw square Chinese horoscopes and adapted the format for their own use. Similarly, in 1286, when artists made the headpiece of an Armenian lectionary, they included a very Chinese-looking dragon and phoenix. In Chapter 6, Dickran Kouymjian suggests that this was an informed borrowing:

just as the artists of the Liao dynasty (ca. 907–1125) used the dragon and the phoenix to depict the emperor and the empress, so the Armenians used the same symbols to represent the king and queen of Armenia.

No one who attended the original conference in Zurich from which this volume has emerged can forget Sonja Brentjes’s images of horses’ tails from the Catalan Atlas. The distinctive tails have no hair at the top; the first hairs appear some distance from the horse’s rear. In Chapter 10, Brentjes uses the clues in the horses’ coloring—light blue, pink, white, or black, all spotted—to show that the maker of the Catalan Atlas borrowed imagery from late Ilkhanid painting. This is the rare and exciting example of a distinct image moving across the Silk Road from Iran to Spain: we can see the image both in its original Ilkhanid context and in its later Catalan version. This is as close to a smoking gun as anyone working with evidence from before 1500 has any right to expect!

Frankly, this volume should make readers nostalgic for the maps of the past. Despite all the challenges these maps pose, they are much richer than the standardized maps that we consult today when we go on a road trip. Whatever their country of origin, modern maps all look the same: north at the top, distances to scale, highways wider than roads—any of us could continue this list. The papers in this volume analyze far richer maps from earlier times, maps that prompt us to reconsider the boundaries defining maps themselves.

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