



THE MONGOL WORLD

Edited by TIMOTHY MAY *and* MICHAEL HOPE

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CHAPTER FORTY-TWO

MAPPING AND EXPLORATION

Hyunhee Park

One of the most influential transfers of geographic knowledge in world history occurred across Afro-Eurasia during the era of the Mongol Empire, which lasted from the thirteenth to the mid-fourteenth century. Mongol rulers imposed a trans-continental peace dubbed the “Pax Mongolica” over a domain that stretched from Hungary to the Pacific, which encouraged an unprecedented flow of people, goods, and ideas across much of Afro-Eurasia.¹ The change led to the development of a network of cross-cultural contact and exchange that allowed people to disseminate information about the wider world across a larger space, in greater volume, and of better quality than ever before in world history.² This came first from travelers, either from the accounts they recorded or the books and maps they brought with them to their homelands, and second from geographers and other scholars through their writings and maps.³ This growth in the scale of information exchange played a crucial role in widening world geographic knowledge in many Afro-Eurasian societies, which helped to propel the transition to the early modern era in global history.

This chapter addresses the consequences of Afro-Eurasian connections during the Mongol era in world geographic knowledge, from both connective and comparative perspectives, by focusing on three regions: China, the Islamic Middle East, and Europe. All three societies experienced significant change from their traditional worldviews, thanks to the assimilation of both world geographical knowledge and mapping techniques from other cultures. We can retrace their interconnections and make credible comparisons, thanks to the abundance of extant sources, most importantly, literature and cartography from Mongol and pre-Mongol periods. This analysis reveals that there was direct contact, influence, and exchange between China, Iran, and Europe during the Mongol age, which facilitated the production of new realistic maps of the Afro-Eurasian landmass.⁴

This unprecedented circulation of geographic knowledge and consequent long-term influence rested upon the memoirs of a multicultural group of globetrotters who traversed this giant landmass, sometimes in both directions, thanks to the loosened political barriers and boom in traffic that Mongol policies allowed. These writings include the work of both legendary authors like Marco Polo (1254–1324) and more obscure ones like the Italian missionary Odoric of Pordenone (1286–1331), the Moroccan Ibn Battuta (1304–1368), and the Chinese Wang Dayuan (1311–1350),

whose travelogues contributed to the circulation of cross-cultural knowledge in their home societies in the fourteenth century. Moreover, their accounts verify the cosmopolitanism then flourishing in major cities of the empire, such as the Mongol capital of Khanbaliq (Daidu, modern Beijing) and the busy Chinese port city of Quanzhou. New forms of knowledge about other societies did not exert an immediate influence on the majority of people, as scholars like Jackson have pointed out in the case of Europe.⁵ In time, however, as this knowledge continued to circulate, it inspired many political leaders, scholars, and merchants to seek contacts beyond their traditional cultural frontiers. This, in turn, led to the new era of unprecedentedly large, distant, and frequent global interconnection from the fifteenth century onward.

FROM A SINOCENTRIC TO HEMISPHERIC PERSPECTIVE IN EAST ASIA

People in China have historically drawn maps since ancient times for a variety of purposes – local, military, and religious.⁶ Soon after the first empire appeared in 221 BCE, the Chinese began to create maps of their new realm using cartographic techniques, such as the Six Principles created by professional geographers like Pei Xiu (224–271 CE).⁷ Extant maps of China proper, which include accurately drawn coastlines, date back to the tenth century CE; their cartographic techniques and accumulated information help us assume a relatively high level of content, style, scale, and accuracy in ancient Chinese mapmaking.⁸ The earliest extant map of the world, titled *Map of Chinese and Non-Chinese Territories* (*Huayi tu*), engraved on a stone tablet in 1136, depicts China proper with geographic accuracy and detail yet noticeably relegates foreign place names to its margins.⁹ This sidelining reflects an early Sinocentric worldview rather than a lack of geographic details or spatial sense of the wider world. As the Chinese developed contacts with people in foreign countries, including the initial expeditions to the Western Regions by Zhang Qian (d. 113 BCE), they gathered information about the countries and cultures with which they had contact – at this time, largely diplomatic or commercial – and relayed them to other Chinese through their writings. Consequently, descriptions of foreign countries are found in both official and private documents, from the early surveys of Sima Qian (145–ca. 86 BCE) to official court histories or the Song-dynasty *Description of the Foreign Lands*.¹⁰ In general, few extant maps, including *The Map of Chinese and Non-Chinese Territories* (*Huayi tu* 華夷圖, 1136), fully acknowledge the extent of geographic knowledge, much less adequately represent it at a realistic scale on a map. One exception is a set of Buddhist maps in the Southern Song (dated 1265), which depict Central Asia and India on a scale comparable to China. This is the earliest evidence of an overt assertion of a Buddhist worldview over a Sinocentric one. The map set, however, did not exert major influence on official mapping; nonetheless, it is significant because it confirms a worldview born of ideology rather than ignorance.¹¹

This practice of Sinocentered mapping did not face any serious challenges until the thirteenth century, when the larger Mongol Empire subsumed China. For the first time in its history, all of China fell under the rule of foreigners, indeed, nomads from the north whose culture the Chinese traditionally regarded as “barbarian.” Of course, the early Mongols possessed their own set of geographical concepts based on the sacred beliefs and social landscapes their ancestors had developed in the Mongolian grasslands.

However, they also adapted culturally as they expanded into new conquest territories, a phenomenon enhanced by their promotion of cultural exchanges. This included the assimilation of new mapping practices and geographical perceptions of the world from conquest societies with highly developed mapping cultures, like China and Iran.¹²

Accordingly, in China, major innovation in world mapping resulted from the initiative of Mongol rulers and their foreign collaborators, even after the empire's formal division in 1260 into four khanates.¹³ An important moment arose in 1286, when the Mongols asserted rule over all of China under Qubilai, the fifth qa'an. A Muslim scholar from West Asia, Jamal al-Din, then the supervisor of the qa'an's Palace Library, proposed a new mapping initiative to Qubilai. He argued that traditional Chinese "world" maps, which limited their horizons to China, did not suffice for comprehending the new empire's political boundaries and geographic position in the world. To remedy this problem, the court had to create new maps that accurately reflected the empire's realities.¹⁴ The emperor agreed, and Jamal al-Din undertook the task, utilizing the court's amassed geographical materials, most notably, Chinese and Islamic maps and writings, in addition to sea charts and territorial globes from West Asia, to develop a new perception through Mongol imperial eyes.¹⁵

The court scholars under Jamal al-Din's direction, Chinese and non-Chinese alike, fulfilled their mission, producing an array of new and original works of geography and cartography. Sadly, few of these works have survived; nonetheless, what exists can help us determine what improvements to spatial knowledge and cartographic style in Chinese geography derived from contemporaneous Muslim maps depicting a large part of Afro-Eurasia. For example, the only surviving map from this era, the *Encyclopedia of Yuan Dynasty Institutions* (*Yuan Jingshi dadian*, ca. 1330), displays the four Mongol *uluses* and Mamluk domains; among the map's 105 place names are towns not found in surviving Chinese maps of earlier periods, like Damascus, Kish, Alamut, and Isfahan. Moreover, the map displays obvious signs of influence from contemporaneous Muslim maps, including the map's orientation, which places south at the top of the chart, and its grid, which probably serves as a system for locating specific points in a two-dimensional projection of a terrestrial sphere.¹⁶ Similar grids appear on a Song map of China called *The Tracks of Yu* (*Yiji tu*), carved on the back side of another stone-tablet map, *A Map of China and the Non-Chinese Countries*, created in 1136, on which the grids serve as a relative measure of distance, each square representing 100 *li*.¹⁷ This suggests that, while the grid itself could be an earlier development adopted from the Song cartographers, its function as longitudinal and latitudinal coordinates for the wider world was introduced from the Islamic world. In short, the *Encyclopedia* map exemplifies the progressive deviations of Yuan-era Chinese maps from the Sinocentrism of earlier Chinese cartography.

Comparative analyses of other relevant extant materials suggest that, in addition to the scholars of various ethnicities collaborating with the Mongols, Chinese scholars outside the court also began to draw new kinds of world maps that included West Asia. Perhaps the court's new works had interested them, or they had observed maps and texts newly arrived through direct contact with scholars from West Asia.¹⁸ The most important of such maps, drawn by Li Zemin in the fourteenth century and now lost, included western Afro-Eurasia, which made it a key source for later cartographers seeking to include West Asia, Europe, and Africa in their world maps.¹⁹ One extant map, whose author acknowledges his reliance on Li, the *Map of Integrated Lands*

and *Regions of Historical Countries and Capitals* (referred to as the *Kangnido*), produced in Korea in 1402, displays place names and cartographic contours that Li drew from Islamic sources to construct his depiction of western Eurasia (see Map A in Figure 42.1).²⁰ The map appears to have been influential given the number of existing copies available to us today. It was not only copied several times in Korea but also transported to places like Japan, where copies survive today. Scholars have also identified styles similar to the *Kangnido* in Chinese maps, such as the *Comprehensive Map of the Great Ming Empire* (*Da Ming Hunyi tu*, ca. late fourteenth century) and

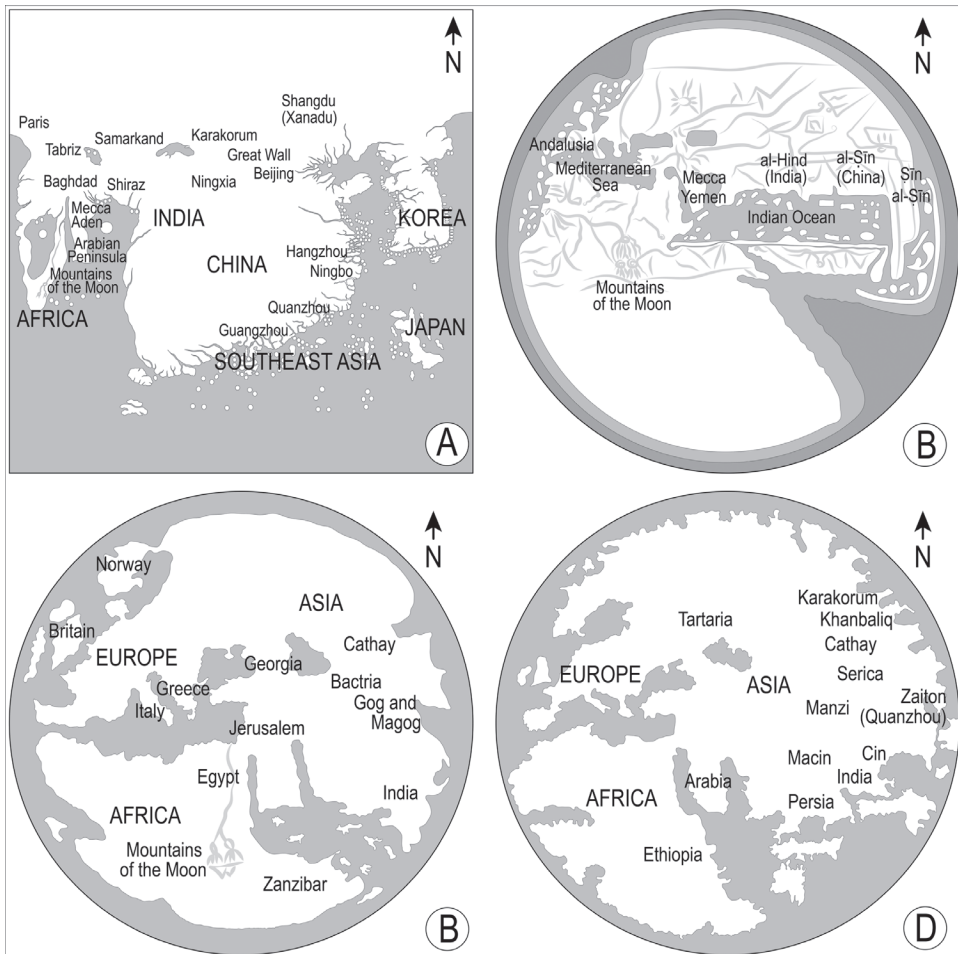


Figure 42.1 Comparison of the outlines and contents of the four world maps discussed in this chapter. Reconstruction by the author (drawn by Matilde Grimaldi). Map A: the *Kangnido* of 1402. Map B: the world map in Ibn Falallah al-'Umari's encyclopedic compendium. Map C: Sanudo-Vesconti world map. Map D: Fra Mauro map. The original maps for Map B and Map D placed the south on top and the one for Map C placed the east on top; I changed the orientations here for clarity.

Luo Hongxian's *Broad Terrestrial Map* (*Guang yutu*, 1541), which suggests not only the direct influence of the *Kangnido* but also the long-term impact of expanded geographic knowledge throughout Afro-Eurasia as a result of widespread Mongol rule, that is, until the arrival of Jesuit world maps from Europe in the seventeenth century.²¹

Signs of an increase in world geographic knowledge also appear in the many writings by East Asian travelers to Western Asia and Europe, who generally traveled there for diplomatic, religious, and commercial reasons. These include “Chinese Marco Polos” like Rabban Sauma, a Nestorian Christian monk who journeyed as far into the heart of Europe as Rome and Paris and never returned to Mongolia.²² His case testifies to the conditions that travelers could face whenever they undertook voyages from China to the West, including Europe. Whereas Rabban Sauma traveled over land, another traveler named Yang Shu took advantage of Chinese maritime links with the Ilkhanate to travel in a state-funded ship (*guanben chuan*) to the Persian Gulf port of Hormuz.²³ Wang Dayuan (1311–1350), another Chinese voyager who traveled privately, claims in his account to have visited around 100 countries in his voyage to Southeast Asia and the Indian Ocean in the 1330s.²⁴ While some scholars doubt the veracity of his itineraries to regions like West Asia and Africa, it was not at all impossible for Chinese to travel there, thanks to the favorable travel and trade climate during the Mongol era.²⁵ Some of Wang Dayuan's Confucian colleagues in Quanzhou were so impressed by his detailed knowledge about the world's vastness and complexity that they abandoned the mainstream China-centric worldview for an ancient cosmographic theory of the world comprising multiple geographic centers. The example of Wang and other Chinese of the Mongol era show that some Chinese had enough awareness of the world to travel widely, to sail ships across vast seas, and to publish their observations after their return home, thus changing the standard Chinese worldview.

Chinese ports played an important role in facilitating travel across Afro-Eurasia. For example, many travelers heading west, including Wang Dayuan and Marco Polo, departed from Quanzhou, a key port city in Chinese international commerce and home to foreigners from many different countries, including Muslims from West Asia. A map of the late Yuan period titled the *Map of the World Regions* (*Guanglun jiangli tu*) reveals why, for it depicts a direct sea route leading from Quanzhou to Hormuz, a main port in the Persian Gulf that flourished as a hub for Indian Ocean trading networks from the thirteenth century onward. Inside an inset block, the map also contains a concise long-distance navigational guide that claims it took about 200 days to complete the voyage.²⁶ The map's focus on Quanzhou establishes its centrality to Yuan-era sea trade, while the mention of Hormuz confirms the distant range of its commercial contacts, as well as its importance to merchants from the Islamic world. Naturally, this affected perceptions in port cities, like Quanzhou. Some Chinese wrote favorably about their Muslim colleagues and their Muslim mosque, providing evidence of cross-cultural fertilization. A similar climate prevailed in China's other major port city, Guangzhou (Canton), particularly after its early fourteenth-century recovery from the Mongol invasion of the 1270s. At that time, the size of China's foreign trade doubled, as a local Yuan-era gazetteer shows.²⁷

After the Ming dynasty overthrew the Yuan in the late 1300s, the new self-consciously Han court issued a “sea ban” (*haijin*) on all private sea travel and trade relations with foreign countries. Still, it could not undo the influence of the Mongol era on Chinese geographical knowledge, and its effects would be felt for some time.

One important legacy was the series of expeditions undertaken by the Ming “treasure fleets” to the western Indian Ocean under the leadership of Admiral Zheng He, a descendent of Muslim immigrants to China. Other Muslim Chinese joined the admiral’s crew, including Ma Huan, who was on Zheng He’s fourth voyage to Hormuz and wrote an account of his travels, which included a pilgrimage to Mecca.²⁸ While many Muslims fled China for Southeast Asia in the wake of the Yuan defeat, many others remained in China and developed what became the country’s Hui communities.²⁹ These communities already had a long history in China, dating as far back as the Tang era (618–907), not long after the rise of Islamic civilization in West Asia. Their numbers were swollen by West Asian mariners and merchants belonging to shipping networks and commercial ventures from as far afield as the East African coast.

CONTINUITY AND CHANGE IN WORLD MAPPING IN THE ISLAMIC MIDDLE EAST

Soon after the rise and expansion of Islamic civilization in the Middle East during the seventh century, Muslim scholars in the newly formed Abbasid Caliphate (750–1258) developed an extensive set of geographical writings and world maps that newly depicted most of Afro-Eurasia. They based their works on various sources acquired as a result of Muslim political and commercial expansion. Their ambition to develop geography as an intellectual discipline dates back to the ninth-century world-mapping project of Caliph al-Ma’mun (r. 813–833). Caliph al-Ma’mun commissioned projects of physical and mathematical geography to create a world map that accurately depicted the shape of the known world. Scholars participating in the world-mapping project plotted newly collected data according to longitudinal and latitudinal coordinates, having borrowed such theoretical mapping techniques from ancient Greek and Roman scholars, in particular Ptolemy (ca. 100–170 CE).³⁰ The resulting final map has been lost, but surviving world maps similarly depict most of Afro-Eurasia, suggesting an extensive knowledge of the world that explains why the Abbasid maps became so influential as a prototype for most of the maps produced by later Muslim geographers, such as the earliest surviving maps attributed to geographers of the Balkhi School of the mid-tenth century.³¹ In accord with Muslim convention at the time, South sits atop a map that orients along a south–north axis. Afro-Eurasia lies in the center of the map, surrounded by the “Encompassing Sea,” while Mecca sits at the continental center. The Mediterranean Sea and Indian Ocean extend to the west and east, while Africa stretches eastward as it consumes much of the Southern Hemisphere, reducing the Indian Ocean to a narrow horizontal band of open sea space straddling the East African coast and China. Muslim geographers of later periods continued to develop world geography by incorporating new content and techniques. Notable contributions were made, such as al-Idrisi’s (fl. 1154) monumental works, al-Biruni’s (973–1048) sketch map, and the fourteenth-century charts incorporating longitudinal and latitudinal coordinates. Islamic world maps, like the round map of al-Kashgari (1008–1102) and the maps of the Silk Road recently discovered in the Egyptian *Book of Curiosities*, provide unique interpretations of non-Islamic territories.³² Given the transfer of mapping knowledge from the Islamic world to China during Mongol times, one can assume that some of the geographic treatises and maps produced in China during and after the Yuan

dynasty incorporated some of the features found in these early Islamic maps, which underscores the importance of comparative study to our understanding of individual societies both during and after the Mongol period.³³

Like China, the Islamic World experienced its most ambitious world-geographical projects under the auspices of Mongol rulers. The Ilkhanate was established in 1256 in Iran. As a part of the Mongol Empire, scholars in the Ilkhanate drew from many sources for knowledge about the wider world. For example, some ministers and diplomats from other Mongol states circulated through the empire at large bearing new materials and information that provided opportunities to Muslim scholars, eager to expand the horizons of Muslim knowledge about the world, particularly Yuan China, the Ilkhanate's closest ally.

Similar to Yuan China, the Ilkhanate's new Mongol rulers also embraced local culture to a certain degree; some even converted to Islam. After stabilizing their rule in Iran, the seventh Ilkhan Ghazan (r. 1295–1304) and his successor Öljeitü (r. 1304–1316) sponsored the first systematic chronicle of societies in the “known” world, the *Compendium of Chronicles*. The author, prime minister Rashid al-Din (1247–1318), recalled in his preface that Ghazan Khan had proposed the project, echoing the sentiment of Jamal al-Din, the contemporaneous Yuan court official and scholar mentioned earlier. He states that he and his collaborators were able to write this unprecedented grand compendium of the history of most of the known world thanks to the fact that the Mongols ruled almost “all corners of the earth,” including China.³⁴ However spotty factually, the work's geographical content belies a shift in world perspective from an Islamic to a Mongol point of view. Moreover, the compilers drew upon a wider range of sources in various languages, obtained directly from the regions in question. For example, a significant source about China found its way to Iran thanks to Bolad Aqa, a Mongol aristocrat who served Qubilai Qa'an as an official in the Yuan court and who the khan later dispatched to the Ilkhanate as a political advisor.³⁵ Bolad Aqa's expertise allowed Rashid al-Din to integrate China into his history and geography of the world with considerable accuracy, thereby advancing Muslim knowledge of the world. The Yuan dynasty figured prominently as the senior khanate within the Mongol Empire, reflecting the interest of his sponsor Ghazan Khan, who actively nurtured diplomatic relations with the Yuan court. It is not clear whether his third volume of world geography, *Routes of the Realms*, was ever completed, as only the Table of Contents has survived.³⁶ Nevertheless, the fact that it was commissioned suggests that the author and his sponsors were interested in the topic.

New groundbreaking techniques also appeared as a result of cross-cultural exchanges.³⁷ For example, during this time period, grid maps began to appear, like those created by Hamd Allah Mustawfi al-Qazwini (ca. 1281–1349), which are similar to the contemporaneous Chinese grid maps mentioned earlier. He probably inherited some source materials from Rashid al-Din, although he did not incorporate much else that was novel into his geographic treatise. The introduction of grids is, however, significant because it reveals that he was incorporating knowledge both from China and about China that was circulating through Ilkhan Iran.

We can detect more exchanges of information throughout the greater Indian Ocean in accounts written by travelers who undertook unprecedentedly long-distance journeys in the thirteenth and fourteenth centuries. These travelers took advantage of the expanded networks of both overland and overseas routes that the Pax Mongolica enabled. The

most famous Muslim traveler during the Mongol period is Ibn Battuta, who journeyed all the way from Morocco in northwestern Africa – Afro-Eurasia’s westernmost region – to eastern China through the inter-Asian trade networks that included Karimi and *ortaq* merchants, as well as the Kazaruniya order of Sufis.³⁸ While debates have erupted over the veracity of Ibn Battuta’s claim that he traveled all the way to Khanbaliq (Daidu), the Mongol capital, scholars acknowledge that he went to Quanzhou in southern China.³⁹ His account, written in the form of travel literature called *rihla* and structured to include episodes meant to entertain readers, includes much fanciful information, like the story of a 200-year-old man who lived in a cave in Guangzhou (Canton).⁴⁰ It also contains a great amount of reliable information about China, including popular maritime activities, the Muslims who lived there, and the newly circulating name for Guangzhou, Sin Kalan, which literally means “Great China” in Arabic (Machin in Persian), and Sin al-Sin (China of China), which also means southern China.⁴¹ These names, which were probably also used to refer to Guangzhou, acknowledge the city’s longtime status as the world’s southern gateway to the Chinese empire.

The open environment created by the Mongol peace fostered connections between western and eastern Afro-Eurasia that offered Islamic geographers new opportunities for geographic exchange. For example, maps of this time use a new name for southern China, Sin al-Sin, based on contemporaneous sources (possibly Ibn Battuta), which reflects China’s 1127 division into northern and southern kingdoms (see Map B in Figure 42.1).⁴² The geographical treatise by Hamd Allah Mustawfi, mentioned earlier, reveals similarly novel information about China’s political division into three realms – Khitay (northern China), Chin, and Machin (Greater China) – the same divisions Rashid al-Din used in his *Compendium of Chronicles*.⁴³ The means through which the aforementioned names were transferred remains unclear. We can, however, surmise that the information was transmitted through people who shared communication channels between western and eastern Afro-Eurasia.

We can even assume that some information was transmitted to Europe by way of European travelers transiting Eurasia in small but significant numbers after centuries of isolation. They included the Franciscan missionary Odoric of Pordenone, who called Guangzhou “Censcalan” – clearly a transliteration of the Arabic name “Sin Kalan,” which he must have learned sometime in the course of his travels.⁴⁴ Thus, whatever the changes in the structure of Muslim trade networks or Sino-Islamic exchange, the establishment of the Pax Mongolica allowed people to travel Asia’s reopened overland routes to reach the heart of the empire in Mongolia. This had important consequences for travelers from relatively marginal parts of Afro-Eurasia, who could now travel to more advanced societies, like China or the Islamic world, and return home with new, more reliable information. The long-term repercussions for people in peripheral Western Europe – to say nothing of the rest of the world – who could now obtain more knowledge of the East than any European had ever done, were huge.

RECONNECTED TO THE EAST: EUROPEAN TRAVELERS AND NEW MAPPING OF THE WORLD

It was the ancient Greek and Roman scholars who first mapped the Afro-Eurasian world based on scientific cartographic techniques, including longitudinal and latitudinal coordinates and geographic knowledge collected by travelers. These techniques

were later adapted by scholars in the medieval Islamic world, as seen previously, though ironically not by the people of early medieval Europe. Europe faced isolation from Asia's trade networks for several centuries after the collapse of the Western Roman Empire in 476. During this time, Christian monks developed a unique map based on a Christian worldview that is known as a "T-in-the-O" map (henceforth "T-O map"), which would become the continent's dominant form of *mappa mundi*, or world map. The T-O structure orients the East toward the top of the map and separates the world's landmasses into the three major continents of Asia, Africa, and Europe; at the center of this world lies Jerusalem, the holiest city in Christendom. These continents are closely juxtaposed, separated only by watercourses that flow west from the Paradise in the far east – at the top of the map.⁴⁵ The Indian Ocean, Serica, and the Chinas (China), which appear in ancient Greco-Roman geography, do not appear here.

Given the evidence of skepticism about claims of a flat earth illustrated in geographic works, we could regard the T-O map as a symbolic representation of the dominant worldview in Christian Europe at the time rather than a demonstration of actual world-geographical knowledge.⁴⁶ However, during the early Middle Ages, when the T-O was the only model of the world circulating through Europe, the medieval European perception of the world could have been limited to just this. From around 1000 CE, as political encounters like the Crusades put Western Europeans in direct contact with the Islamic world and economic exchanges with the outside world increased, European geographers began to revise their Eurocentric view of the world.⁴⁷ The biggest growth in long-distance contact and exchange occurred in response to the Mongol expansion into western Eurasia in the early thirteenth century.

While most of the societies in Eurasia were subjugated by the Mongols, Western Europe was saved in 1242 by the sudden death of the Great Khan, which halted their military campaigns.⁴⁸ The Mongols never returned, but the looming Mongol threat nonetheless frightened political leaders throughout Europe, and they began to ponder ways to cope with possible future threats. The pope in Rome and the king of France each sent Franciscan friars, including John Carpini and William of Rubruck, as emissaries to Mongolia to meet with Mongol rulers and attempt diplomatic compromise.⁴⁹ After returning home, the two friars wrote about the Mongolian society they had observed. Rubruck, able to travel all the way to Qaraqorum, the Mongol capital, before advancing to China, left vivid accounts of the Mongol lifestyle, as well as accounts of Cathay (a medieval name of China – more particularly, northern China – from the Arabic word *Khitay* into Latin).⁵⁰ Though their accounts never reached more than a small group of educated elites, Rubruck and Carpini nonetheless introduced new information about East Asian societies to Europe, which had long-term consequences.

Marco Polo, the Venetian merchant who traveled directly to China, which he called Cathay (northern China) and Manzi (southern China), provided new information to cultivate a fresh awareness of the East among Europeans. He created a sensation and incredulity with his description of China as a wealthier and more advanced civilization than Europe.⁵¹ As with other medieval travelers, like Ibn Battuta, fierce debates have erupted in recent years about whether he actually went to China.⁵² The detailed and often considerably accurate information contained in his writings,

however, suggests that some Europeans, including Marco Polo, actually traveled to China and obtained new information there.⁵³ Multiple versions of Polo's account proliferated in many languages after the Venetian's death and ultimately influenced European perceptions of the world, albeit gradually.

Other Europeans also traveled to eastern Eurasia through the open networks of the Mongol period and returned to disseminate similarly important information. Friar Odoric of Pordenone was one such person. Like Ibn Battuta, who utilized the Muslim religious and commercial networks of the Indian Ocean, the Franciscan missionary took advantage of the Franciscan communities strung across Asia, which collectively functioned as an institutional network on which Franciscan itinerants like Odoric could rely.⁵⁴ This helped him reach his first landing in China, the port of Guangzhou (which he called "Censcalan"), and later to China's principal port, Quanzhou. In the course of his travels, he gathered new and reliable facts about China, such as the popularity of foot binding and cormorant fishing, which he divulged in his travelogue, written after his return to Europe.⁵⁵ His story was soon after plagiarized for an English-language book called *Mandeville's Travels*, which ironically became more widely read than even Polo.⁵⁶ Still, the effects were enduring.

Over a longer period, however, Polo's account exerted the most profound influence on European geography and mapping of the world. Medieval Europeans could not easily imagine cultures as diverse as those that existed elsewhere in Afro-Eurasia, evident in illustrations of Chinese people and cities looking decidedly European in some versions of Polo.⁵⁷ However, new geographic information began gradually to influence some cartographers to seek new information that they could incorporate into their world maps, a trend that undermined the limited geography of T-O maps.

The first world map to incorporate geographic data from Polo's account was the Catalan Atlas, made in 1375 by a Majorcan Jew named Cresques Abraham.⁵⁸ This chart's many detailed passages and vivid illustrations, such as that of a caravan crossing a Central Asian desert, suggest that Abraham not only consulted Polo's book but also probably possessed a copy. The atlas's author relied on other sources as well. For example, he placed a city called "Cincalan" on the southern coast of China. Clearly, this is Guangdong, derived from Odoric's "Censcalan," albeit in slightly altered form – a name, it should be added, that actually traces back to Islamic sources, like Ibn Battuta.

The cartographic contour of the Catalan Atlas is unique and significant because it presents the Asian continent and Indian Ocean in more realistic ways, marking a decided departure from the T-O map tradition in both content and form. In fact, new maps differing from earlier *mappa mundi* began to circulate in Europe several decades prior to the publication of the famed atlas.⁵⁹ For example, some new maps of the fourteenth century, like the Sanudo-Vesconte world map submitted to Pope John XXII in 1321 by the Venetian politician Marino Sanudo (1260–1338), portray the Afro-Eurasian world in a realistic shape that includes the Arabian Peninsula, the Indian Ocean, and China, in other words, in a fashion similar to contemporaneous Islamic world maps (see Map C in Figure 42.1). While the map's cartographer Pietro Vesconte does not reveal the source of the cartographic features he drew, little doubt remains that he based them on an Islamic circular world map.⁶⁰ Although the map lacks information about Asia that could be directly linked to Polo's travelogue, contemporaneous sources had an impact on its design as well. As his treatise

to which he appended his map shows, Sanudo drew information about Asia and the Mongols from contemporaneous sources like Hayton (d. 1271), king of Little Armenia (r. 1224–1269), a vassal state of the Mongols since the 1240s, and others, whose accounts considerably reshaped the images of the Far East since the mid-thirteenth century.⁶¹

Geographic information introduced from abroad continued to stimulate and influence new mapping endeavors in Europe after the Mongol Empire disappeared. The mid-fifteenth century witnessed a proliferation of many different ideas about world geography represented in different kinds of world maps that coexisted and conflicted with each other. These include the revival of Ptolemy's world map and Fra Mauro's 1450 map that added details about the wider world, including Asia, based largely on information derived from Polo's account, classic information from Ptolemy's *Geography*, and other contemporary sources (see map D in Figure 42.1). The Fra Mauro map even places South at the top, in classic Islamic fashion.⁶² Though mapmakers continued to use and even modify the T-O model, the new approach to mapping based on information from eyewitness travelers and cross-cultural sources led Europeans to view the world in novel ways that inevitably undermined the old form. It also inspired political leaders, scholars, and merchants to seek greater contact with the world beyond Europe, which contributed ultimately to global interconnection.⁶³

CONCLUSION

Geographic knowledge and mapping techniques significantly developed across Afro-Eurasia during the thirteenth and fourteenth centuries. These developments were inspired in part by transfers of knowledge made possible by expanded contacts and travel during the Pax Mongolica, which scholars have begun to see as an initial stage in the history of globalization. Extant sources are limited, however, when examined from a comparative perspective, they testify to a large-scale circulation of people, goods, and knowledge – including geographical – that affected Afro-Eurasian cultures for a short but significant period in a way that explains the growth in cartographical expertise. The eastward and westward transfers of Islamic geographical knowledge and their consequent cross-cultural influence in Chinese and European societies offer an important example of the Mongol impact on rapid transfers of information and knowledge across Eurasia. Although the Islamic impact on Chinese geography has been better documented to date, the Islamic world may have exerted an even greater impact on their western neighbors.

However much this new knowledge affected some people, traditional ways of seeing the world remained widespread in each society. Occasionally, as shown in the travel accounts of Rubruck, Polo, Mandeville, and Ibn Battuta, new information and traditions, including myth/legend became mixed up, causing confusion: for example, Rubruck discusses the legendary Christian Kingdom of Prester John, while Ibn Battuta talks about Gog and Magog in China. In China, imaginary places, such as countries of women and hairy people, found from the *Classic of Mountains and Seas* (*Shanhaijing*), also continued to find their way into geographic works and maps well into the early modern period.⁶⁴

Nonetheless, the general trend toward long-term change is unmistakable in the evidence from Chinese, Islamic, and European geography and cartography. Gradually, elites in these societies began to use the practical knowledge gained through these interactions to develop new policies that impacted their people and, in the long run, global history. Interestingly, though, elites in Europe were only indirectly affected by the Mongols; they were stimulated by the knowledge transfers of the Mongol age, and they used it to project power into Afro-Eurasia and beyond. By contrast, this new knowledge seemed to exert a limited influence in China, as seen in the short-lived Zheng He expeditions. Its previously extensive networks across the Indian Ocean and into the Islamic Middle East shrank amidst the Ming dynasty's sea ban. In other words, the importance of new geographic information, which the Europeans gained during the Mongol period, is undeniable and should not be underestimated. Indeed, these maps suggest that we should reconsider the implications of the Mongol Empire for global history.

NOTES

- 1 Allsen 1997, 6; May 2012, 109–129, 232–256.
- 2 Sugiyama 2000; Sugiyama 2007.
- 3 Park 2012, 9–15.
- 4 Allsen 2001; Park 2012; Park 2016c.
- 5 Park 2018, 100.
- 6 Cao 1990.
- 7 Wang Yong 1958, 18–24.
- 8 Aoyama 1963, 569–593.
- 9 Cao Wanru 1990, 42–44.
- 10 Zhao 1911; Zhao 1996; Leslie and Gardiner 1982, 254–308.
- 11 Park 2010, 78.
- 12 Buell 2015, 27; Allsen 2001.
- 13 Sugiyama 2004; Kim Hodong 2009.
- 14 Miya 2006, 517–523.
- 15 Kauz 2013, 159–167; Park 2012, 99–107; YS 48: 998–999.
- 16 Park 2012, 100–103; Unno 1996, 51–52.
- 17 Yee 1994, 124.
- 18 Park 2018, 1–4.
- 19 Fuchs 1946, 9–14.
- 20 Park 2018; Kenzheakhmet 2015; Kenzheakhmet 2016.
- 21 Park 2018, 229–230.
- 22 Rossabi 1992.
- 23 Park 2012, 112–113.
- 24 Wang 1981, 385.
- 25 Ptak 2001, 40.
- 26 Park 2012, 107–109.
- 27 Chen 1986, 31; Park 2012, 113–114.
- 28 Ma Huan 1970, 158–176.
- 29 Wade 2010; Leslie 1986, 105–139.
- 30 Ragep 2010, 124–125.
- 31 Tibbetts 1992.
- 32 Rapoport and Savage-Smith 2018.
- 33 Park 2018.

- 34 RDT, 6.
- 35 Allsen 2001, 59–80, 90–91.
- 36 Ono 2015; RDT, 11; Allsen 2001, 103–104.
- 37 Bloom 2008, 83–96.
- 38 Ashtor 1956; Allsen 1989; Kauz 2010.
- 39 Dunn 1986, 260.
- 40 Ibn Baṭṭūṭa 2000, 897–898; Beckingham 1993; Netton 1984.
- 41 Ibn Baṭṭūṭa 2000, 88–89; Pelliot 1959, 275–276; Park 2012, 155.
- 42 Park 2012, 147–149.
- 43 Qazwini 1919, II, 250–254; Park 2012, 141–146.
- 44 Pelliot 1959, 276; Park 2019, 42.
- 45 Woodward 1987; Edson 2007, 9–29; Akbari 2008, 112.
- 46 Woodward 1987, 319.
- 47 Park 2016c; Jackson 2005, 10–22.
- 48 Jackson 2005, 123–128.
- 49 Rubruck, 25–47; Dawson 1980; Bressan 1997, 5–8.
- 50 Rubruck; Pelliot 1959, 216–229.
- 51 Jackson 2018, 100.
- 52 Wood 1995; de Rachewiltz 1997; Vogel 2012, 1–88.
- 53 Vogel 2012.
- 54 Bressan 1997, 8–9.
- 55 Andreose 2014.
- 56 Andreose 2012; Andreose 2014; Bressan 1997, 11; Mandeville 1983, 11–22.
- 57 e.g., see fr. 2810 in Tsukimura 2002.
- 58 Park 2016a; Woodward 1987, 315.
- 59 Llompart 2011, 3–6.
- 60 Park 2016c, 143–158; Schröder 2021.
- 61 Sanudo 2011, 370–377; O’Doherty 2013.
- 62 Park 2016c; Falchetta 2006; Cattaneo 2011.
- 63 Skelton 1958, 16–17.
- 64 Park 2016b.

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