

4 • Chinese Maps in Political Culture

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Much of the history of Chinese cartography is bound up with that of Chinese political culture. Political culture, as used here, refers to the institutions and practices of the ruler and the class of scholar-officials that arose to assist rulers in their duties. This social stratum was the literary elite, those who “worked with their minds.”¹ It was, as Balazs has put it, “numerically infinitesimal.”² At the end of the twelfth century, for example, the imperial bureaucracy consisted of about 42,000 officials, drawn from a scholarly pool of about 200,000, itself comprising less than one-fifth of 1 percent of an estimated total population of 123 million. During the Qing dynasty (1644–1911), the population grew from 200 million to more than 300 million, and the scholarly pool increased to about 2 million. Prospects for a would-be official, however, seem to have worsened. The number of civil appointments within the bureaucracy totaled only about 20,000, with several thousand other posts obtainable by purchase. In other words, there was roughly one official per 10,000 population.³ Despite their small numbers, the scholar-officials were “omnipotent by reason of their strength, influence, position, and prestige, held all the power and owned the largest amount of land. . . . Their social role was at one and the same time that of architect, engineer, teacher, administrator, and ruler.”⁴

The connection of maps with this sphere of Chinese society goes back to textual sources dating from the Eastern Zhou (ca. 770–256 B.C.), one of the periods of disunity that punctuate Chinese history. It is traditionally divided into two parts, the Chunqiu (Spring and Autumn, 722–468 B.C.) and Zhanguo (Warring States, 403–221 B.C.), named after the titles of two ancient histories of the period.⁵ The fifth through third centuries B.C. in general were marked by intellectual ferment. Political advisers representing “a hundred schools of thought” roamed from state to state offering rulers competing advice on statecraft, the central problem of which was, as classically defined by Confucius (551–479 B.C.), how to restore the harmony last attained during the Western Zhou dynasty (ca. 1027–771 B.C.). The intellectual climate is described thus by Ban Gu (A.D. 32–92) in the *Han shu* (History of the Former Han): “[The various masters] all arose when

the way of the kings had weakened, the feudal lords ruled by strength, and the lords and rulers of the age differed in their likes and dislikes. Thus the theories of the nine schools arose like wasps [that is, were as numerous as wasps because of the various predilections of rulers].”⁶

The textual record, supported by artifacts, shows that cartography was implicated in the Eastern Zhou’s general intellectual orientation toward statecraft—a connection that continues in later periods. According to one Chinese classic, the *Zuozhuan* (Zuo’s tradition [of interpreting the *Chunqiu*]), “The great affairs of state lie in ritual and warfare.”⁷ Not surprisingly, most of the earliest possible

1. The idea of government by an intellectual elite goes back as far as the philosopher Mencius (372–289 B.C.), who said: “Some work with their minds. Some work with their physical strength. Those who work with their minds rule others. Those who work with their physical strength are ruled by others” (*Mengzi*, 3A.4; see *Mengzi yinde* [Concordance to Mencius], Harvard-Yenching Sinological Index Series, suppl. 17 [1941; reprinted Taipei: Chengwen Chubanshe, 1966], 20).

2. Etienne Balazs, *Chinese Civilization and Bureaucracy: Variations on a Theme*, trans. H. M. Wright, ed. Arthur F. Wright (New Haven: Yale University Press, 1964), 16.

3. A convenient compilation of population data for China from the Han through the mid-twentieth century is John D. Durand, “The Population Statistics of China, A.D. 2–1953,” *Population Studies* 13 (1960): 209–56. A more detailed compilation of population statistics from the Han through the Qing is Liang Fangzhong, *Zhongguo lidai hukou, tiandi, tianfu tongji* (Population, field acreage, and land tax statistics for China through the dynasties) (Shanghai: Renmin Chubanshe, 1980). For population statistics from the Ming dynasty onward, one may also consult Ping-ti Ho, *Studies on the Population of China, 1368–1953* (Cambridge: Harvard University Press, 1959). Information on the composition of the literate elite can be found in Ping-ti Ho, *The Ladder of Success in Imperial China: Aspects of Social Mobility, 1368–1911* (New York: Columbia University Press, 1962); and John W. Chaffee, *The Thorny Gates of Learning in Sung China: A Social History of Examinations* (Cambridge: Cambridge University Press, 1985).

4. Balazs, *Chinese Civilization and Bureaucracy*, 16 (note 2).

5. The *Chunqiu* chronicles political events from 722 to 480 B.C., and the *Zhanguo ce* (Intrigues of the Warring States) is a collection of historical narratives purporting to describe the period 403–221 B.C.

6. Ban Gu, *Han shu* (compiled first century A.D.), chap. 30; see the edition in 12 vols. (Beijing: Zhonghua Shuju, 1962), 6:1746. There is a partial translation of the *Han shu* into English: Homer H. Dubs, trans., *The History of the Former Han Dynasty*, 3 vols. (Baltimore: Waverly Press, 1938–55).

7. *Zuozhuan* (ca. 300 B.C.), *Cheng* 13, in *Chunqiu jingzhuan yinde*

references to cartography occur in the context of those two activities.

MAPS, RITUAL, AND WARFARE

One such reference perhaps occurs in the *Shu jing* (Book of documents). In the chapter entitled “Luo gao” (Announcement concerning the capital Luo), which may predate Confucius, the duke of Zhou describes how the site of the eastern capital Luoyi (near today’s Luoyang) was chosen:

I prognosticated about the region of the Li River north of the He; I then prognosticated about the region east of the Jian River, and west of the Chan River; but it was the region of Luo that was ordered [by the oracle]. Again I prognosticated about the region east of the Chan River; but again it was the region of Luo that was ordered. I have sent a messenger to come [to the king] and to bring a *tu* [chart or map] and to present the oracles.⁸

The text provides no further information about the map or chart that was sent to the king; it is unclear whether the chart was a talisman representing unseen forces like those that survive in the Daozang (Daoist canon) or a representation of physical features. But this much can be ventured: it was associated with hieratic activity as a function of the state.⁹

A Han commentator on the *Shi jing* (Book of odes), Zheng Xuan (127–200), regards one poem in the “Zhou song” (Hymns of Zhou) as describing the Zhou kings’ use of maps for divination. Translated according to Zheng’s reading, the poem, which may date from the Western Zhou, would read:

Oh, august are those Zhou!
They ascended the high mountains,
They followed the mountain’s long narrow ridges,
Truly they followed the chart [of the mountains
and rivers] and combined the rivers [in their
sacrifices];
All under the vast heaven,
To [the wishes of] all those [lands] they responded;
That was the [heavenly] appointment of the Zhou.¹⁰

Zheng Xuan comments that the chart or map he believes the poem refers to is being used to “order” a sacrifice conducted on a mountain.¹¹ It is doubtful, however, that the poem actually does refer to a chart or map—it does so only if one accepts Zheng’s reading of a character that has several meanings other than “chart” or “map.”¹² Zheng may be reading the poem in light of sacrificial practices of his own time, not necessarily explaining Western Zhou sacrificial practices, but perhaps providing an indication of the use of maps in sacrifices during the Han (206 B.C.–A.D. 220).

As the preceding examples suggest, the evidence for the ritual uses of maps before the Han dynasty may be

(Concordance to the *Chunqiu* and its commentaries), 4 vols. (1937; reprinted Taipei: Chengwen Chubanshe, 1966), 1:234. Some speculate that the *Zuozhuan* was originally a history unrelated to the *Chunqiu* and that its passages were subsequently reorganized under the appropriate sections in the *Chunqiu*.

8. The Chinese text used here is that included in “The *Book of Documents*,” ed. and trans. Bernhard Karlgren, *Bulletin of the Museum of Far Eastern Antiquities* 22 (1950): 1–81. Karlgren’s translation (p. 51) has been modified slightly.

9. Here as elsewhere, one encounters the problem of the ambiguous application of the Chinese graph *tu*. In texts from the Zhanguo period, the graphs *di* (地 earth, land) and *tu* (圖 drawing, illustration) appear as a compound for the first time—*ditu*, denoting “geographic maps.” The graph *tu* as a word by itself can also denote “map.” Its interpretation, however, presents some problems, since its semantic range is not restricted to “map,” and often context does not allow one to determine whether a text is referring to maps or illustrations. As a verb, *tu* can mean “to anticipate” or “to hope”; it can also mean “to scheme” or “to plan”—often in the negative sense of “plot against.” The Han etymological dictionary *Shuowen jiezi* (Explanation of writing and explication of graphs) assigns *tu* the meaning “onerous to plan.” See Xu Shen, comp., *Shuowen jiezi* (compiled ca. 100), s.v. *tu*, in *Shuowen jiezi gulin* (Collected glosses to the *Shuowen jiezi*), 12 vols., ed. Ding Fubao (Taipei: Shangwu Yinshuguan, 1959), 5:2722b. As a noun, the graph *tu* can be used in a similar sense to mean a “scheme,” “plot,” or “plan.” This meaning may have been extended to include visual representations of plans, and thus *tu* may have acquired its sense of “drawing” or “chart.” It had clearly acquired this sense by the early Han. The *Erya* (Progress toward correctness), a dictionary believed to have been compiled during the Qin or early Han, uses the graph *tu* in this sense. *Erya*, 2.91; see *Erya yinde* (Index to the *Erya*) (1941; reprinted Taipei: Chengwen Chubanshe, 1966), 7. The *Erya* also lists “plot” or “plan” as a synonym for *tu* (1a.12 [p. 1]).

10. *Shi jing*, ode 296. The Chinese text is that in *The Book of Odes*, ed. and trans. Bernhard Karlgren (Stockholm: Museum of Far Eastern Antiquities, 1950; reprinted 1974), 253. Karlgren’s translation of this ode has been revised here, in large part to reflect Zheng Xuan’s reading.

11. *Mao shi Zheng jian* (Zheng [Xuan]’s commentary on Mao [Heng]’s version of the *Shi [jing]*, second century), *Sibu beiyao* edition, 19.17b.

12. Bernhard Karlgren explains why Zheng Xuan’s reading should be rejected in “Glosses on the *Ta Ya* and *Sung Odes*,” *Bulletin of the Museum of Far Eastern Antiquities* 18 (1946): 1–198; reprinted in Bernhard Karlgren, *Glosses on the Book of Odes* (Stockholm: Museum of Far Eastern Antiquities, 1964), esp. 172. There also does not seem to be any archaeological evidence to support Mao Heng’s reading. Archaeologists have turned up examples of bones and tortoise shells—with verbal inscriptions—used in divination, but so far no examples of maps. The engravers of the inscriptions carved “straight or sinuous boundary lines” on the bones and shells, thereby “forming a series of compartments or ‘spheres of influence’” to show where one inscription ends and another begins. See David N. Keightley, *Sources of Shang History: The Oracle-Bone Inscriptions of Bronze Age China* (Berkeley and Los Angeles: University of California Press, 1978), 53–54. Shang divination practices are also discussed in Kwang-chih Chang, *Shang Civilization* (New Haven: Yale University Press, 1980), 31–42, 202–3. The inscriptions on the oracle bones are not without geographic significance. Keightley has used them to map the Shang state. See David N. Keightley, “The Late Shang State: When, Where, and What?” in *The Origins of Chinese Civilization*, ed. David N. Keightley (Berkeley and Los Angeles: University of California Press, 1983), 523–64, esp. 532–39.

equivocal, but there is little doubt that maps representing geographic knowledge were being produced and used regularly in military affairs. As might be expected during a period characterized by warfare, a number of *Zhanguo* texts discuss the military value of maps and geographic knowledge. The *Sunzi* (Master Sun[’s art of war]), a military treatise believed to date from about the fourth century B.C., contains a chapter titled “Topography” (*dixing*), which maintains that topographic knowledge is often the key to victory or defeat:

Topography is an aid in warfare. To evaluate the enemy, calculate the chances of victory, and analyze the difficulties of the terrain and the distances involved are the way of the superior general. Those who know this [the difficulties of the terrain and the distances] and engage in war will surely prevail; those who do not know this and engage in war will surely be defeated.¹³

The *Sunzi* makes no mention of maps, and their value can only be inferred from the text: knowledge of distances could have been represented in maps. The military application of maps, however, is more explicit in the *Guanzi* ([Book of] Master Guan), sections of which date from the third century B.C.: “In military affairs, it is the duty of military commanders to examine maps, consult with the court astronomer, estimate accumulated stores, organize the brave warriors, acquire a broad knowledge of the realm, and determine strategy.”¹⁴ The value of maps is also discussed in a chapter entitled “Maps” (*ditu*): maps are essential for planning troop movements, avoiding potential obstacles, and gaining advantage from the terrain.

All military commanders must first examine and come to know maps. They must know thoroughly the location of winding mountain passes; streams that may inundate their chariots; famous mountains; passable valleys; arterial rivers; highlands and hills; the places where grasses, trees, and rushes grow; the distances of roads; the size of city and suburban walls; famous cities and deserted ones; and barren and cultivated lands. They should completely store up [in their minds] the ways in and out of and the contrasts in the terrain; afterward they can move their troops and raid towns. In the disposition [of troops] they will know what lies ahead and behind, and will not fail to take advantage of the terrain. This is the constant value of maps.¹⁵

The role of maps in military affairs evidently was not limited to securing victory. They were also used as a token of defeat or surrender. The *Han Feizi*, a philosophical text dating from the third century B.C., describes this manner of map use in the course of refuting the

argument that, as a matter of survival, a small state must serve a larger one:

To serve a great power always requires substantial concessions, wherefore one must offer up one’s map and submit, and put the state seal in pawn for military aid. If the map is offered up, the territory will be cut up; if the state seal is handed over, prestige will be diminished. When the territory is cut up, the state will be cut up; when prestige is diminished, the government will fall into chaos.¹⁶

The suggestion here is that maps are vital to state security: to offer a map to another state is to render one’s own state vulnerable to attack and dismemberment; giving up a map of one’s country is tantamount to giving up one’s country.

This principle is illustrated by Jing Ke’s assassination attempt on the king of Qin. One account of this attempted assassination occurs in the *Zhanguo ce* (Intrigues of the Warring States). The prince of Yan, a small state threatened by the large state of Qin, commissions Jing Ke to kill the king of Qin. In order to win audience with the king, Jing Ke arrives in Qin with the head of one of Yan’s generals and a map of Dukang, a fertile region of Yan. The king of Qin interprets these offerings as tokens of respect and fear and is pleased to greet Jing Ke inside his palace. Jing Ke presents the map to the king, who unrolls it, exposing a poisoned dagger. Jing then seizes the king’s sleeve and, gripping the dagger, thrusts at him. The king evades the thrust, and a chase ensues. Jing Ke hurls the dagger but misses his target, and he then is beheaded by the king’s attendants. Qin’s response to the assassination attempt is to attack Yan, and eventually Qin succeeds in forming an empire, comprising itself and its six former rival states.¹⁷

POLITICAL CULTURE AND DOCUMENTARY SCHOLARSHIP

One of the major accomplishments of the Qin dynasty

13. *Sunzi*, *Sibu beiyao* edition, 10.10b–11a.

14. *Guanzi*, *Sibu beiyao* edition, 2.6b. The translation is essentially that in W. Allyn Rickett, trans., *Guanzi: Political, Economic, and Philosophical Essays from Early China* (Princeton: Princeton University Press, 1985–), 1:389 n.

15. *Guanzi*, 10.7a–b (in a modification of the translation by Rickett, *Guanzi*, 1:389–90 [note 14]).

16. *Han Feizi*, 49.14, in *Han Feizi suoyin* (Concordance to *Han Feizi*), ed. Zhou Zhongling et al. (Beijing: Zhonghua Shuju, 1982), 858. The translation modifies that of W. K. Liao, trans., *The Complete Works of Han Fei Tzu*, 2 vols. (London: Arthur Probsthain, 1939–59), 2:292.

17. *Zhanguo ce*, *Sibu beiyao* edition, 31.3b–8a. A translation of this account can be found in J. I. Crump, Jr., trans., *Chan-kuo Ts’u* (Oxford: Clarendon Press, 1970), 553–61. Another account appears in Sima Qian, *Shi ji* (Records of the grand historian, completed ca. 91 B.C.), chap. 86; see the edition in 10 vols. (Beijing: Zhonghua Shuju, 1959), 8:2526–38.

(221–207 B.C.) was the establishment of a centralized bureaucracy, setting a pattern for subsequent dynasties. One of the distinguishing features of the bureaucratic state was its emphasis on documentation, which played a key role in maintaining communication and control over a large territory. Maps were part of this documentary system of administration, whose philosophical foundations were laid during the Zhanguo period.

One of the earliest possible references to administrative maps occurs in the *Lun yu* (Analects [of Confucius]), a text believed to have been compiled during the fifth or fourth century B.C.: “If he [Confucius] saw a person dressed as a mourner, he would salute in respect; if he saw a person bearing official documents [*ban*], he would salute in respect.”¹⁸ The text of the *Lun yu* gives no details about what these documents were, but Zheng Xuan, one of the earliest commentators on this text, says they consisted of “charts and documents” (*tuji*).¹⁹ Whether these included maps is unknown. What is clear from Confucius’s salute is his reverence for documents—an attitude shared by other political thinkers and reflected in the documentary scholarship that was to develop within the bureaucracy.

The *Zhanguo ce*, dating from perhaps the third century B.C., attests to the political use of maps of large areas like those mentioned in the *Zhou li*. It tells how the scholar-politician Su Qin persuaded the king of Zhao to join forces with other states against the Qin by saying: “I have examined a map [*tu*] of the empire, and according to it, the territory of the princes is five times larger than that of the Qin. . . . If the six states were to join forces, head west and attack Qin, Qin would be smashed.”²⁰ During the same period, the political philosopher Han Feizi (d. 233 B.C.) suggests that maps are essential to administration: “The laws are codified in maps [or charts] and books, kept in government offices, and promulgated among the people.”²¹

The *Xunzi*, attributed to the Confucian philosopher Xun Qing (ca. 300–230 B.C.), indicates that the value placed on maps and other documents exceeded their administrative utility:

[High officials] preserve the laws and regulations, the weights and measures, the maps [or charts] and books. They do not know their significance, but take care to preserve them, not daring to decrease or increase them. They hand them down from father to son for the use of kings and dukes. Thus, although the Three Dynasties have fallen, their administrative practices and laws still survive.²²

Maps and other archival materials are revered, according to this account, because their preservation helps ensure the continuity of institutions. Another late Zhanguo work, the *Guo yu* (Discourses of the states), contains a

brief statement that adds another dimension to the cultural value of maps: “If you open the teachings of former kings and examine their documents, maps [*tu*], punishments and laws, then when observing their successes and failures, you will understand everything.”²³ The maps or illustrations are useful not only for spatial understanding but for moral understanding: they function in part as guides to ethical behavior. The text does not say how maps fulfill this function, but records from later periods attest to their educational usefulness (see below, pp. 86–87).

The interest in preserving cultural inheritance is also reflected in the practices that developed later in imperial China. Important documents, including maps, were often carved in stone, and documents of each dynasty were incorporated into official histories, which included treatises on such topics as geography and government organization. The government’s interest in preserving cultural inheritance, as well as controlling public opinion, gave it a stake in collating and editing literary and philosophical works. If government service was a proper concern of the scholar, as Confucian philosophy stipulated, then literary scholarship was also a proper concern of the government.²⁴ This association of scholarship and politics perhaps helps to account for the continuity of government practice after the Qin and Han.

MAPS IN HAN POLITICAL CULTURE

The Qin recognized the importance of documents, in accordance with the ideas expressed in classical texts. The Qin government, for example, collected maps (*tu*) and documents from the six states it conquered. The *Shi ji* (Records of the grand historian) refers to this collection in its biography of Xiao He (d. 193 B.C.), an intimate and adviser of Liu Bang (256–195 B.C.) or, as he came to be

18. *Lun yu*, 10:18, in *Lun yu zhengyi* (Orthodox interpretation of the *Lun yu*), ed. Liu Baonan (1791–1855), *Sibu beiyao* edition, 13.12b.

19. *Lun yu zhengyi*, 13.12b (note 18).

20. *Zhanguo ce*, 19.2b (note 17). For another translation of this passage, see Crump, *Chan-kuo Ts’e*, 290 (note 17).

21. *Han Feizi*, 38.19, in *Han Feizi suoyin*, 835. The translation modifies that of Liao, *Han Fei Tzu*, 2:188 (both in note 16).

22. Xun Qing, *Xunzi*, chap. 4, in *Xunzi yinde* (A concordance to *Xunzi*) (1950; reprinted Taipei: Chengwen Chubanshe, 1966), 10. The translation here modifies that of Dubs, see *The Works of Hsüntze*, trans. Homer H. Dubs (London: Arthur Probsthain, 1928), 57.

23. *Guo yu*, *Sibu beiyao* edition, 3.7a.

24. A concise historical survey of the relation between scholarship and government in China can be found in R. Kent Guy, *The Emperor’s Four Treasuries: Scholars and the State in the Late Ch’ien-lung Era* (Cambridge: Council on East Asian Studies, Harvard University, 1987), 10–37. One particularly detailed study of the scholar-state relationship is David McMullen, *State and Scholars in T’ang China* (Cambridge: Cambridge University Press, 1988).

known, Gaozu, first emperor of the Qin's successor, the Former Han (206 B.C.–A.D. 8). When Liu Bang took Xianyang, the capital of the Qin dynasty, Xiao He sought out the ordinances, maps, and documents in the Qin chancellery before Liu's generals burned down the city. The maps and documents proved especially useful to Liu Bang. With them he was fully informed about "the empire's strategic passes, its household population, the vulnerable points along its frontiers, and the hardships suffered by the people."²⁵ The Qin maps and documents apparently survived into the first century, for the *Han shu*, composed during that time, refers to them in its *dilizhi* (geographical treatise).²⁶

Under the Han, the Qin-style bureaucratic government continued. Details about the actual uses of maps within the government are sparse, but an idealized description of a bureaucratic government, the *Zhou li* (Ritual forms of Zhou), mentions a wide range of administrative uses for maps. The *Zhou li* is first mentioned in Han texts and purports to describe the Western Zhou's government institutions: a structure of six major organs, each headed by a principal minister with sixty subordinates. Since there is no evidence beyond the *Zhou li* itself that the Western Zhou ever developed such an elaborate government apparatus, the *Zhou li* may represent a Han attempt to justify its practices by claiming ancient precedent. It may thus provide an indication of the range of map use conceived during the Han period.

The maps (*tu*) mentioned in the *Zhou li* are used by officials in a variety of contexts. According to the *Zhou li*, maps have some economic uses. A kind of resource map is associated with the *gongren* (mining superintendent), who "presides over areas with gold, jade, tin, and precious stones, and issues strict prohibitions to preserve them." When there is need to extract them, the *Zhou li* adds, the *gongren* "inspects maps of their locations and gives them [to miners]."²⁷ Terrain maps are used by the *sixian* (director of defense works) "in order to be fully informed about the obstacles presented by mountains, forests, streams, and marshes [in the nine regions] and to open roads through them."²⁸

Maps referred to in the *Zhou li* are also used within the bureaucracy for auditing and accounting purposes. The *sikuai* (accountant) uses the information in maps and other documents to review the administration and manage the accounts of government officers.²⁹ Another official, the *sishu* (manager of writings), is said to use land maps (*tudi zhi tu*) "in order to be fully informed about incoming and outgoing wealth."³⁰ Other officials use several types of boundary maps. A kind of cadastral map seems to be used by the *xiao situ* (vice minister of education) to settle land disputes among the people.³¹ Boundary maps of narrower scope seem to be the responsibility of the *zhongren* (grave maker), who "distinguishes

the tombs in [royal burial grounds] and makes maps of them."³² The verb "distinguish" suggests that the *zhongren* indicated where one tomb site began and another ended, perhaps by drawing boundaries. Another kind of boundary map appears to be used by the *suiren* (supervisor of exterior districts) "to demarcate fields and wilderness."³³ There are also maps of larger scope, presumably depicting political subdivisions. One class of official, the *xingfang shi* (supervisor of territories), establishes the territory of the feudal states and regulates the boundaries of their fiefdoms.³⁴ Maps of the empire are used by the *zhifang shi* (overseer of feudatories) to help control imperial territory as well as to distinguish the populations, finances, agricultural products, and livestock of various administrative subdivisions and various tribes.³⁵ The *da situ* (grand minister of education) seems to have a similar function: he "presides over the maps of the territory of the feudal states and [the registration] of the number of their people in order to help the king secure the feudal states"; by means of maps he kept informed of each region's territorial extent, geographic features, and natural resources.³⁶ The *da situ*'s interest in geographic and demographic information was shared by another official, the *xiaozai* (junior steward), who is said to use population registers and maps to administer villages.³⁷

25. Sima Qian, *Shi ji*, chap. 53 (6:2014) (note 17). Another account of Xiao He's deed appears in the *Han shu*, chap. 39 (7:2006) (note 6). The phraseology of the *Han shu*'s account closely parallels that of the *Shi ji*.

26. *Han shu*, chaps. 28A and 28B (6:1586, 1622) (note 6). By the Western Jin (265–317), the Qin maps were lost. Pei Xiu (223–71) reports them as no longer in the imperial archives (see Fang Xuanling et al., *Jin shu* [History of the Jin, compiled 646–48], chap. 35; see the modern edition in 10 vols. [Beijing: Zhonghua Shuju, 1974], 4:1039).

27. *Zhou li*, *Sibu congkan* edition, 4.37a. The *Zhou li* has been translated into French by Edouard Biot: *Le Tcheou-li; ou, Rites des Tcheou*, 3 vols. (1851; reprinted Taipei: Chengwen Chubanshe, 1969).

28. *Zhou li*, 7.26a (note 27).

29. *Zhou li*, 2.19b (note 27). According to the commentator Zheng Xuan, the maps referred to here are "representations of the land" (*tudi xingxiang*). Neither the text of the *Zhou li* nor the accompanying commentary supplies further details about these maps.

30. *Zhou li*, 2.20a (note 27).

31. *Zhou li*, 3.24b–25a (note 27). The *Zhou li* also refers to *dantu* (vermillion charts), on which minor contracts, those between individuals, were written. Zheng Xuan speculates that these contracts bore illustrations and representations (*tuxiang*). See *Zhou li*, 9.27b–28a.

32. *Zhou li*, 5.45b (note 27). A surviving burial district map (*zhaoyu tu*) from the Zhanguo period is discussed and illustrated on pp. 36–37. That map differs from the maps of burial grounds described in the *Zhou li* in that it was used as a plan for construction, not as a diagram of an already existing site.

33. *Zhou li*, 4.23b (note 27).

34. *Zhou li*, 8.30b (note 27).

35. *Zhou li*, 8.24b (note 27).

36. *Zhou li*, 3.10b–11a (note 27).

37. *Zhou li*, 1.21b (note 27).

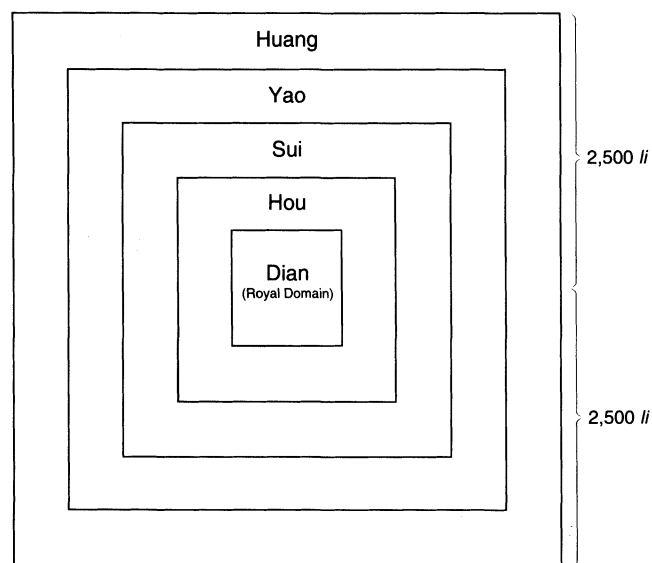


FIG. 4.1. DIAGRAM OF THE WU FU, OR FIVE DEPENDENCIES. These are political subdivisions described in the “Yu gong.”

After Bernhard Karlgren, “Glosses on the *Book of Documents*,” *Bulletin of the Museum of Far Eastern Antiquities* 20 (1948): 39–315, esp. 159.

The preceding examples suggest the importance of maps, within the governmental system described in the *Zhou li*, for political control. Beyond that, there is tacit recognition that a ruler should be well versed in geography. Two officials were responsible for keeping the king informed on geography. Both closely attended the king on royal inspection tours, presumably to point out things of geographical and historical interest. One of the two officials, the *tuxun* (royal scout), explained maps, and the second, the *songxun* (travel guide), was charged with explaining *fangzhi* (local records).³⁸

This last idea, the importance of geography for rulers, finds classical precedent in the “Yu gong” (Tribute of Yu), a chapter in the *Shu jing*, dating from at least the late Zhanguo period.³⁹ In the course of narrating the accomplishments of the legendary emperor Yu, reputed to have founded the Xia dynasty, the “Yu gong” purports to describe geographic features that serve as the basis for dividing territory into *jiu zhou* (nine regions or provinces). The Yan region, for example, supposedly between the Ji and Yellow rivers, is characterized by rich, black soil, luxuriant grass, and tall trees. The “Yu gong” also describes a second scheme of geographic subdivision, *wu fu* (five dependencies), based not on natural features of the land, but on political status:

In the central kingdom he [the emperor] conferred lands and clan-names. . . . Five hundred *li* [in each direction from the capital] are the *dian fu* [royal domain proper]. . . . Five hundred *li* [in each direction

outside the *dian fu*] are the *hou fu* [princes’ zone]. . . . Five hundred *li* [in each direction outside the *hou fu*] are the *sui fu* [pacification zone]. . . . Five hundred *li* [outside the *sui fu*] are the *yao fu* [zone of compacts]. . . . Five hundred *li* [in each direction outside the *yao fu*] are the *huang fu* [wild zone].⁴⁰

The translation given above follows an interpretation that yields a scheme of five concentric squares, the largest with sides of five thousand *li* (fig. 4.1).⁴¹ During the Han dynasty, this geometrical regularity proved attractive to interpreters of the “Yu gong,” as the *jiu zhou* were reconceptualized as a series of nine concentric squares (see fig. 8.2 and p. 207). The scheme was no longer based on physical or natural features.

During the Han, the interest manifested by the “Yu gong” in geographic inventory and political subdivision continues. The *Han shu*, much of which was compiled under official auspices, contains a geographic treatise, or *dilizhi*. This *dilizhi*, like those of later dynastic histories, is organized by administrative subunits. Most of the treatise is devoted to the geography, history, and demography of various *jun* (commanderies, equivalent to the prefectures of later periods) and *guo* (regions subordinate to the emperor). The treatise contains no maps, but Qin maps, as suggested above, and the “Yu gong” were among its sources.

Maps other than those of the Qin dynasty are mentioned in textual sources about the Han—for example, the *yudi tu* (maps of the empire).⁴² None of these comprehensive maps is extant, and textual sources give few details about their content and physical format.⁴³ We do know, however, that these maps, as in the past, had their

38. *Zhou li*, 4.34b–35a (note 27). The contents of these local records are unspecified; no titles of such works from this period have survived. Titles of *fangzhi* ascribed to the Han dynasty have been preserved, but nearly all surviving works date from after the Tang. *Fangzhi* (local gazetteers) of later periods will be covered in more detail below.

39. Gu Jiegang dates the “Yu gong” from the late years of the reign of Duke Zhuang of Lu (r. 693–662 B.C.)—from an oral communication to Hertlee Glessner Creel, cited in Creel’s *Studies in Early Chinese Culture, First Series* (Baltimore: Waverly Press, 1937), 99 n. 2. Elsewhere Gu dates the “Yu gong” from the Zhanguo period. See Gu Jiegang et al., eds., *Gushi bian* (Essays on ancient history), 7 vols. (1926–41; reprinted Hong Kong: Taiping Shuju, 1962), 1:206–10.

40. The Chinese text used here is that included in Karlgren, “The *Book of Documents*” (note 8). Karlgren’s translation (p. 18) has been modified slightly.

41. See Bernhard Karlgren, “Glosses on the *Book of Documents*,” *Bulletin of the Museum of Far Eastern Antiquities* 20 (1948): 39–315, esp. 159. The “Yu gong” itself contains no illustrations; its idealized symmetries seem to have rendered them otiose.

42. According to Sima Zhen, a Tang commentator on the *Shi ji*, the term *yudi tu* derives from the ancient idea of heaven as a chariot cover and earth as a chariot chassis (*Shi ji*, chap. 60 [6:2110] [note 17]).

43. Han *yudi tu* survived into the Liuchao (Six Dynasties) period. A Liuchao commentator on the *Han shu* used a Han *yudi tu* as a reference. See *Han shu*, chap. 6 (1:189 n) (note 6).

administrative and military uses. In his commentary on the *Zhou li*, Zheng Xuan says that Han *yudi tu* resemble the territorial maps used by the *da situ*.⁴⁴ Guangwu (the Emperor Guangwu) (5 B.C.–A.D. 57) brought a *yudi tu* with him during his campaign to reestablish the Han dynasty. At one point he unrolled it and assessed his prospects to one of his generals: “The empire’s commanderies and kingdoms are like this; I have just taken a small part. How could you have said before that my worries about taking the whole empire were unfounded?”⁴⁵ Besides the emperor, feudal princes apparently had their own copies of *yudi tu*, with which they could make military plans. Liu An (d. 122 B.C.), the prince of Huainan, is said to have used a *yudi tu* to position his troops.⁴⁶ The maps also had ritual uses. Presentation of *yudi tu* to the emperor was apparently part of the ceremonies associated with enfeoffment.⁴⁷

A number of sources besides the Qin maps would have been available for the compilation of the Han *yudi tu*. The *yudi tu* might have used information contained in maps received in tribute from foreign peoples. In A.D. 46 the southern branch of the Xiongnu, nomads who often raided northern China, dispatched a map to the Han government before seeking annexation.⁴⁸ The makers of *yudi tu* may also have relied on maps submitted by administrative units and subordinate states. All the extant maps from the Han seem to have been produced by local administrations, and among the information conveyed by these maps are topographical features, such as mountains and streams, and the locations of cities, settlements, and military outposts. Maps, population and land registers, and financial accounts of local administrations were presented annually to the central government. Ban Gu describes a practice of map submission in his “Dongdu fu” (Eastern capital rhapsody): “The Son of Heaven receives maps and registers from the four seas.”⁴⁹ These documents were reviewed by the counselor-in-chief (*chengxiang*) in preparing the state budget. They were also used by the *yushi zhongcheng* (palace aide to the censor-in-chief) to review local administration.

The examples discussed above might suggest that the Han government was merely a passive recipient of geographic information, but it did seek out such information for maps in an active manner. One of the responsibilities of the *yushi zhongcheng* was to “preside over” maps and documents (*tuji*).⁵⁰ Survey teams were also dispatched to gather information. Under the emperor Wu (140–87 B.C.), Han envoys traced the Yellow River (Huanghe) to its source, in a mountainous area rich in precious stones. After the envoys returned, the emperor “consulted old maps and documents (*tushu*) and gave the name ‘Kunlun’ to the mountains from which the river flows.”⁵¹ Some geographic information also came from military expeditions. The general Li Ling (d. 74 B.C.) once left Juyan,

in present-day Gansu Province, with five thousand foot soldiers and went north for thirty days, making maps of the terrain he passed.⁵² Another military official, Li Xun (first century A.D.), while subjugating “northern barbarians” (*bei di*), mapped the “mountains and streams, and villages and fields” that he passed. The finished product consisted of more than one hundred sections and greatly pleased the emperor.⁵³

The association of maps and political culture, well established by the Qin and Han as shown above, had ritualistic implications. The equation of territory with political power seems to have led to attaching political power to maps themselves, particularly in matters pertaining to the afterlife. This would help to explain why all Han maps discovered so far have been found in tombs. Maps seem to have been buried in the tombs of local officials as symbols of their past temporal power and to ease their passage to the otherworld. The practice of map

44. See *Zhou li*, 3.10b (note 27).

45. Fan Ye, *Hou Han shu* (History of the Later Han, compiled fifth century A.D.), chap. 16; see the edition in 12 vols. (Beijing: Zhonghua Shuju, 1965), 3:600.

46. *Han shu*, chap. 44 (7:2149); and for another example of a feudal lord possessing a *yudi tu*, see *Han shu*, chap. 53 (8:2417) (note 6).

47. *Shi ji*, chap. 60 (6:2110) (note 17); *Hou Han shu*, chap. 1B (1:65) (note 45). The *Dongguan Han ji* (Han records from the eastern tower, compiled ca. first to second century) by Liu Zhen mentions that the emperor Ming of the Han (r. 57–75) used a *yudi tu* to assess the size of his son’s fiefdom (*Sibu beiyao* edition, 2.4a).

48. *Hou Han shu*, chap. 89 (10:2942) (note 45). Another possible reference to maps received from “barbarian” peoples occurs in the *Han shu*. In 35 B.C. the emperor received a slain “barbarian” (*hu*) leader’s “charts and documents” (*tushu*), and these were shown to “worthy ladies,” a group of wives ranking just below the empress (*Han shu*, chap. 9 [1:295] [note 6]). According to some commentators, these documents described the configuration of the leader’s “lands, mountains, and streams.”

49. In Xiao Tong, comp., *Wen xuan* (Literary selections, completed ca. 526–31), ed. Hu Kejia (1809; reprinted Kyōto: Chūbun Shuppansha, 1971), 1.25b. The translation is essentially that in David R. Knechtges, trans. and annotator, *Wen Xuan; or, Selections of Refined Literature* (Princeton: Princeton University Press, 1982–), 1:165.

50. *Han shu*, chap. 19A (3:725) (note 6). The text does not specify whether this official supervised map production or collection or both, but at least it provides a clear indication that the administrative value of maps was recognized during the Han. The “usurper” Wang Mang (45 B.C.–A.D. 23), who reigned between the Former and Later Han, consulted those who “understood geography and maps and documents” when reforming government institutions and revising geographical subdivisions (*Han shu*, chap. 99B [12:4129]) (note 6). In doing this, Wang Mang maintained that he was following precedents established in classic texts like the “*Yu gong*” and *Zhou li*. For a translation of this episode, see Dubs, *History of the Former Han*, 3:319–23 (note 6).

51. *Shi ji*, chap. 123 (10:3173) (note 17). Another account of this expedition appears in the *Han shu*, chap. 61 (9:2696) (note 6).

52. *Han shu*, chap. 54 (8:2451) (note 6). The text provides no further details about these maps.

53. *Hou Han shu*, chap. 51 (6:1683) (note 45). As is often the case, the text supplies no further details about these maps.

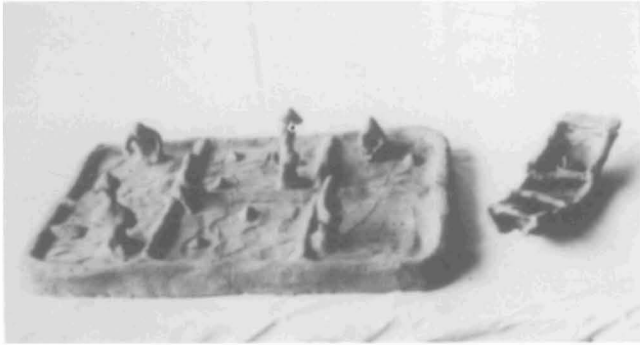


FIG. 4.2. CLAY MODEL OF FIELDS FOUND IN A HAN TOMB.

Height of the figures: ca. 13–15 cm. From Joseph Needham, *Science and Civilisation in China* (Cambridge: Cambridge University Press, 1954–), vol. 6, *Biology and Biological Technology*, pt. 2, *Agriculture*, by Francesca Bray (1984), fig. 27.



FIG. 4.3. CLAY MODEL OF A POND FOUND IN A HAN TOMB.

Size of the original: 9 × 28 × 28 cm. By permission of Wenwu Chubanshe.

burial may be related to another burial practice—that of placing in tombs pieces of clay wrapped in cloth (*bu tu*) and clay models of fields and ponds (figs. 4.2 and 4.3).⁵⁴ These artifacts are believed to have symbolized land-holdings and would presumably help the tombs' occupants win a place of respect in the spirit world.

Such appears to be the motivation behind the model commissioned by Qin Shihuang (r. 221–210 B.C., found-

ing emperor of the Qin) for his mausoleum, in present-day Lintong Xian (County), Shaanxi. Sima Qian (ca. 145–ca. 85 B.C.) describes the model and the process of its construction in the *Shi ji*:

When Shihuang first came to power, he hollowed out and arranged Li Shan (Mount Li). After he unified the empire, conscripts from all over the empire were sent there—more than 700,000. They tunneled through to three subterranean springs, poured in copper, and made the outer coffin. Palaces, a hundred offices, wondrous contrivances, and rare exotica were sent to fill the tomb. Artisans were ordered to make mechanical crossbows and bolts, so that anyone who tunneled near would be shot. They used mercury to make the hundred streams, the [Yangtze] Jiang, the [Yellow] River and the great sea; devices made the mercury circulate from one course to the other. Above, they prepared the patterns of heaven; below, they prepared the configurations of the earth. They used seal oil to make lamps, which, it was reckoned, would burn forever without going out. . . . Trees and grass were planted to make the tumulus resemble a mountain.⁵⁵

The mausoleum has yet to be excavated, so the *Shi ji*'s account of the three-dimensional map cannot be confirmed. Even if the tomb is excavated, it may still be hard to judge the veracity of the *Shi ji*'s account, since the mechanical crossbows did not prove to be an effective deterrent—plunderers during the late Qin or early Han period may have taken much of the tomb's contents.⁵⁶ There is, however, evidence that mercury was used in some way in the mausoleum. Chang Yong and Li Tong have analyzed the mercury content of the soil in the area and found a pocket of unusually high mercury concen-

54. On these burial practices, see Wang Zhongshu, *Han Civilization*, trans. Kwang-chih Chang et al. (New Haven: Yale University Press, 1982), 207–8.

55. *Shi ji*, chap. 6 (1:265) (note 17). Another description of the tomb, not as elaborate as that in the *Shi ji*, appears in the *Han shu*, chap. 51 (8:2328) (note 6). In addition to the three-dimensional model, sacrificial victims were also placed in the tomb. The *Shi ji*'s account says: "Ershi [the second emperor] said: 'It is not proper to send away those of my father's ladies who had no sons.' Thus all of them were ordered to follow the first emperor into death; those put to death were a multitude. When the coffin had been set down, some said that since the laborers and artisans made the devices and knew all about the stored treasures, the great value of the treasures would leak out. Thus after the burial and the collection of treasures, the middle gate was shut, and the outer gate closed, to immure all the laborers, artisans, and stockpilers; no one ever came out again."

56. According to one account, in thirty days of plundering about the end of the Qin, 300,000 people were unable to remove all the tomb's treasures. See Li Daoyuan, *Shui jing zhu* (River classic commentary, ca. sixth century), chap. 19, in *Shui jing zhu jiao* (Corrected *Shui jing zhu*), ed. Wang Guowei (Shanghai: Renmin Chubanshe, 1984), 621. The tomb is said to have been plundered once again during the Liuchao period. See Li Xueqin, *Eastern Zhou and Qin Civilizations*, trans. Kwang-chih Chang (New Haven: Yale University Press, 1985), 254.

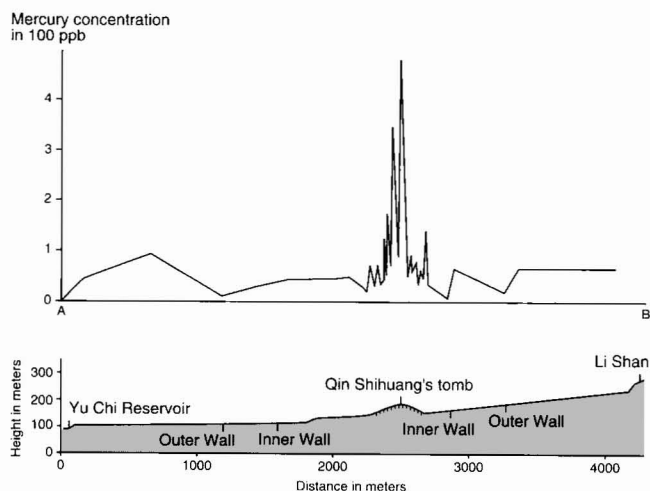


FIG. 4.4. GRAPH OF THE CHANGES IN MERCURY CONCENTRATION IN THE SOIL AT THE SITE OF QIN SHIHUANG'S TOMB. The levels of mercury directly above the tomb are about four times the levels in the surrounding area. After Chang Yong and Li Tong, "Qin Shihuang lingzhong maicang gong di chubu yanjiu" (Preliminary study of the mercury interred in Qin Shihuang's tomb), *Kaogu*, 1983, no. 7:659-63 and 671, esp. 663.

tration just above the emperor's tomb (fig. 4.4). They conclude that this verifies the *Shi ji*'s description of the mercury-filled streams and sea.⁵⁷

Some idea of the dimensions of the model empire can be gathered from the mausoleum's external dimensions. The perimeter of the tomb mound is about four hundred meters square, and at its apex the mound stands about forty-three meters high (fig. 4.5).⁵⁸ The three-dimensional map of the emperor's realm and the heavens above seem to have had little utility other than to symbolize Qin Shihuang's temporal power as the Son of Heaven. Such trappings of power might have been useful in establishing the emperor in the spirit world: with his body placed amid the cosmographic model, the emperor, in death as

57. Chang Yong and Li Tong, "Qin Shihuang lingzhong maicang gong di chubu yanjiu" (Preliminary study of the mercury interred in Qin Shihuang's tomb), *Kaogu*, 1983, no. 7:659-63 and 671.

58. See Li, *Eastern Zhou and Qin*, 251-54 (note 56); Maxwell K. Hearn, "The Terracotta Army of the First Emperor of Qin (221-206 B.C.)," in *The Great Bronze Age of China: An Exhibition from the People's Republic of China*, ed. Wen Fong (New York: Metropolitan Museum of Art, 1980), 353-68, esp. 357; and Robert L. Thorp, "An Archaeological Reconstruction of the Lishan Necropolis," in *The Great Bronze Age of China: A Symposium*, ed. George Kuwayama (Los Angeles: Los Angeles County Museum of Art, 1983), 72-83.



FIG. 4.5. VIEW OF THE SITE OF QIN SHIHUANG'S TOMB. Photograph courtesy of the William A. Dando family.



FIG. 4.6. RELIEF MODEL FOUND IN A TOMB FROM THE SOUTHERN TANG DYNASTY. The grooves on the floor of the emperor Li Bian's tomb (*left* is the western part of the floor, *right* is the eastern part) represent rivers.



Size of the floor: 6.03 × 5.9 m. From Nanjing Bowuyuan (Nanjing Museum), *Nan Tang erling fajue baogao* (Report on the excavation of two Southern Tang mausoleums), ed. Zeng Zhao-yue (Beijing: Wenwu Chubanshe, 1957), 34 (nos. 3 and 4).

in life, would still serve—albeit symbolically—as the intermediary between heaven and earth.⁵⁹

THE CONTINUITY OF QIN AND HAN PRACTICES

The description of Qin Shihuang's tomb seems to have influenced the interior design of the tombs of later emperors: celestial paintings are found in the tombs of the Han, Tang (618–907), Liao (916–1125), and Song (960–1279) dynasties, and a three-dimensional model of the cosmos has been found in a tomb of the Southern Tang (937–60).

The occupant of this last tomb was the Southern Tang's first emperor, Li Bian (r. 937–43). His short reign allowed little time, about six years, for the construction of his tomb. In contrast, Qin Shihuang's tomb took nearly forty years to complete.⁶⁰ The relatively short construction period, coupled with the Southern Tang's limited financial resources and, because of its reduced territorial

59. The emperor's trappings of power would have been recognized by the spirit-world bureaucracy, attested to by artifacts dating from the first half of the second century B.C. The Han dynasty's earthly bureaucracy was based on the Qin model, but it is not clear whether the Han's spirit-world bureaucracy had a similar Qin antecedent. Han literature, however, does recount Qin Shihuang's belief in the existence of immortal beings. The literature on Chinese burial practices and conceptions of the afterlife is fairly extensive. On Chinese burial practices, see Robert L. Thorp, "Burial Practices of Bronze Age China," in *The Great Bronze Age of China: An Exhibition from the People's Republic of China*, ed. Wen Fong (New York: Metropolitan Museum of Art, 1980), 51–64; and idem, "The Qin and Han Imperial Tombs and the Development of Mortuary Architecture," in *The Quest for Eternity: Chinese Ceramic Sculptures from the People's Republic of China*, ed. Susan L. Caroselli (Los Angeles: Los Angeles County Museum of Art, 1987), 17–37. On Chinese conceptions of the afterlife, see Albert E. Dien, "Chinese Beliefs in the Afterworld," also in *Quest for Eternity*, 1–15; Michael A. N. Loewe, *Ways to Paradise: The Chinese Quest for Immortality* (London: George Allen and Unwin, 1979); Ying-shih Yü, "Life and Immortality in the Mind of Han China," *Harvard Journal of Asiatic Studies* 25 (1964–65): 80–122; and idem, "'O Soul, Come Back!' A Study in the Changing Conceptions of the Soul and Afterlife in Pre-Buddhist China," *Harvard Journal of Asiatic Studies* 47 (1987): 363–95.

60. Before the Song dynasty, construction of an emperor's tomb

holdings, its relatively small labor pool, perhaps account for the relative spareness of the model when compared with the sumptuousness ascribed to the model in Qin Shihuang's tomb. The Southern Tang model, as it survives, may also be incomplete, since the tomb had been looted before its excavation in 1950–51.⁶¹

The tomb is at the southern foot of Gao Shan (Mount Gao), near Nanjing, and occupies a mound about 5 meters high and 30 meters in diameter. It consists of three main chambers—front, middle, and rear—each with side chambers serving as repositories for burial objects. The rectangular rear chamber measures 5.9 meters wide and 6.03 meters long, making it the largest of the three main chambers. Its size corresponds to the importance of its contents: it housed the emperor's coffin and the three-dimensional model.

The coffin was placed on a brick platform extending from the middle of the chamber's rear wall. On the floor of the chamber are carved two meandering and branching grooves, one at each side of the bed, presumably representing the Yellow and Yangtze rivers, supposedly modeled in Qin Shihuang's mausoleum (fig. 4.6). There is no evidence that mercury flowed through the model rivers, as it was said to have done in Qin Shihuang's tomb, or that the model included representations of mountains, as the *Shi ji*'s description of Qin Shihuang's tomb implies, or that there were buildings like those reportedly made for Qin Shihuang's tomb. But similar to the description of Qin Shihuang's tomb, the ceiling of Li Bian's chamber has a painting of the heavens. In addition to constellations, the painting has a red sun on its eastern panel, a full moon on its western panel, and pole stars on the northern and southern panels (fig. 4.7). As in the case of Qin Shihuang's tomb, the model in Li Bian's tomb seems to have little practical utility. Along with clay figures presumably representing the emperor's retinue, it seems to have been intended to ease the emperor's transition to the spirit world—on the platform his body would have symbolically occupied an intermediate position between heaven and earth.

In addition to funerary uses, other patterns of governmental map use established during the Qin and Han periods seem to have continued in later dynasties. In the Qing dynasty, for example, charts showing the arrangement of altars and ritual objects accompany texts describing the sacrifices carried out by the emperor as intermediary between heaven and earth (fig. 4.8). As for the administrative uses of maps, the elevation of the *Zhou li* to canonical status during the Tang dynasty seems to have made it almost the last word. Later writers probably saw no need to describe in detail what was already covered in such an authoritative text. Consistent with this, treatises on government from the Tang onward say little that is original about maps. During the nineteenth century,

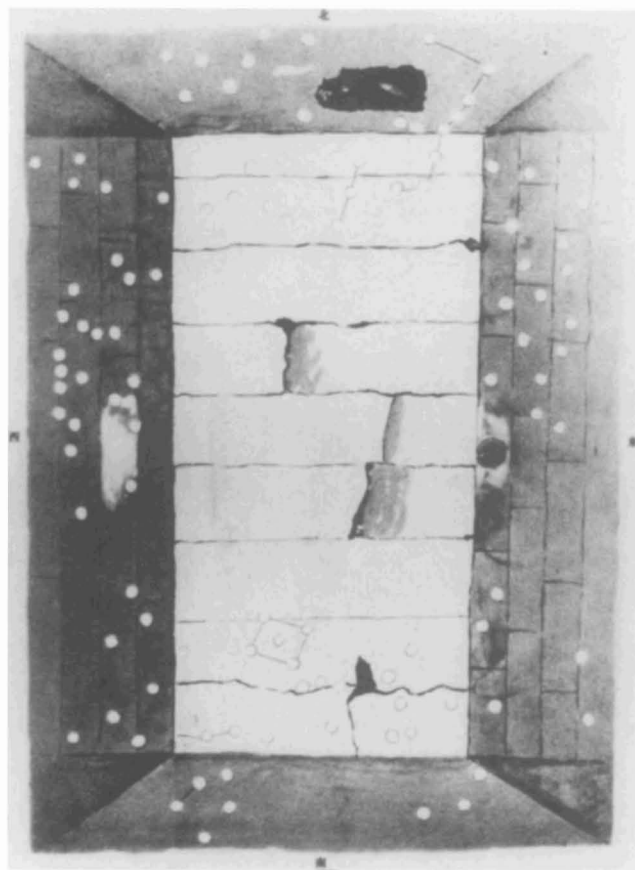


FIG. 4.7. STAR MAP PAINTED ON THE CEILING OF THE TOMB OF LI BIAN, AN EMPEROR OF THE SOUTHERN TANG. North is at the top.

Size of the ceiling: 6.03 × 5.9 m. From Zhongguo Shehui Kexueyuan Kaogu Yanjiusuo (Archaeological Research Institute, Chinese Academy of Social Science [Academia Sinica]), *Zhongguo gudai tianwen wenwu tuji* (Album of ancient Chinese astronomical relics) (Beijing: Wenwu Chubanshe, 1980), 74.

for example, compilers of gazetteers, compendiums that typically contain maps, referred to the *Zhou li* as the definitive statement on the value and use of maps in government. The preface of one eighteenth-century gazetteer begins: “Why do we make large gazetteers? They were

began in the year of his accession. During the Song, this system changed: construction of an emperor's tomb began after his death, and it was stipulated that an emperor had to be buried within seven months of his death. This meant there was little time for the elaborate preparations of the kind attributed to Qin Shihuang's tomb. For more information on Chinese imperial burial practices, see Robert L. Thorp, *Son of Heaven: Imperial Arts of China* (Seattle: Son of Heaven Press, 1988).

61. Further information about the excavation of this tomb may be found in Zeng Zhaoyue et al., eds., *Report on the Excavation of Two Southern T'ang Mausoleums: A Summary in English* (Beijing: Cultural Objects Press, 1957); and Zeng Zhaoyue et al., eds., *Nan Tang er ling fajue baogao* (Report on the excavation of two Southern Tang tombs) (Beijing: Wenwu Chubanshe, 1957).

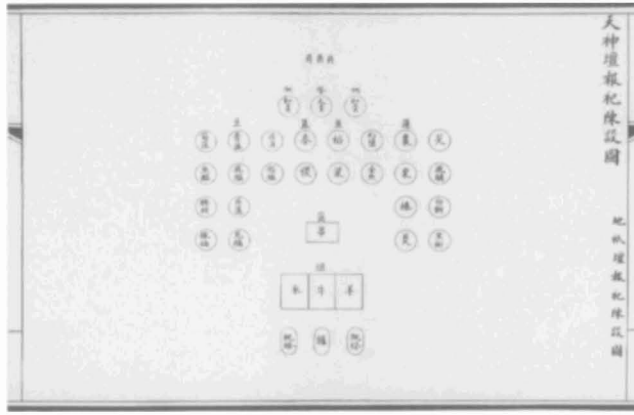


FIG. 4.8. CHART SHOWING THE ARRANGEMENT OF RITUAL OBJECTS AND OFFERINGS USED IN IMPERIAL SACRIFICES THANKING THE HEAVENLY SPIRITS. The placement of sacrificial animals—pig, cow, and sheep—is indicated in the three boxes near the bottom of the chart. Other offerings include silk, indicated in the single box, and various grains, among the circles.

Size of the original: 20 × 29 cm. From *Qinding Da Qing hui-dian* (Imperially commissioned collected statutes of the Great Qing), 75 vols. (1899), *tu* 13.12b–13a. Reproduced courtesy of the Harvard-Yenching Library, Harvard University, Cambridge.

first created in the *Zhou guan* [Institutes of Zhou, i.e., *Zhou li*].”⁶²

There is some warrant for this assertion of continuity. The titles of the officials concerned with maps may have differed depending on the period, and there may have been differences in administrative organization, but the historical record does not suggest any significant alteration of the general description of map use given for the Han. As in the *Zhou li*, maps after the Han served a variety of government purposes. They were used in public works projects, especially in water conservancy. The record for the Qing dynasty is particularly full in this regard: memorials to the emperor describing repairs on levees and canals were often accompanied by maps (see pp. 101–2). Also in accordance with the *Zhou li*, maps continued to help resolve boundary disputes.

As before, maps were also valued for their utility in warfare. The cartographer Pei Xiu (223–71), for example, attributes the military success of the Western Jin (265–317) in part to accurate maps of rival states.⁶³ In recognition of the military value of maps, *yudi tu* continued to be a responsibility of the ministry of war through the Qing dynasty. During the Song dynasty, for example, the *bingbu shangshu* (minister of war) “used maps of the empire, prefectures and counties to be fully informed about its territory.” Serving under the minister of war was the *zhifang langzhong* (director of the bureau of operations), who with his assistant “presided over the empire’s maps and documents [*tuji*] in order to be fully

informed about the extent of regional territory and the distances of routes to prefectures and outposts.”⁶⁴ Maps were also used by commanders in the field for planning strategy and as accompaniments of reports to the throne. Commanders would sometimes go to great lengths to obtain maps of enemy territory. In a campaign against Yao tribesmen in 1552, Mao Kun (1512–1601) sent spies into enemy areas and had them draw maps in invisible ink. Using these maps, Mao Kun was able to construct a three-dimensional model of the area and plan attacks on seventeen tribal strongholds. They were all taken in a single day.⁶⁵

As in the Han, maps later played a part in foreign relations. Tributary states often presented maps to the Chinese government as signs of subservience. In 648, for example, the general Wang Xuance defeated the kingdom of Kāmarūpa, which then presented the Chinese emperor with “wondrous things and curious objects and a map.”⁶⁶ In 1721 the emperor reported to his grand secretaries that a Russian emissary had presented a map of his country to the court. The map was significant to the emperor because it confirmed an ancient account—once thought to be “wanton fiction”—of an impassable sea of ice to the far north, where “rats” the size of elephants (mammoths) once roamed.⁶⁷

62. “Jiu xu” (Old preface), in *Xiangshan xian zhi* (Gazetteer of Xiangshan County [in modern Guangdong Province]) (1750; reprinted Taipei: Taiwan Xuesheng Shuju, 1968), 1a. Gazetteers are described more fully later in this chapter.

63. *Jin shu*, chap. 35 (4:1040) (note 26). Pei Xiu may have come to appreciate the strategic importance of maps while helping to plan Sima Zhao’s successful campaign against his rival Zhuge Dan (d. 258). At the time of this campaign, Sima Zhao, enfeoffed the prince of Jin in 254, was the most powerful leader of the Wei dynasty (220–65). See *Jin shu*, chap. 35 (4:1038) (note 26).

64. Tuotuo et al., *Song shi* (History of the Song, 1346), chap. 163; see the edition in 40 vols. (Beijing: Zhonghua Shuju, 1977), 12:3855–56.

65. See Chaoying Fang and Else Glahn, “Mao K’un,” in *Dictionary of Ming Biography, 1368–1644*, 2 vols., ed. Luther Carrington Goodrich and Chaoying Fang (New York: Columbia University Press, 1976), 2:1042–47, esp. 1043–44. The use of three-dimensional maps for military planning goes back to at least A.D. 32, when the general Ma Yuan (14 B.C.–A.D. 49) made a three-dimensional map in front of the emperor and used it to explain military strategy: “He collected rice to make hills and valleys, pointed out topographical features, indicated the routes to be followed by massed armies, and discriminated the bends and turns [in the routes] so that the situation was clearly understood” (*Hou Han shu*, chap. 24 [3:834] [note 45]).

66. Ouyang Xiu et al., *Xin Tang shu* (New history of the Tang, compiled 1032?–60), chap. 221A; see the edition in 20 vols. (Beijing: Zhonghua Shuju, 1975), 20:6238. Another account of this military campaign appears in Liu Xu et al., *Jiu Tang shu* (Old history of the Tang, compiled 940–45), chap. 198; see the edition in 16 vols. (Beijing: Zhonghua Shuju, 1975), 16:5308. According to both accounts, Wang Xuance was aided by about one thousand Tibetan soldiers and seven thousand Nepalese cavalry.

67. *Da Qing Shengzu Ren (Kangxi) huangdi shilu* (Veritable records

As the last example suggests, maps received in tribute were useful for revising geographic knowledge. The central government, however, often sought geographic information on foreign lands in a more active manner. During the Tang, for example, the court of state ceremonial (*honglu si*) was responsible for the accommodation and entertainment of foreign guests. The office also served as a source of geographic information for the bureau of operations: “Whenever foreign guests arrived, the court for diplomatic relations inquired about their country’s mountains and streams and its customs and terrain. It then made a map and presented it to the emperor, a copy of which was sent to the bureau of operations.”⁶⁸ To supplement the information provided by foreign guests, Chinese embassy missions were expected to gather geographic information, which would have military value in case hostilities broke out. This information included distances between major places, topographic descriptions, locations of fortifications, and maps.

When the central government was weak, maps were exchanged with adjoining states as part of treaty arrangements. In one case the central government was so weak that it found itself sending maps to an invading force—precisely the act of submission described in pre-Han texts like the *Han Feizi*. The Song emperor in 1126 concluded a treaty with a Jurchen (Ruzhen) prince-commander in which he agreed to pay indemnity and cede territory. In recognition of the territorial concessions, new borders were drawn, as described in the Song government’s oath letter: “Now it has already been agreed and determined that north of the counties and garrison towns administered by the whole southern area comprising Zhongshan, Taiyuan, and Hejian prefectures, prefectural troops will draw a boundary. There are other maps showing the situation before the Jin [Jurchens] arrived and established border outposts.”⁶⁹ Maps of the three prefectures were delivered to the Jurchens along with the oath letter.

Presenting maps to foreigners must have been humiliating to the Song government, which had previously been apprehensive about the mapmaking and map taking of foreign tribute missions to China. One memorial, written in 1089, warned that Korean envoys might draw maps of Chinese mountains and rivers and pass this geographic information to the Khitans (Qidans).⁷⁰ In his *Mengxi bitan* (Brush talks from Dream Brook) Shen Kuo (1031–95) recorded the activities of a Korean tribute mission:

During the Xining reign period [1068–77], Gaoli [Korea] sent tribute. In every province and country through which [the mission] passed, they asked for maps; and in each case these were made and presented to them. Mountains and rivers, thoroughfares and roads, the difficulty of the terrain—there was nothing that was not completely recorded. When they arrived

at Yangzhou, they reconnoitered the prefecture and obtained maps. At this time the minister Chen Xiugong [Chen Shengzhi, 1011–79] was prefect of Yangzhou [in present-day Jiangsu Province], and he deceived the emissaries. He asked to see all the maps of the Liang Zhe circuits [in present-day Jiangsu] that they had been supplied with, so that he could copy their patterns and remake them for presentation. When the maps came, he gathered them together and burned them, and wrote a report on the whole affair.⁷¹

This suspicion against foreigners who made maps of China surfaced again in the Qing, when China was governed by a ruling house with foreign origins. In 1805, by which time the Manchu court had been Sinicized, the emperor’s ministers reported that letters written in a European language and a map had been intercepted. After an investigation, an Italian named Adeodato confessed that he had sent the letters and map to the pope:

I am an Italian and the Superior of the [Xitang, or Western church]. These places on this map show the regions in which Chinese converts worship according to our religion. Because the regulations of our various orders are so different, there are always disputes when new missionaries of different orders arrive in [Beijing]. Therefore we have used signs to distinguish the various orders. . . . I desire to send this map to the Pope to

of Shengzu, emperor Ren [Kangxi], of the Great Qing, compiled ca. 1739) (1937; reprinted Taipei: Hualian Chubanshe, 1964), 191.19a–20b. For a translation of this record, see Lo-shu Fu, comp., trans., and annotator, *A Documentary Chronicle of Sino-Western Relations (1644–1820)*, 2 vols. (Tucson: University of Arizona Press, 1966), 1:133.

68. *Xin Tang shu*, chap. 46 (4:1198) (note 66).

69. *Da Jin diaofa lu* (Record of the Great Jin’s consolation [of the people] and punishment [of the guilty], compiled ca. twelfth century), *Baibu congshu jicheng* edition, 1.25a. The Jurchens, a tribal people from China’s northeast frontier, conquered northern China during the twelfth century and established a Chinese-style dynasty known as the Jin (1115–1234).

70. Herbert Franke, “Sung Embassies: Some General Observations,” in *China among Equals: The Middle Kingdom and Its Neighbors, 10th–14th Centuries*, ed. Morris Rossabi (Berkeley and Los Angeles: University of California Press, 1983), 116–48, esp. 139. The Khitans, a tribal people from China’s northeast frontier, established a Chinese-style dynasty in northern China in the tenth century. Their state was known as the Liao (916–1125).

71. Shen Kuo, *Mengxi bitan* (ca. 1088), chap. 13, par. 234, in *Xin jiaozheng Mengxi bitan* (Newly edited *Mengxi bitan*), ed. Hu Daojing (1957; reprinted Hong Kong: Zhonghua Shuju, 1975), 144. The same paragraph number can be used to locate this passage in *Mengxi bitan jiaozheng* (*Mengxi bitan* edited), 2 vols., ed. Hu Daojing, rev. ed. (1960; reprinted Taipei: Shijie Shuju, 1961). For another translation of this passage, see Joseph Needham, *Science and Civilisation in China* (Cambridge: Cambridge University Press, 1954–), vol. 3, with Wang Ling, *Mathematics and the Sciences of the Heavens and the Earth* (1959), 549–50. For an extensive account of Shen’s life and work, see Nathan Sivin, “Shen Kuo,” in *Dictionary of Scientific Biography*, 16 vols., ed. Charles Coulston Gillispie (New York: Charles Scribner’s Sons, 1970–80), 12:369–93.

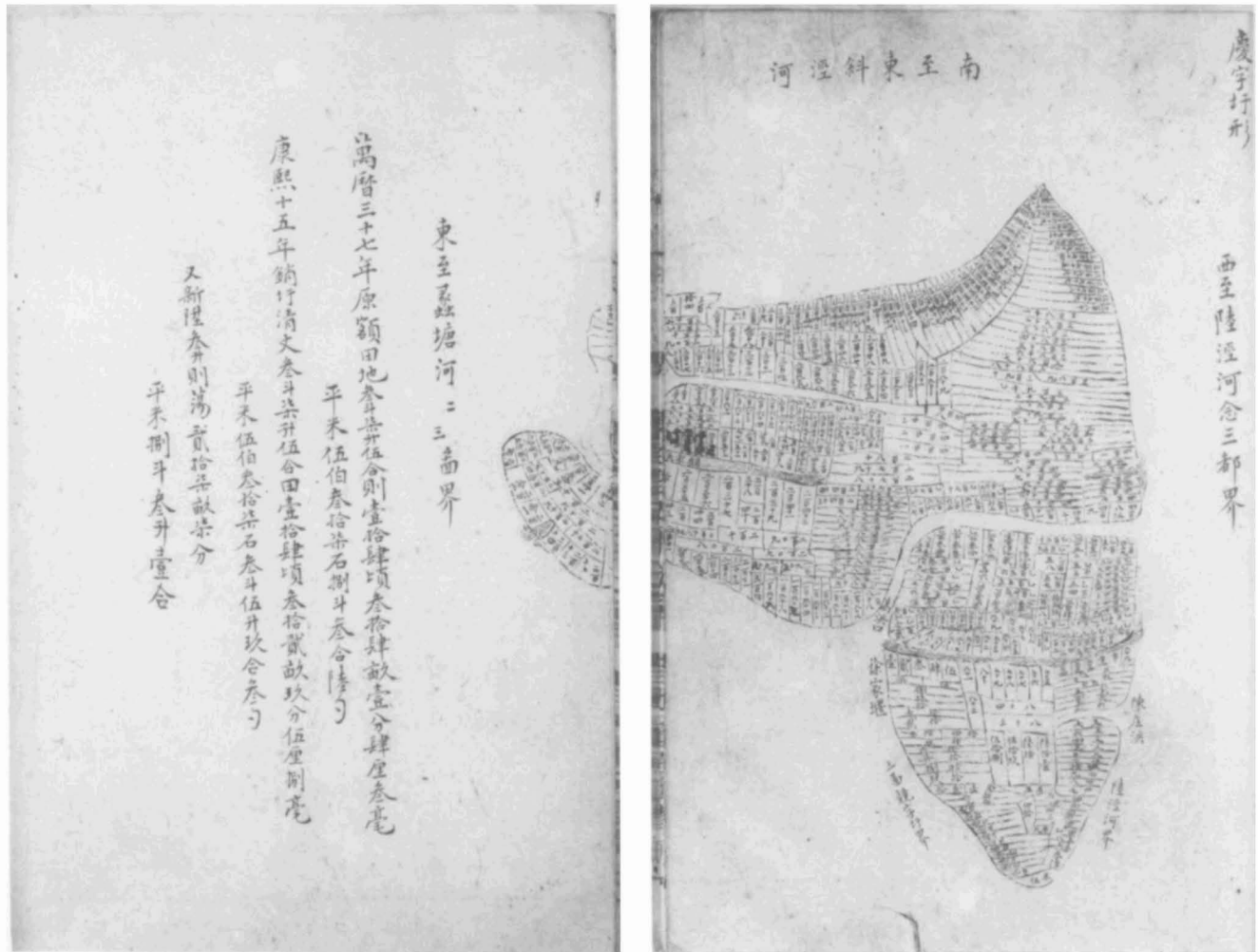


FIG. 4.9. QING "FISH-SCALE" OR CADASTRAL MAP. If these maps (figs. 4.9 and 4.10) are any indication, cadastral surveys were complicated by the irregular configurations of field boundaries, which made it difficult to calculate the areas of fields and, as a consequence, the taxes owed. It is not known how officials conducting cadastral surveys calculated the areas of irregularly shaped fields. Perhaps they approximated the areas

by abstracting more regular geometric shapes, such as squares and triangles, from the actual configurations. This depiction is of fields in Yuanhe Xian (County), in modern Jiangsu Province, from a fish-scale map register. Size of each folio: 37 × 23 cm. By permission of the Institute of Oriental Culture, University of Tokyo.

let him know in which regions there are Chinese converts, and to which order they belong, so that in the future, he may send missionaries of the accepted order to a particular church and thus avoid controversy.⁷²

The Chinese ministers asked Adeodato how he obtained the map, and he replied: "This was an old map in the [Xitang]. After I became the Superior, I found it in a wastepaper basket."⁷³ This explanation left the Chinese officials dissatisfied: If Adeodato had picked up the map by accident, they asked, how could he understand its symbols? According to the Chinese, Adeodato's response to further questioning was unclear, and the official conclusion was that Adeodato "may be concealing something."⁷⁴

From a legal point of view, Adeodato's map was especially incriminating, since by imperial decree only Europeans were allowed to practice Christianity. Furthermore, Europeans were to have no social contacts with the Chinese populace, and Chinese citizens were forbidden to practice the heretical religion from the West. Adeodato's map provided evidence that breaches of imperial decree were widespread, and as a result Catholicism was officially denounced, Catholic publications were col-

72. Fu, *Documentary Chronicle*, 1:351 (note 67).

73. Fu, *Documentary Chronicle*, 1:351 (note 67).

74. Fu, *Documentary Chronicle*, 1:352 (note 67).



FIG. 4.10. MING “FISH-SCALE” OR CADASTRAL MAPS. During the Ming dynasty, fish-scale map registers contained general maps of contiguous landholdings (left, apparently a Ming copy of a fish-scale map) and tables containing maps of individual fields (right, from a Ming fish-scale map register). The tables, keyed to a general map, also list such information as registration numbers and areal measurements and describe the eastern, western, southern, and northern boundaries of the fields. The maps within the tables do not seem to be drawn to consistent scale. According to the annotations, the plot in the upper left is supposedly somewhat larger than that in the lower

right. But according to the images, the plot in the lower right is larger.

The map on the left is a copy of the “Hongwu zhangliang yulin tu” (Fish-scale map of measurements from the Hongwu reign period [1368–98]) preserved in *Wu shi xianying zhi* (Record of the Wu family’s ancestral graves, 1635). The map on the right is in *Ming Wanli jiu nian yulin tu* (Fish-scale map register of the ninth year of the Ming dynasty’s Wanli reign period [1573–1620], 1581), 1:1.

Size of the originals: left, not known; right, 39 × 29 cm. Photograph courtesy of the Museum of Chinese History, Beijing.

lected and burned, and practicing Christians were persecuted and barred from office.⁷⁵

Behind the manifest anti-Christian message of the government’s actions, there was also a geographic one: geographic information about the Chinese empire and especially maps were the preserve of the Chinese government. In accord with what the *Zhou li* implied about the importance of geography for rulers, ruling houses after the Han collected geographic information on their territorial holdings. The practice of map submission by regional and local governments continued, though the periodicity of such submissions varied. During the Tang dynasty, prefectural maps were submitted to the bureau of military affairs every two years; during the Song, the schedule was

changed to every five years.⁷⁶ *Zhuanyun shi* (fiscal commissioners) during the Song dynasty were required to submit maps of their jurisdictions (known as *lu*, circuits) to the central government at ten-year intervals, while prefectural governments presented maps in each intercalary year, or about once every three years.⁷⁷

At times the central government commissioned its own local surveys. In 1387, for example, the imperial government ordered a cadastral survey of Zhejiang and southern

75. See Fu, *Documentary Chronicle*, 1:352–58 (note 67).

76. *Tang huiyao* (Important records of the Tang, completed 961), chap. 59; see the edition in 3 vols. (Taipei: Shijie Shuju, 1963), 2:1032.

77. See *Song shi*, chap. 441 (37:13041) (note 64).

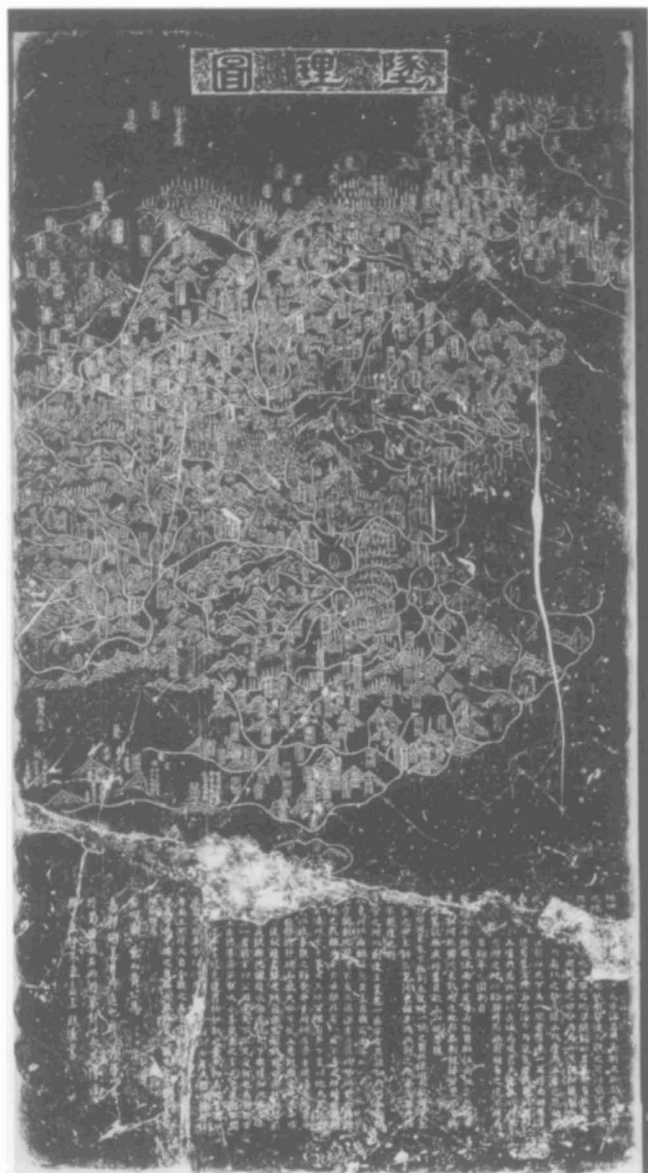


FIG. 4.11. *DILI TU* (GEOGRAPHIC MAP). This copy of a map by Huang Shang was engraved on stone by Wang Zhiyuan in 1247 and erected at the Suzhou prefectural school. Size of the original: 179 × 101 cm. Municipal Museum (Stone tablets), Suzhou. Photograph courtesy of Cao Wanru, Institute for the History of Natural Sciences, Academia Sinica, Beijing.

Jiangsu: survey teams “measured fields all around, registered them using numbers, recorded the names of the owners and the dimensions of the fields, and compiled them into registers, shaped like fish scales and called fish-scale map registers.” In addition to boundaries, these fish-scale maps (*yulin tu*) represented such land features as elevation and soil type.⁷⁸ Such map registers were in use as early as the Song dynasty and continued to be used through the Qing dynasty (figs. 4.9 and 4.10). The government’s interest in the cadastral survey and resulting map registers was twofold: the registers could be used to

help resolve legal disputes over property rights, and they also served as an aid for tax accounting; with them, government officials could estimate the revenue base from land taxes and keep track of individual taxpayers. The survey commissioned in 1387, for example, was ordered as a result of widespread tax evasion: the wealthy landowners in Zhejiang and Jiangsu were registering their lands under the names of relatives, neighbors, and even servants. Rectifying the situation required more than twenty years: the fish-scale registers for the area were presented to the throne in 1398.⁷⁹

Although maps were useful, as the preceding examples illustrate, in fulfilling ritualistic, military, and administrative purposes, their value extended beyond those areas. As early texts like the *Xunzi* and *Zhou li* suggest, geographic knowledge was part of the necessary equipment of the ruler, and maps could be used to transmit cultural values. A geographic map titled *Dili tu* (Geographic map), made for this purpose perhaps in 1193, was copied on stone in 1247. The original map does not survive, but the stone copy (fig. 4.11) was preserved in a Confucian temple in Suzhou, along with stone copies of three other documents made at the same time. According to the inscription on the *Dili tu*, all four documents were presented to the prince of Jia by his tutor.⁸⁰ The other three documents consisted of a synoptic table of the history of China, a celestial chart, and a plan of Suzhou, an important city of the Southern Song (1127–1279). According to the *Song shi* (History of the Song), the documents were made by the prince’s tutor Huang Shang for the purpose of educating the future ruler. The program of instruction proved timely, if one accepts Chavannes’s 1193 date for the documents, for the prince rose to the throne as the emperor Ningzong (r. 1194–1224) the following year.⁸¹

78. Zhang Tingyu et al., *Ming shi* (History of the Ming, 1739), chap. 77; see the edition in 28 vols. (Beijing: Zhonghua Shuju, 1974), 7:1881–82.

79. For further discussion of cadastral surveys in China, see Ho, *Population of China*, 101–35 (note 3). For further discussion of fish-scale maps, see Niida Noboru, “Shina no tochi daichō ‘gorinsetsu’ no shiteki kenkyū” (Historical study of Chinese land register “fish-scale” maps), *Tōhō Gakuhō* (Tokyo) 6 (1936): 157–204; and Chao Kang (Zhao Gang), “Ming-Qing diji yanjiu” (Study of Ming and Qing land records), *Zhongyang Yanjiuyuan Jindaishi Yanjiusuo Jikan* 9 (1980): 37–59.

80. A transcription and French translation of the inscription and the notes on the *Dili tu* appear in Edouard Chavannes, “L’instruction d’un futur empereur de Chine en l’an 1193,” *Mémoires concernant l’Asie Orientale* 1 (1913): 19–64. In the inscription, the engraver of the stone copy identifies himself as Wang Zhiyuan; nothing is known about him other than what he says in the inscription. He says that he found the *Dili tu* and three other documents in what is now Sichuan, where the prince of Jia once resided. He took them to Suzhou, where he engraved them in stone to ensure their transmission to future generations.

81. *Song shi*, chap. 393 (34:12,000) (note 64); and Chavannes, “L’instruction” (note 80).

The didactic function of the celestial chart and geographic map is implied by the *Song shi*'s summary account of Huang's poems to the prince, advising him on how to apply astronomical and geographic knowledge: "[Huang] wished that the prince would observe phenomena and realize that advancement in learning is like the ceaseless motion of the heavens, and that he would unroll maps and consider that half the territory of his ancestors had fallen into foreign hands and had yet to be recovered."⁸² During the Southern Song, much of China was under the control of the Jin, and the *Dili tu* is drawn so as to remind its user of his mission. The map shows the locations of the capitals of the Northern Song (960–1126) and Liao dynasties, both of which had fallen to the Jin—thus the map's user could see how much territory was lost and had to be recovered. If the representation of lost capitals was not enough, notes on the *Dili tu* refer to the example of another emperor, Guangwudi of the Han, who recovered the empire from a usurper. In an incident already cited, Guangwudi was reminded of the difficulty of recovering the empire when he looked at a map. Though the forces of the Han emperor were numerically weak, he was able to prevail, the *Dili tu*'s notes imply, because of his superior virtue. The parallel would not have been lost on the future Southern Song ruler, who would also suffer from a numerical disadvantage. The application of the parallel would also have been clear: the future ruler could compensate for lack of military strength by self-cultivation, by preparing himself to rule through moral example.

The usefulness and pervasiveness of maps at all levels of government could reasonably be expected to have contributed to the development of specialists in mapmaking. No such class of specialists seems to have appeared, however—at least not until the end of the Qing dynasty. It seems that map use was so widespread that all officials were expected to have or acquire some skill in producing them. In general, however, there was little sense of professionalism; maps were seldom carefully drawn; practices were inconsistent; and there were no generally shared standards.⁸³ As with mapping, there does not seem to have been an official class of specialists in surveying; knowledge of mensuration seems to have been expected of all officials. The Kangxi emperor himself (1654–1722) showed officials how to take measurements for a general survey of China and led armies on topographic surveys: "We personally marshalled the six armies and went to Ningxia, where we stayed for twenty days. We extensively viewed land configurations, roaming about and inspecting the forms of mountains."⁸⁴

The official class, Balazs has stated, was "firmly against any form of specialization."⁸⁵ This generalization, though not so true for the lower levels of government, especially during the Song and after, holds for the highest levels of

the bureaucracy.⁸⁶ There, in a hierarchy of subjects that may seem opposed to modern intellectual values, literary learning was more valued than technical knowledge. Those who passed the mathematics examination, for example, were relegated to low-level posts; the highest posts were reserved for those who passed the literary examination. Knowledge of the written word was the way to official success, and this fact of life helped reinforce the reverence for documents expressed in the classics.

Occasionally, however, the government recognized the mapmaking skills of particular individuals and commissioned them to produce maps. The scholar-official Shen Kuo, for instance, received no formal schooling and seems to have been trained in mapmaking on the job. He served in a series of local posts in which he designed and supervised land reclamation schemes requiring surveys. Several of Shen's posts in the central government—for example, *jiaoshu lang* (editor in the palace library), *sitian jian* (director of astronomy), *chafang shi* (investigation commissioner)—gave him access to documents and instruments useful to mapmaking, though his chief responsibilities often lay in military and fiscal affairs. In 1075, while in the service of the central government, he made an inspection tour of the Khitan frontier. During this tour he carefully recorded topographic features—mountains, rivers, and roads—and represented them on a wax topographic map. He presented a wooden copy of the wax map to the emperor, who called his ministers together to view it and then ordered all frontier prefectures to make wooden maps to be stored in the inner treasury.⁸⁷ Although Shen Kuo was not officially classified as a mapmaker, his mapmaking talents, as the example of his three-dimensional model shows, were recognized: he was commissioned in 1076 to compile an atlas of all Chinese territory.

82. *Song shi*, chap. 393 (34:12,001) (note 64).

83. The central government made an attempt to standardize cartographic practices in the late Qing, but it allowed deviations from them when provincial governments reported that the announced standards would delay the submission of maps. See p. 195.

84. Aixinjueluo (Aisingioro) Xuanye (Kangxi emperor), *Kangxi di yuzhi wenji* (Collected commentaries of the Kangxi emperor) (1733; reprinted Taipei: Taiwan Xuesheng Shuju, 1966), 32.2a. See also Jonathan D. Spence, *Emperor of China: Self-Portrait of K'ang-hsi* (1974; reprinted New York: Vintage-Random House, 1975), 73.

85. Balazs, *Chinese Civilization and Bureaucracy*, 17 (note 2).

86. The generalization, however, can be qualified. First, the large number of polymaths in the Northern Song contrasts with the narrower attitude from the Southern Song, one that tended to discourage non-literary pursuits by scholars. Second, in the Northern Song financial experts could reach the highest levels of government.

87. Shen, *Xin jiaozheng Mengxi bitan*, chap. 25 (256); see also Sivin, "Shen Kua," 380 (both in note 71).

ASTROLOGY AND CELESTIAL MAPPING IN POLITICAL CULTURE

One aspect of mapping did fall under the purview of specialists—celestial mapping. The need for accurate calendars to regulate agriculture and the precisely timed ritual functions of the court, such as seasonal sacrifices, contributed to the establishment of an office devoted to astrology. The *Zhou li* mentions at least two offices concerned with celestial phenomena, the *fengxiang shi* (royal astronomer) and the *baozhang shi* (royal astrologer). The *fengxiang shi* was concerned with keeping time in accordance with a number of celestial phenomena and calculating the positions of those phenomena.⁸⁸ The officer's calculations of those positions, according to Zheng Xuan, were equivalent to a calendar.⁸⁹ The *baozhang shi*'s duties illustrate the inseparability of astronomy from astrology: he was responsible for "recording the changes and movements of the planets, sun and moon, so as to observe movements in the world and to distinguish good and bad fortune." The connection between celestial and earthly phenomena was also reflected in administrative divisions. The *baozhang shi* divides the territory of the nine regions into areas dependent on particular stars, and all investitures have "distinct stars by which one can prognosticate their misfortune or good fortune."⁹⁰

During the Han, the head of the astrological office was called the *taishi ling* (grand astrologer). To a large extent, his duties paralleled those of the astrologers mentioned in the *Zhou li*: he was responsible for constructing the annual calendar, identifying auspicious and inauspicious days for rituals, and recording portents and omens.⁹¹ These remained the essential responsibilities of the court astrologers in later dynasties, though their exact titles varied. The astrologer's purpose in recording celestial and terrestrial anomalies went beyond the needs of agriculture. The goal was to correlate them with political events. This is made clear by Sima Qian, an astrologer-historian of the first century B.C.: "Looking up, [rulers] contemplated the signs in the heavens and, looking down, observed their counterparts on earth." The ancients, Sima Qian says, prognosticated on the basis of celestial omens and anomalies in order to "conform to the exigencies of the time."⁹² The *Han shu* makes the point that administrative mistakes on earth are reflected in anomalies in the heavens: "Thus the enlightened lord beholds them [celestial omens] and awakens, governing himself and rectifying his affairs; if he ponders his faults, then misfortune will be eliminated and good fortune will result."⁹³ Understanding celestial phenomena was regarded as a means of legitimizing political power, a way of preserving the mandate of heaven. Unexplained phenomena, those that could not be predicted, were cause for political apprehension, as Sivin has remarked:

An astronomical system was a complete set of mathematical techniques for calculating an ephemerides which provides both positions and dates of characteristic phenomena for the sun, moon, and planets. Once a system was officially adopted, it became part of the Emperor's ritual paraphernalia . . . because the ability to predict moved celestial events from the realm of the ominous to that of the rhythmic and intelligible. The Emperor was thus enabled to know Nature's [Dao] so that his social order might be kept concordant with it. Failure of the official system to predict was necessarily a sign of moral imperfection, a warning that the monarch's virtue was not adequate to keep him in touch with the celestial rhythms.⁹⁴

The correlation of natural anomalies with political happenings required collecting data on both. Thus the duties of court astrologers included compiling historical records. In some cases, astrologers noted that celestial disturbances coincided with terrestrial phenomena, as shown by these records from the Tang:

In the fifth month of the eighteenth year [of the Zhen-guan reign period] [644], a streaming star [meteor] fell out of the Eastern Wall [in Pegasus], with a sound like thunder. The prognostication said: "Those with a sound like thunder are signs of anger [on earth? in heaven?]"⁹⁵

In the tenth month of the fourth year [of the Yonghui reign period] [653] a woman from Muzhou [in present-day Zhejiang], Chen Shuozhen, revolted; the prefect of Wuzhou, Cui Yixuan, executed her; a star fell on the rebel camp.⁹⁶

In the second month of the second year [of the Jing-long reign period, 708] a heavenly dog [explosive meteor] fell in the southwest, with a sound like thunder; the wild pheasants all shrieked.⁹⁷

The astrologers did not correlate every heavenly anomaly with a particular earthly event. More often, the astro-

88. *Zhou li*, 6.44b (note 27).

89. *Zhou li*, 6.44b (note 27).

90. *Zhou li*, 6.45a–b (note 27).

91. *Hou Han shu*, "Baiguan zhi" (Treatise on the hundred offices) (12:3572) (note 45). The grand astrologer was also expected to possess expertise in documentation: he supervised examinations for candidates for offices responsible for handling documents: *shangshu* (imperial secretary) and *shishu lingshi* (calligraphy clerk). See Hans Bielenstein, *The Bureaucracy of Han Times* (Cambridge: Cambridge University Press, 1980), 19.

92. *Shi ji*, chap. 27 (4:1342–43) (note 17).

93. *Han shu*, chap. 26 (5:1273) (note 6).

94. Nathan Sivin, *Cosmos and Computation in Early Chinese Mathematical Astronomy* (Leiden: E. J. Brill, 1969), 7.

95. *Xin Tang shu*, chap. 32 (3:842) (note 66).

96. *Xin Tang shu*, chap. 32 (3:842) (note 66).

97. *Jiu Tang shu*, chap. 36 (4:1321) (note 66).

logical records note only that a certain disturbance—eclipse, meteor, comet, red pneuma—occurred at a certain time, as in this example from the Song:

On the *dingmao* [fourth] day of the second month of the first year [1049] of the Huangyou reign period, a comet emerged from the void; at dawn it appeared in the eastern region, and it pointed to the southwest. It passed through Purple Tenuity [a constellation consisting largely of the stars of Draco] to Harvester [a *xiu* or lunar lodge]. In all it lasted 114 days before vanishing.⁹⁸

The sheer quantity of such observations has fostered the impression that Chinese astrology was largely empirical, that Chinese astrologers rarely engaged in theory. Theory in a nontechnical sense, however, did underlie the practice of data collection—a theory that correspondences existed between heaven and earth. If enough data were collected, then the links between natural anomalies and earthly events might be induced.⁹⁹

Chinese astrologers worked out at least one system of correspondences between sectors of the heavens and particular Chinese cities and provinces. This system appears in the explanatory text to the stone copy of the celestial map presented to the prince of Jia (p. 547, fig. 13.21). According to this text, phenomena in certain regions of the heavens affect particular political subunits: “Whenever the sun and the moon mutually eclipse or an unusual phenomenon of the stars or planets occurs, the fortune or misfortune of the corresponding regions may be predicted by knowing in each case the given correlation.”¹⁰⁰

THE PROLIFERATION OF GEOGRAPHIC RECORDS

The desire to correlate heaven and earth suggests another reason besides administration and defense for the Chinese government’s interest in compiling geographic information, such as could be used in maps. Geography was considered a subdivision of history, and geographical treatises, as well as the dynastic histories of which they were a part, were products of the astrological bureau and its institutional descendants: Chinese histories typically include treatises on astrology (*tianwen zhi*) and geography. These treatises preserved the empirical data for inferring relationships between celestial and terrestrial phenomena. Maps, as mentioned above, supplied some of the data for those treatises. Not coincidentally, some of those known for geographic mapping were astrologers. Zhang Heng (78–139), for example, presented a topographic map (*dixing tu*) in the year 116, while holding the office of grand astrologer.

Because the imperial state claimed that its foundations were those of the celestial order, it is easy to understand

the proliferation of geographic works after the Han.¹⁰¹ The collection of data on terrestrial phenomena was not restricted to the imperial historians. Much of the heavens could be viewed from a single observatory; this was not the case with the earth. For information on terrestrial occurrences not directly observable by the astrologer-historian, the central government had to rely on data submitted from various localities, often in the form of *fangzhi* (local gazetteers), a term already encountered in the *Zhou li*. These gazetteers, compiled under central or local government auspices, are compendiums of information pertaining to a particular region, typically an administrative subunit: provinces, prefectures, counties. Typically, gazetteers included a section of maps. The central government collected gazetteers from its administrative subunits and used them to compile comprehensive gazetteers of the entire empire. These also often contained maps.

Only a few examples of these works predating the Song survive, but we know the titles of several hundred compiled before the Song. The bibliographic section in the *Sui shu* (History of the Sui, compiled in the seventh century) lists nearly 140 geographic works, including gazetteers and maps. The compilers of the *Sui shu* suggest that the gazetteers in particular follow a precedent established by the “Yu gong” and the *dilizhi* of the *Han shu*.

The *Sui shu* provides no details about the content of the gazetteers it lists, but it does mention that in some cases compiling such works required the use of documents submitted by local administrations. About 610 the emperor ordered all the prefectural governments to “arrange their [records concerning] customs and products and their maps, and submit them to the secretariat.”

98. *Song shi*, chap. 56 (4:1227) (note 64).

99. For an extended discussion of the relation between Chinese astrology and documentary scholarship, see Shigeru Nakayama, *Academic and Scientific Traditions in China, Japan, and the West*, trans. Jerry Dusenbury (Tokyo: University of Tokyo Press, 1984)—a very suggestive work.

100. This translation is that of W. Carl Rufus and Hsing-chih Tien, *The Soochow Astronomical Chart* (Ann Arbor: University of Michigan Press, 1945), 7. According to Rufus and Tien, the correlation consisted of four elements: “first, a branch [one of the twelve places toward which the Dipper’s seven stars point during the twelve months] with its compass direction; second, the position in the sky designated by an asterism; third, a kingdom; and fourth, a region” (7 n). A table illustrating the scheme appears on pp. 12–13.

101. A bibliography of more than two thousand of these works through the Yuan has been compiled by Zhang Guogan in *Zhongguo gu fangzhi kao* (Study of ancient local gazetteers in China) (Beijing: Zhonghua Shuju, 1962); only about fifty of them survive. Zhang’s list may be complemented by *Zhongguo difangzhi lianhe mulu* (Union catalog of Chinese gazetteers), ed. Zhongguo Kexueyuan Beijing Tianwentai (Beijing Observatory, Chinese Academy of Sciences) (Beijing: Zhonghua Shuju, 1985), which lists more than eight thousand extant gazetteers, dating from the Song through the Republican period.

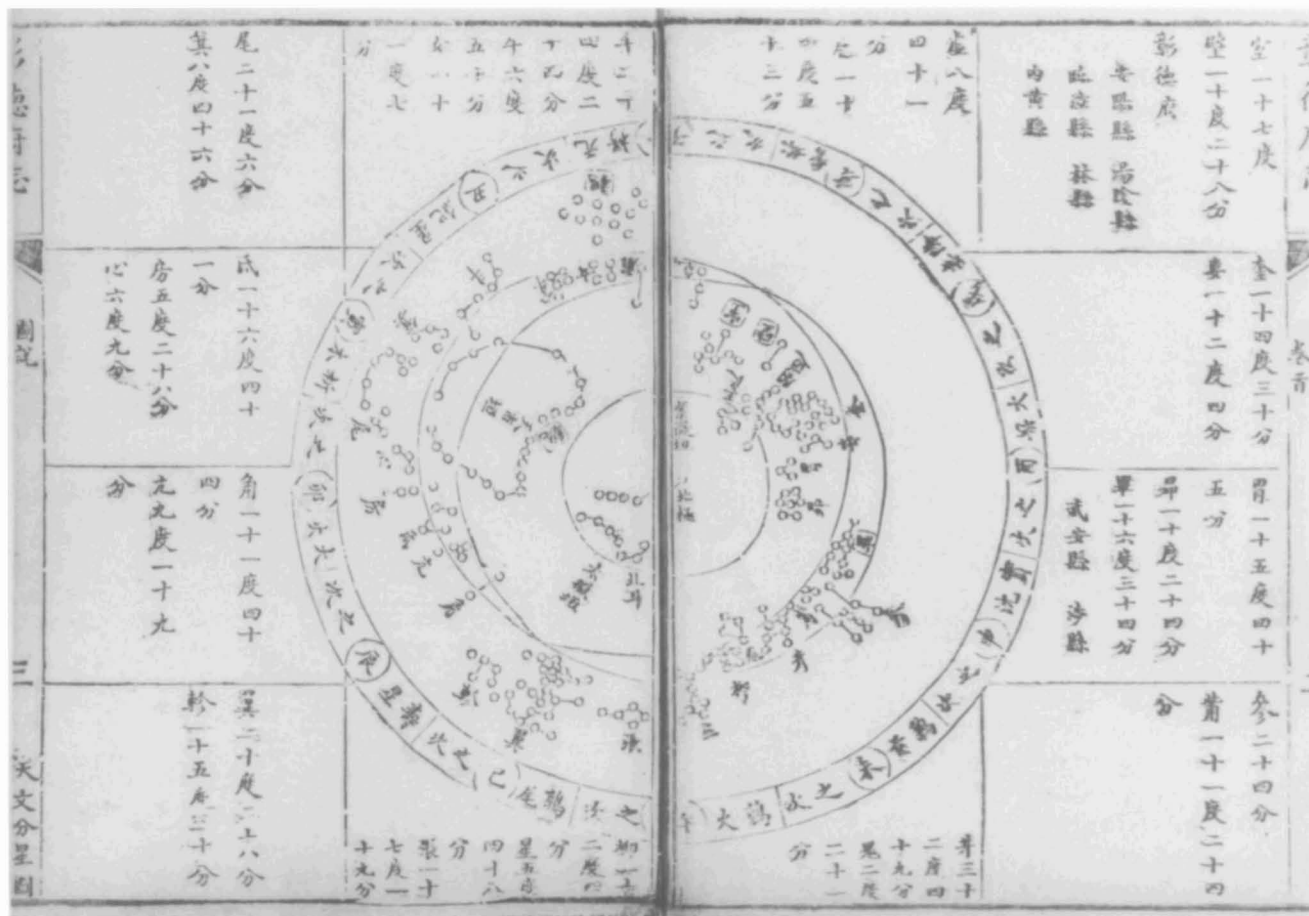


FIG. 4.12. STAR MAP FROM A LOCAL GAZETTEER. Size of the original: 20 × 28 cm. From the *Zhangde fu zhi* (Gazetteer of Zhangde Prefecture [in modern Henan Province],

1787), *tushuo* (illustrated explanation), 2b–3a. Reproduced courtesy of the Harvard-Yenching Library, Harvard University, Cambridge.

These records were used to compile three compendiums of information on various administrative subdivisions.¹⁰² All three are now lost, so it is uncertain whether they contained maps.

The titles of other geographic works often include the compound *tujing* (illustrated classic) or *tuzhi* (illustrated record), suggesting the inclusion of illustrations and perhaps maps. None of the existing editions of gazetteers before the Song, however, contain maps. The preface to the *Yuanhe junxian tuzhi* (Illustrated record of the prefectures and counties of the Yuanhe reign period [806–20]), a Tang gazetteer, states that a *tu* headed each section devoted to a garrison town (*zhen*).¹⁰³ But since the present text of the work contains no illustrations, it cannot be determined whether the *tu* mentioned in the preface were what would now be called maps.

Unlike the early gazetteers mentioned above, those from the Song dynasty onward usually contain maps. In addition, they typically contain sections devoted to topics like geography, history, biography, and customs and mores. This information not only was of use in compiling

comprehensive gazetteers, but also was useful to officials sent by the central government to serve in regional and local posts. By the Qing dynasty, gazetteers were regarded as essential to local administration, and thousands of them were compiled in that dynasty alone. The editors of an eighteenth-century gazetteer state: “That prefectures have gazetteers is a constant principle”—thus the surprise of one newly appointed official upon discovering that his subordinates had never heard of a gazetteer.¹⁰⁴

Although the administrative usefulness of these gazetteers eventually became primary, their compilers did

102. Wei Zheng et al., *Sui shu* (compiled 629–56), chap. 33; see the edition in 6 vols. (Beijing: Zhonghua Shuju, 1973), 4:982–88.

103. Li Jifu, *Yuanhe junxian tuzhi* (written 814), *Baibu congshu jicheng* edition, preface, 2b.

104. See *Zhengding fu zhi* (Gazetteer of Zhengding Prefecture [in modern Hebei Province]) (1762; reprinted Taipei: Taiwan Xuesheng Shuju, 1968), *shou* (prefatory material) 7a; and “Jiu zhi xuba” (Preface to the old gazetteer), *Tongzhou zhi* (Gazetteer of Tongzhou [in modern Hebei Province, near Beijing]) (1879; reprinted Taipei: Taiwan Xuesheng Shuju, 1968), 1a–b.

not lose sight of their original purpose: as an aid to astrological prediction. Compilers of Qing gazetteers often included sections on astrology; sections on field allocation, which identifies the celestial region to which a territory corresponds; and sometimes even star maps, presumably to help correlate the terrestrial and celestial (fig. 4.12 and p. 198, fig. 7.22). Sometimes the central government had an immediate need for the kinds of information contained in gazetteers. Their compilation, however, usually took several years. Faster means of reporting the information needed to correlate earthly and celestial events were therefore developed. During the Qing, for example, the data usually included in gazetteers were regularly reported to the throne in the form of palace memorials (*zouzhe*). In these memorials provincial officials were required to submit information on natural disasters, such as droughts and floods, and on the agricultural economy, including such matters as grain prices, harvests, and weather conditions. Such information was sought because it might yield clues about the will of heaven: “We consider that if our administration falters below,” the Kangxi emperor said in an edict of 1689, “calamities will come in reponse from above.”¹⁰⁵

GAZETTEER MAPS

The maps in local gazetteers seem to have served primarily as complements to the verbal descriptions. Although literary sources attest to the use of maps with indications of scale during the Liuchao (Six Dynasties) period (222–589), gazetteer maps before the Qing dynasty rarely if ever bear such indications, and if they were based on actual measurements, they do not seem intended for presenting quantitative information.¹⁰⁶ One reason may have been that such information was redundant, since distances and directions were given verbally in the geographic sections. The verbal accounts of particular areas were often more detailed than the maps of those areas. In this passage from a Southern Song gazetteer, bearing and distance are provided with respect to Lishui Xian (county in present-day Jiangsu Province): “The Baima bridge is 40 *li* southeast of the county seat. The Meitang bridge is 120 *li* southeast of the county seat. The Dengbu bridge is 120 *li* southeast of the county seat.”¹⁰⁷ The map depicting the area described in this passage (fig. 4.13) does not indicate the locations of these bridges, suggesting that it was intended to complement, not substitute for, the verbal description. The idea that map and text were complementary persisted till the end of the nineteenth century. According to the statement of principles in a gazetteer dating from 1894, “Narration of events without maps is not clear; and maps without explanation are not intelligible.”¹⁰⁸

The limitations of gazetteer maps as sources of information are recognized in the *Zhouxian tigang* (Essentials of prefectural and county [government]), by Chen Xiang (1017–80). In a section titled “Xiang hua ditu” (Drawing detailed maps), Chen warns against relying solely on maps in *tujing*, from which one can “get only a rough, general understanding” of an area.¹⁰⁹ For a thorough understanding, one must have new maps. After assuming a local post, a new official “must order that maps be drawn in detail to record the areal extent of districts and security groups, the dwelling places of the populace, the lengths of roads, and the number of mountains, forests, and fields.”¹¹⁰ Maps submitted by various districts are then combined into one large map, which is placed in a corner of the office. Chen’s account does not make clear whether the newly arrived official combines the maps himself or whether his subordinates are delegated that task. Nor does it specify whether the various maps are merely fastened together or whether a large map is drawn based on them. What is clear is that this large map aids immensely in the conduct of government business: with it the official has “the people, land configuration, mountains, forests, streams, and marshes all in view; and whenever there are legal disputes, taxes and levies, droughts, and arrests, everything can be seen at a glance.”¹¹¹ None of these composite maps seems to have survived, and as a consequence we do not know how such a variety of information was represented.

105. *Shengzu Renhuangdi shengxun* (Sacred instructions of Shengzu, the emperor Ren [Kangxi], presented 1732), in *Da Qing shichao shengxun* (Sacred instructions of the ten reigns of the Great Qing) (Taipei: Wenhai Chubanshe, 1965), 3.2a. For a study of the Qing memorial system, see Silas H. L. Wu, *Communication and Imperial Control in China: Evolution of the Palace Memorial System, 1693–1735* (Cambridge: Harvard University Press, 1970).

106. For an example of the problems involved in reading distances from gazetteer maps, see the caption to figure 4.13.

107. Zhou Yinghe, comp., *Jingding Jiankang zhi* (Gazetteer of Jiankang [Nanjing] of the Jingding reign period [1260–64], compiled ca. 1261), *Siku quanshu* edition, 16.44b.

108. *Guangping fu zhi* (Gazetteer of Guangping Prefecture [in modern Hebei Province]) (1894; reprinted Taipei: Taiwan Xuesheng Shuju, 1968), “Fanli” (Principles), 1a. This quotation is remarkably close to one from the medieval European mapmaker Paolino Veneto: “There is needed moreover a twofold map, [composed] of painting and writing. Nor wilt thou deem one sufficient without the other, because painting without writing indicates regions or nations unclearly, [and] writing without the aid of painting truly does not mark the boundaries of the provinces of a region in their various parts sufficiently [clearly] for them to be descried almost at a glance.” Quoted in Juergen Schulz, “Jacopo de’ Barbari’s View of Venice: Map Making, City Views, and Moralized Geography before the Year 1500,” *Art Bulletin* 60 (1978): 425–74, esp. 452.

109. Chen Xiang, *Zhouxian tigang* (eleventh century), *Baibu congshu jicheng* edition, 2.16b.

110. Chen, *Zhouxian tigang*, 2.16b (note 109).

111. Chen, *Zhouxian tigang*, 2.16b (note 109).

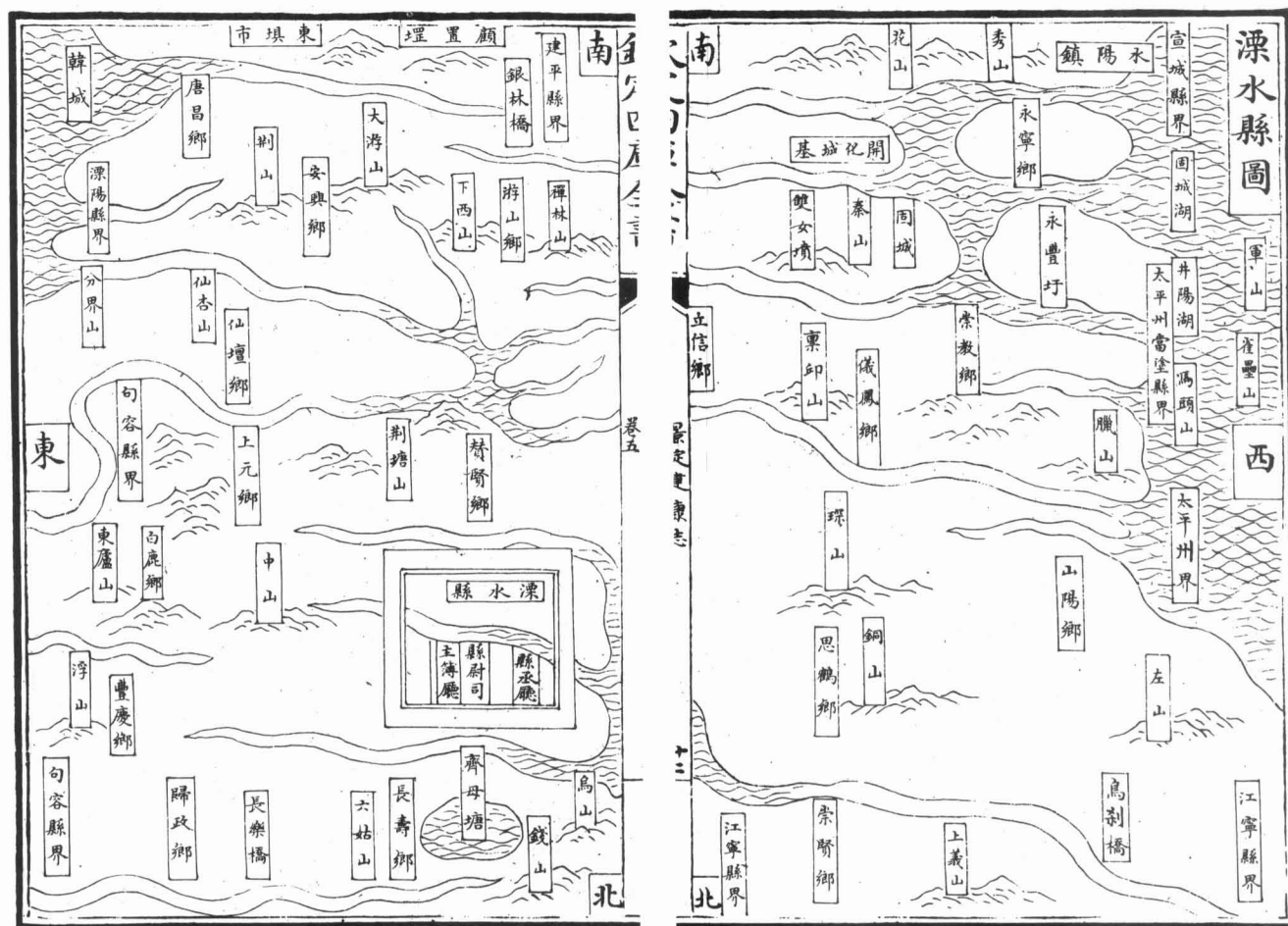


FIG. 4.13. MAP OF THE AREA AROUND LISHUI XIAN. This map comes from a Qing edition of a Song gazetteer. South is at the top. According to the gazetteer, Zhong Shan (Mount Zhong) and Donglu Shan (Mount Donglu) are both fifteen *li* southeast of Lishui Xian (represented by the large squarish box). On the map, however, Zhong Shan (to the immediate left of Lishui Xian) appears to lie almost midway between Lishui Xian

and Donglu Shan (the second mountain to the left of Zhong Shan).

Size of each image: ca. 13.5 × 9 cm. From Zhou Yinghe, comp., *Jingding Jiankang zhi* (Gazetteer of Jiankang [Nanjing] of the Jingding reign period [1260–64], compiled ca. 1261), *Siku quanshu* edition, 5.12a–b.

The limitations that Chen Xiang perceived in gazetteer maps during the Song were not eliminated in later dynasties. Partly as a result of these limitations, the Qing court took an interest in the cartographic methods introduced by Jesuit missionaries. A survey of the entire country was undertaken with Jesuit involvement from 1708 to 1717. In 1719 the emperor reported to his ministers that the maps based on that survey had been completed. The ministers responded with a critique of previous mapping efforts: “Formerly territorial maps and geographic records were always copied from beginning to end from other versions, transmitting hearsay and guesswork. Although there are complete works, in the end these are hardly reliable. Sometimes they do not distinguish between the main body and branches of mountains and streams; sometimes the positions of counties and districts

vary from their actual locations. From antiquity till the present, there has not been a definitive work.”¹¹²

MAPS, SCHOLARSHIP, AND CULTURAL CONTINUITY

Whatever their shortcomings, however, maps still served as valuable sources and tools for scholarship. During the Qing dynasty, historical cartography became an important branch of textual scholarship—thus the appearance of maps depicting, for example, the geography of the Han dynasty and the changing course of the Yellow River. The state sponsored much of this scholarship, since the aim of textual scholarship was to recover the way of

112. Shengzu Ren (*Kangxi huangdi shilu*, 283.10b (note 67).

the ancients as reflected in classic texts and histories, which had supposedly been misinterpreted by scholars of preceding periods. If the ideas of the ancient sages could be understood, the Qing textualists believed, the administration of the empire could be improved.¹¹³

Much of the scholarship of the Qing centered on two earlier geographic works. One was the “Yu gong,” described previously, studies of which often included cartographic reconstructions of the classic text’s topographic descriptions (fig. 4.14). The other work was the *Shui jing zhu* (River classic commentary), compiled by the scholar-official Li Daoyuan (d. 527). This work is, as its title suggests, based on an earlier text known as the *Shui jing* (River classic), thought to be written by Sang Qin and perhaps dating from about the middle of the third century.¹¹⁴ The *Shui jing* no longer exists as an independent text. In Li Daoyuan’s work, text and commentary have been run together, and much textual scholarship has focused on separating the two. The original text is believed to have indicated the origin and course of 137 rivers.¹¹⁵ In contrast, Li Daoyuan’s work expands on this base to provide geographic and historical information on more than 1,200 rivers and the areas they pass.

The title of Li’s work is thus slightly misleading, since it is far more than a commentary. It is virtually an independent work of scholarship, drawing occasionally on Li Daoyuan’s own observations and usually on a variety of textual sources—among them the “Yu gong,” the *dilizhi* of the *Han shu*, and gazetteers. In this the appeal of Li’s work to Qing textualist scholars becomes clear. In it they found a precedent for their own methods, at the same time focusing attention on a text that epitomizes the multidimensional role of maps in Chinese political culture.

Like the Qing scholars, Li Daoyuan sees his work as a kind of historical criticism. He recognizes the value of previous attempts to compile geographic information, but he sees deficiencies as well. Part of his motivation in expanding the *Shui jing* is to correct the defects in classic texts. In the preface to his commentary, Li writes: “In the past Yu the Great made a record comprehensive [in scope] but incomplete [in detail] of mountains and streams; the records in the *dilizhi* are simple and incomplete; the annals and administrative regions of the *Shang shu* [Book of the Shang, or *Shu jing* (Book of documents)] are sketchy; as for what the rhapsodies on capitals describe, that genre does not convey meaning; although the *Shui jing* roughly describes the courses of rivers, it still leaves out their tributaries.”

Accordingly, *Shui jing zhu* is organized around systems of rivers and waterways. In his preface Li Daoyuan appears to take for granted the economic importance of these waterways for agriculture, transportation, and communication. Instead he stresses cosmological principles to justify his attention to water: “The *Yi* [*jing*] says that



FIG. 4.14. MAP OF YAN ZHOU. This is one of the nine regions described in the “Yu gong,” as reconstructed by a Qing textual scholar. In this instance, text seems to dominate map image.

Size of the original: 19.5 × 10.5 cm. From Xu Wenjing, *Yu gong huijian* (Collected commentaries on the “Yu gong,” 1753), tu 10a. Reproduced courtesy of the Harvard-Yenching Library, Harvard University, Cambridge.

heaven, as the one, gave rise to water; thus *qi* [primal energy] originates in the North and is the progenitor of things. The *Xuanzhong ji* [Records within the occult] says: ‘The most plentiful thing under heaven is water; it buoys up the heavens and supports the earth; high and low there is nothing it does not reach; among the ten thousand things there is nothing it does not enrich.’” Li implies that his work, with its focus on water, will help

113. This is to state the ideal of the Qing textualists. In practice, the political efficacy of textual scholarship was not always obvious.

114. The basis of this dating is the *Sui shu*, which says that Guo Pu (276–324) also wrote a commentary to the *Shui jing*. This commentary has been lost, so it is not entirely certain that Guo Pu and Li Daoyuan were annotating the same work.

115. See Wu Ze’s preface to the *Shui jing zhu jiao*, 1–2 (note 56).

further understanding of the workings of the cosmos—water is a primordial substance and a vital element.

The *Shui jing zhu* itself contains no maps, but it is almost inconceivable that a work of such scope—ranging over China and the regions considered to be its vassals and tributaries—could be compiled without reference to them. Li Daoyuan in fact says that he used maps. In the case of the Ru River in Henan, he found that textual sources gave divergent accounts of its source. To resolve the confusion, he consulted maps of mountains and streams as well as gazetteers, but to no avail, and then ordered that its origin be searched out.¹¹⁶ In some instances Li Daoyuan provides map titles, but he gives hardly any descriptions of the maps themselves.¹¹⁷ One exception to this is a description of the *Hetu* (Yellow River chart): “The chart records the [Yangtze] Jiang, [Yellow] River, small mountains and streams, and the field allocation [system of correspondence between celestial “fields,” or lunar lodges, and terrestrial regions] of the provinces and border areas.”¹¹⁸

For geographic information Li had maps of varying scope: comprehensive maps like one entitled *Yu gong tu* (Map of the Tribute of Yu), regional maps like the *Jing zhou tu fuji* (Supplementary notes to the map of the Jing region), and mountain maps such as the *Kai shan tu* (Map of the Kai Mountains). These maps are no longer extant, but they were evidently annotated. Li Daoyuan, for example, quotes from the *Kai shan tu*'s description of Qi Shan (Mount Qi, in present-day Hunan): “The streams around it wind and twist; the mountain itself is high and steep.”¹¹⁹ The information Li Daoyuan obtains from maps, however, is not limited to topographic features. In one case, what seems to be a divination map or chart, the *Ruiying tu* (Map [or chart] of auspicious signs), is cited as a source of ornithological information: it attests to “three-legged crows, red crows, and white crows.”¹²⁰ A comprehensive map titled *Kuodi tu* (Map of included territories) is cited for religious or mythological information. Li Daoyuan records this map's description of the river god Fengyi: “Fengyi always rides a cloud chariot, harnessing two dragons.”¹²¹ In its citation of maps for a wide range of information, the *Shui jing zhu* illustrates what was said earlier about their importance in preserving cultural inheritance: Li Daoyuan is using maps to do just that. His aims go beyond accuracy of topography and hydrology.

Li Daoyuan's stress on continuity was shared by Qing textual scholars—at least initially, for later it seems that textual research was done for its own sake. In this essay of generalization, I have attempted to avoid the latter pitfall and maintain the former emphasis on continuity. That emphasis should not be construed as meaning that Chinese political culture was monolithic and unchanging. Chinese politics were marked by tension between ruler

and bureaucrats and conflicts between factions of bureaucrats and between levels of government. With a few exceptions, most notably during the Qing, the evidence on cartography does not generally reflect those internal divisions. Thus the ruling elite has been treated here as a more or less homogeneous group. The cartographic record does reflect, however, that maps could be adapted to new uses as political circumstances changed. During the Ming dynasty, for example, as China's sea power and contact with seafaring peoples grew, military map use expanded to include not only territorial but also maritime mapping. Those foreign contacts, especially during the Qing dynasty, also led to some changes in cartographic techniques and standards among the intellectual and political elite. But through the successive dynastic changes, the institutions and practices of that stratum of society do show a high degree of constancy. As far as maps are concerned, that social stratum can be characterized by the complex of attitudes reflected in the kinds of information Li Daoyuan gleans from maps—a complex in which the work of administration insinuates itself into cosmology, geography, and history. The patterns of map use within Chinese political culture may have shown remarkable consistency, but the manifestations of those patterns were subject to variation.

In a sense, map use among the Chinese elite illustrates the doctrine of *yiben wan-shu*, “one root but ten thousand manifestations”: “The ten thousand are one, and the one is realized in the ten thousand manifestations. The ten thousand and the one each have their proper place.”¹²² Neo-Confucians, most notably Zhu Xi (1130–1200), adhered to this doctrine as a guiding principle for their investigation of things (*gewu*). Of course, Neo-Confucian thinkers never offered this doctrine of *yiben wan-shu* as the basis of methodology in the history of cartography. But perhaps this chapter may be taken as evidence that they spoke more truly than they knew.

At the same time, one should remember that the conclusions reached here apply only to that elite—and even then only provisionally—and cannot be safely extended to Chinese culture as a whole. Map use among the general populace is a topic that has barely been explored, even

116. *Shui jing zhu jiao*, chap. 21 (663) (note 56).

117. A listing of the maps and other sources cited by Li Daoyuan appears among the prefatory material of the *Shui jing zhu jiao* (note 56).

118. *Shui jing zhu jiao*, chap. 1 (5) (note 56). The subject of *Hetu* is discussed at greater length below in chapter 8 on Chinese cosmography.

119. *Shui jing zhu jiao*, chap. 20 (646) (note 56).

120. *Shui jing zhu jiao*, chap. 13 (431) (note 56).

121. *Shui jing zhu jiao*, chap. 1 (5) (note 56).

122. Zhou Dunyi, *Tong shu* (Comprehensive treatise [on the *Yi jing*, or Book of changes], ca. 1055), *Sibu beiyao* edition, 5a.

though the possible sources of information are voluminous. A considerable number of potential sources regarding map use within Chinese political culture, especially at the regional and local levels, also remain to be tapped. In some ways, then, this essay of generalization may be

premature. Its methods will undoubtedly strike some as old-fashioned, focusing on incident rather than on institutional structures. More sophisticated studies, however, await more detailed knowledge of the inner workings of the bureaucracy in relation to map production.